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MANAGING RISK FOR THE GODS: THE MIDDLE ASSYRIAN *GINĀU* AGENCY

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Acknowledgments

*They have much to teach us
of what we should already know.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

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¹ (Richardson 2004: 12).

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Abstract

This dissertation reconstructs the activities of an administrative agency in the Middle Assyrian government that was tasked with producing a daily offering in Assyrian capital. The introduction reviews the approaches used in previous literature on Middle Assyrian administration and offers a theoretical framework for studying administration in a Middle Assyrian context. The first body section of the work shows that the Agency's offering was supplied by imposing fixed *gināu* assessments on the governors of the kingdom's major provinces, and it then works out the exact amounts imposed on each province. This discussion includes a significantly improved reconstruction of where these provinces were and the larger administrative groups into which they were combined. It also looks at how the Agency used the existing Middle Assyrian transportation network to transport those supplies. The second section examines how the Agency processed the supplies into finished offering goods. It also reconstructs the size of a complete daily offering and locates several monthly and yearly festivals on the Assyrian cultic calendar. The third section reconstructs the details of several large administrative crises which afflicted the Agency and looks at how the Agency handled the risk inherent in its operations. Each of the three main sections also includes a chapter discussing how the Agency documented the activities described. Finally, the work closes with a discussion of how the archive formed.

In addition to the main text, there are also two supplementary files containing provisional full editions of every tablet in the archive currently available to scholarship. These are not formally part of the dissertation, but have been included for the convenience of the reader.

Introduction

*They resent being inscribed
as if they could not remember,
but they congratulate us on the wisdom
of using them to mark graves.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

*Where are Elmer, Herman, Bert, Tom and Charley,
The weak of will, the strong of arm, the clown, the boozier, the fighter?
All, all are sleeping on the hill.*

*One passed in a fever,
One was burned in a mine,
One was killed in a brawl,
One died in a jail,
One fell from a bridge toiling for children and wife—
All, all are sleeping, sleeping, sleeping on the hill.²*

1 Introduction

1.1 The question

In 1911 German archaeologists excavating the Assyrian capital city of Aššur came across a group of about 650 tablets in a back room adjacent to the outer court of the temple of the god Aššur, chief deity of the Assyrian pantheon and namesake of the city (Postgate 2013a: 91). Found with the tablets were the remains of ten jars into which most of the tablets had once been organized (Postgate 2013a: 91). Pedersén designated this group of tablets "M 4" in his survey of Middle Assyrian archives from Aššur (1985). It is this archive and the agency that produced it which will be the focus of this dissertation.

¹ (Richardson 2004: 7).

² (Masters 1962: 23-24)

Variations of these dry archaeological facts with differing amounts of elaboration have begun most recent studies of the archive.³ This arrangement rightly stresses the general importance of archaeological context for understanding our archive and archives in general, but previous studies have tended to be somewhat coy about how exactly this framing information helps our investigation. From the archaeological context we do learn that the tablets were from the Middle Assyrian period (second half of the second millennium BCE) and that they were associated with operations at the Aššur temple. But, we could have learned both facts from the tablets themselves with a little work. Archaeological information also tells us that the texts were stored in the environs of the Aššur temple. This is more helpful, since a number of Middle Assyrian archives have been found quite some distance from where they must have been composed.⁴ Even so, one is hardly surprised to find an archive about temple affairs stored near a temple.

What we could not have guessed is that these particular tablets would all be stored together in this particular room of that temple. Based on prosopography we might have isolated some particular dossiers, but this collection of tablets covers such a broad range of times and topics that there is little chance we would ever have reassembled more than a fraction of it. In addition, the careful archaeological records of Andrae's team also allow us to weed out texts which were not part of the archive. Sometimes we can do this because the texts have a different find number attached to them. But, even when a particular tablet's excavation number is lost, we have more than 300 tablets whose excavation numbers clearly link them to the archive and so have a good idea what does and does not belong.

³ Postgate 1979-1981: 101, Pedersén 1985: 43, Freydank 1992: 276, Freydank 2011: 431-432, Gaspa 2011a: 233, Maul 2013: 561-564, Postgate 2013: 91-93.

⁴ In one of the more extreme cases, the archive of Urad-Šerua, which deals with affairs in Nahur province in the far northwest of the kingdom, was found in the capital (see Postgate 1988).

Thanks to the well-documented context we find ourselves with an archive in its full richness. The archive has texts that we never would have guessed belonged to it and it excludes texts we would doubtless have added. Through their painstaking care, the excavators have given us a chance to ask the same questions that confronted them as the pots were unearthed: why were these particular tablets buried in one place, and why was that place here? On its most fundamental level, this dissertation is an attempt to answer those two vexing questions.

Our approach to answering these questions will differ from those used in previous scholarship. We will not assume that the location of the tablets gives us an anchor point from which to begin our investigations of their contents. Although the tablets began their life in modern scholarship when they were excavated in that spot, that same place represents the end of their ancient life. We have before us not a living community of documents, but a cemetery. The second quotation at the start of this chapter introduces a collection of poetic epitaphs drawn from a fictional cemetery at Spoon River. What makes that work one of the classics of American poetry is not its description of tombs and funeral monuments, but rather that it traces the lives of the individual people in that cemetery and shows the reader how they came to be buried there. In a sense this dissertation has a similar structure. We will explain how and why the individual tablets were created. This will involve text editions, which we might liken to epitaphs for each tablet. While trying to preserve the haunting mystery and allusiveness of his poems, Masters still ended the main part of his anthology with a narrative account of some of the events described, which he presented as a fragment of an unfinished "Spooniad." As mystery and ambiguity are rather more suited to poetry than historical scholarship, we will give a much more detailed narrative account of the agency that produced the tablets along with the editions of the individual texts, and we will spoil the surprise, as it were, by putting the narrative first. Yet, once we have

looked at the stories of the individual tablets, we can turn more productively to the question of how it is that these tablets came to be buried in a side room in the Aššur temple, and what it means that they were found there.

1.2 In defense of a tedious science

Our guiding question, then, is why these particular tablets should have ended up together. This seemingly simple question contains within it much thornier questions about why the tablets were written at all. At their deepest level these are administrative questions. Why though, should such questions be of interest to us? Just because a question can be asked does not mean that answering it is a prudent use of time and energy. After all, the cuneiform harvest is very great, and the laborers few. Would our time not be better spent on grand matters of economy, ideology, the state, and social structure? As we will see, our archive has much to say on such topics, and we will have occasion to talk about them frequently. But there are two reasons why our guiding questions are fundamentally administrative.

The first is instrumental. On an abstract level, our tablets are not the Assyrian economy or society. As much as we may wish to study those entities, no preserved tablet gives us direct access to them. The Assyrian state itself is dead; it will never give a direct answer to our questions. We must instead find a way of interpreting our documents to provide information about the Assyrian kingdom. To do this we must come up with some sort of model that explains how information about the Assyrian kingdom was projected into the realm of writing. That is to say, we must answer the administrative question of how and why our documents were produced.

On a more practical level, the texts we have were not written to provide posterity with a clear picture of Assyrian society. They were written to deal with very specific matters about which most potential readers were already well informed. Much could be left unsaid, and much

was. This often makes the meaning of what did get written down quite opaque. If we would extract passages and figures for economic analysis or the like, we must have a clear idea what the preserved documents meant to their writers. Otherwise we can and will draw wildly erroneous conclusions. Over the course of this dissertation we will see quite a few compellingly argued but demonstrably wrong conclusions about the Assyrian state based on misinterpretations of our documents. Without investigating the administrative context of our texts, we cannot understand them well enough to answer most other questions.

But administrative history is not only worthwhile as a means to some greater end. Administration is what the state actually did on a day-to-day basis. The king of Assyria was only a man. Perhaps his hunting skills and martial prowess were the stuff of legend, as many an Assyrian king was wont to boast, but the king's speech alone could not call things into existence or alter the laws of the universe. The grand edifice of the Assyrian state was necessary to turn the words of this man into the binding pronouncements of a king.

But the administrative actions were not simply necessary to support the state. On a more philosophical level, we can say that in some sense they *were* the state. Let us liken the state to a living organism—hardly an original comparison, but useful all the same. We will borrow from the language of Assyrian royal inscriptions and call it a lion. What is it that makes one lion alive and another dead? It is not the possession of various organs or blood, for a dead lion can have many or all of these. The clear difference is that one has active metabolic processes and the other does not. These metabolic processes make it alive. It is the same with the state. The state does not consist in palaces and temples. A well-built stone building can outlive a dozen states. Nor does it consist in individual people. Kings come and go and yet the state persists; the state sheds and replaces individual people like a lion sheds hairs from its fur. Rather, the life of the state

consists in its administrative activities that fight the entropy of the natural world. A state without administrative activity is a dead state. To understand a state, we must understand the administration that gave it life.

Moreover, like the metabolic processes which keep a lion alive, the administrative actions that support a state are rather more complicated than they might appear. A healthy lion breathes and circulates blood, but so does a sick lion. It is only by closely investigating these everyday processes that we can talk about matters like the health of the state.

2 Landmarks

Before our study gets fully underway, it will be useful to provide some landmarks so readers unfamiliar with the archive or the Middle Assyrian Kingdom more generally will not lose their bearings.

2.1 Middle Assyrian political history

If we were to ask some Middle Assyrians to give us the historical background for the archive, they probably would have offered us a list of kings and related political events. Many modern scholars would do the same. Hence, political events seem as a good a place as any to start. The political history of the Middle Assyrian Kingdom—its kings and their conquests—has been a matter of great interest to scholars for several generations now. Consequently, the scholarly literature has converged on a fairly standard reconstruction of the sequence of kings and their major achievements. One can find it outlined in its most recent version in Jeffers (2013: 4-13) and Llop (2003). Yet, great deeds and the kings who performed them are only bit players in our ten jars of tablets. As a result we will travel light and introduce only a bare skeleton, fleshing out particular points later in the text where necessary.

In the very earliest texts of the archive, Tukulti-Ninurta I (1243-1207 BCE)⁵ sat on the throne of Assyria. The kingdom had already come a long way. A few centuries before the city of Aššur had been a small principedom under the suzerainty of the Mitanni kingdom, but the Assyrian kings had put an end to this humiliating position some time ago. Now the Assyrian kings negotiated as equals with the rulers of the Babylonian Kingdom on their southeast border, the Hittite Kingdom on their northwest border, and the Egyptian Kingdom in the far west. Mitanni had once belonged to this same elite club, but Tukulti-Ninurta's grandfather and father had completely destroyed what remained of Assyria's former overlord, turning its heartland in northeast Syria into Assyrian provinces.

Tukulti-Ninurta I himself added to the deeds of his forefathers by defeating the Kassite king of Babylonia and bringing him back to Assyria in chains. He also built a new capital, Kār-Tukulti-Ninurta, a few miles from Aššur. His activities put a great strain on the financial resources of the Assyrian state. He had to coordinate a number of large grain shipments from the western part of the kingdom, including a particularly well documented mission to Tillê in the northwest (Llop 2103) about which we will have much to say over the course of this study.

It was certainly an eventful time, providing ample subject matter for one of the great epic poems of Mesopotamian civilization (Machinist 1978). If the much later Chronicle P is to be believed, it also came to a suitably operatic end when Tukulti-Ninurta I was trapped in his newly built capital and murdered by his own son (see Bloch 2012c: 233). In the wake of Tukulti-Ninurta I's death we find a series of short-lived kings, the alleged regicide Aššur-nādin-āple (1206-1203 BCE), followed by Aššur-nērārī III (1202-1197 BCE) and Enlil-Kudurrī-ušur (1196-1192 BCE). We have only a handful of isolated texts in our archive from the reigns of Tukulti-

⁵ The absolute dates for the Middle Assyrian kings given in this chapter follow those given in Jakob (2003: 571), assuming a 46 year reign for Aššur-dān I.

Ninurta I and his three ephemeral successors, and so they will not be of great consequence in our study.

Matters are quite different with the next ruler, Ninurta-apil-Ekur (1191-1179 BCE). He came from a collateral branch of the royal family who ruled the vassal kingdom of Hanigalbat on behalf of their more illustrious cousins in the capital (Cancik-Kirschbaum 1999b). Ninurta-apil-Ekur himself ended up in exile in Babylonia. He then returned, overthrew the reigning king Enlil-kudurrī-ušur, made himself king of Assyria, and ruled for thirteen years (Bloch 2012c: 277-290). It is in his reign that the documentation in our archive first becomes usefully dense. In this documentation we can see that the events surrounding his “irregular” accession caused a minor disruption in the kingdom’s supply systems. More strikingly, though, toward the end of his reign the Liptānu crisis struck the kingdom and delivered a devastating blow to its finances.

This crisis was resolved in the first few years of his successor, Aššur-dān I (1178-1133 BCE), and after that the documentation becomes much sparser. At some point in the middle of this king’s reign the Da’ānī-Ninurta crisis struck the kingdom. The documents relating to this crisis are few and fragmentary. Like the monster in a good horror film, the crisis is never seen head on, but the glimpses we do get are deeply unsettling. Things were very wrong in the state of Assyria in those days.

Matters surrounding the Assyrian throne once again became complicated toward the end of Aššur-dān I’s reign (see Bloch 2012c: 300-307). Aššur-dān I’s son Ninurta-tukulti-Aššur (1133 BCE) seems to have made it less than a year into his sole rule before his brother Mutakkil-Nusku (1133 BCE) deposed him and then, with some ironic justice, promptly died. Happily, their reigns are even less well represented than their father’s in our archive, and so we need not dwell on how precisely these very complicated events are to be reconstructed.

Mutakkil-Nusku's son, Aššur-rēša-iši I (1132-1115 BCE), ruled for eighteen years. His early years are not well represented in the archive, but sometime during his reign a certain Ezbu-lišer became head of the agency that produced our tablets, and the documentation becomes thick once again. During the reign of the next king, Tiglath-pileser I (1114-1076 BCE), the documentation became still denser, coming to a peak in the nearly three dozen documents from his fourteenth year. Tiglath-pileser I's tenure was a time nearly as eventful as the reign of Tukulti-Ninurta I (see Jeffers 2013), and we will have much to say about it over the course of this dissertation. In the first decade of his reign we find the kingdom wracked by the events of the *maddattu* crisis, which we will explore in some detail toward the end of this work. About a dozen years after that crisis subsided, the short but severe Ninuaya crisis struck. The archive effectively ends in the middle of that crisis, though there are a handful of documents from the next decade.

In addition to the king, two other great officials will feature prominently in the following chapters, and it will be useful to introduce them here. One is the *mašennu rabiu* "great steward" who managed much of the king's non-edible property. Many of the affairs of this official are documented in the still largely unedited M 7 archive. The second is the *šakin māte* "governor of the land," who served as governor of the capital and its surrounding province of *Libbi-āle*.

2.2 The *Gināu* Agency

If kings are only minor players in our drama, the men of the agency that composed our documents are the leads. We will see them a great deal in the following chapters, and so it makes sense to briefly introduce them, even at the risk of spoiling the ending. Our documents were produced by an agency of about fifty men employed by the Assyrian government. Their task was to ensure that the daily *gināu* offering in the capital was fully supplied. Consequently, we will

refer to them as the *Gināu* Agency, or simply “the Agency.” The offering itself was ideally to be the same size each day, consisting of 200 *qa* of bread and about 130 *qa* of beer along with small amounts of honey, oil, and fruit.

To make this offering the Agency employed the services of four *alahhinus* and two brewers. Each of these six men, whom we will collectively call “grain officials,” employed a team of millers. An *alahhinu* might have as many as a dozen millers on staff, the brewers considerably fewer. To coordinate the activities of these grain officials and their teams there was also a *gināu* supervisor who ranked above them. Much of our archive was composed when a certain Ezbu-līšer held this position. If the reader remembers the name of only one person in this book, it should be his. These three levels—the six grain officials, their workmen, and their boss—were the only people who worked directly for the Agency. Any services they could not provide were outsourced to other agencies or contractors.

What spiced up the potential dull monotony of these ever-repeating offerings was how the Agency obtained the supplies with which to fund them. Rather than having its own sources of revenue, the Agency was financed directly out of state funds. More particularly, it was arranged that the governors of each of 27 provinces would supply a certain fixed portion of the Agency’s annual operating budget every year. The ultimate motivation for this arrangement was likely an ideological drive to tie together the far-flung holding of the kingdom into a single coherent entity (see Postgate 1992). But the focus of the present work is not ideology but administration. In particular, this sort of funding arrangement shows an impressive amount of financial daring. One might, less charitably, term it fiscal hubris. Keeping track of the web of shipments and obligations required to make the Agency’s supply network function occupied much of its administrative energies. What is more, this complicated and cumbersome system was prone to

frequent and often severe breakdowns. If all provincial governors paid their entire assessment in a timely manner, this would just barely cover the Agency's operating budget. If anything went wrong in any of those more than two dozen provinces, the Agency would quickly face a budget deficit. Fittingly, much of the documentation in its archive records not regular operations but the Agency's perennial and sometimes heroic struggles to cope with deficits. If one were inclined to write an opera about temple procurement operations, the Agency's activities would furnish ample material.

2.3 Middle Assyrian geography

Since the Agency received its supplies from provinces all over the Assyrian kingdom, it will be useful to give an overview of where those provinces were. As befits any good Mesopotamian state, the Middle Assyrian kingdom included territory along both the Tigris and Euphrates river systems. In modern geographical terms it covered much of northern Iraq and the northeastern Syria. The capital city of Aššur lay on the Tigris. Most of the great cities and productive regions of the realm lay upstream from Aššur on the Tigris or its tributaries. The major exceptions were Turšan, which was located east of Aššur on the Lower Zab, and the fittingly named "Lower Province," which was directly downstream from the capital. A schematic diagram of the Tigris system and the major Assyrian cities and regions is presented below. Note that cities are presented as squares, while ovals are used for regions:

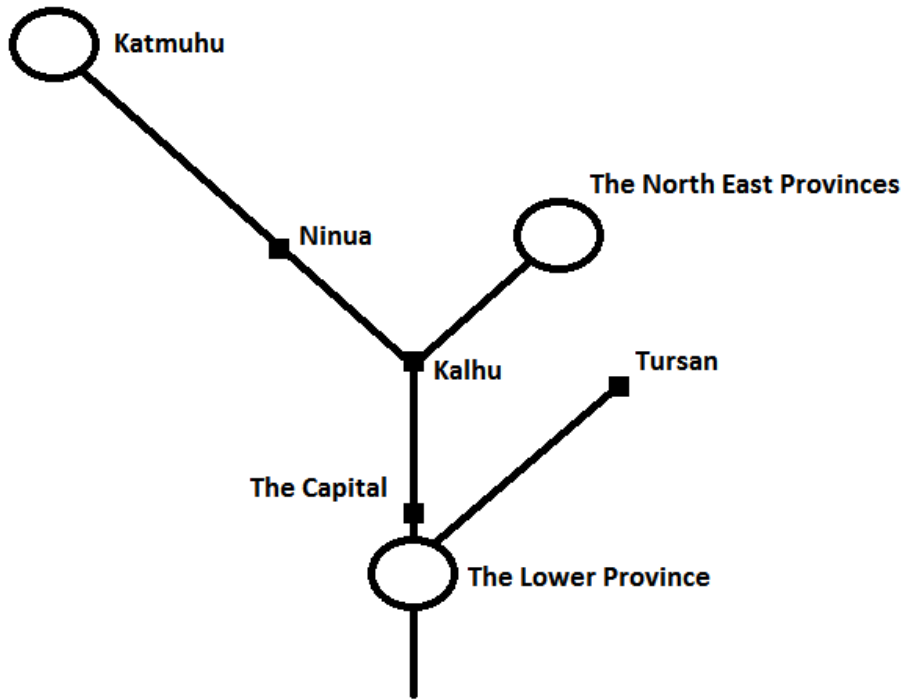


Figure Intro-1: Schematic Map of the Tigris Provinces

In addition to this core on the Tigris, the Assyrian kingdom also had possessions on the Euphrates river system. All of those that interacted with the Agency were on the Habur or its tributaries. These are summarized in the diagram below:

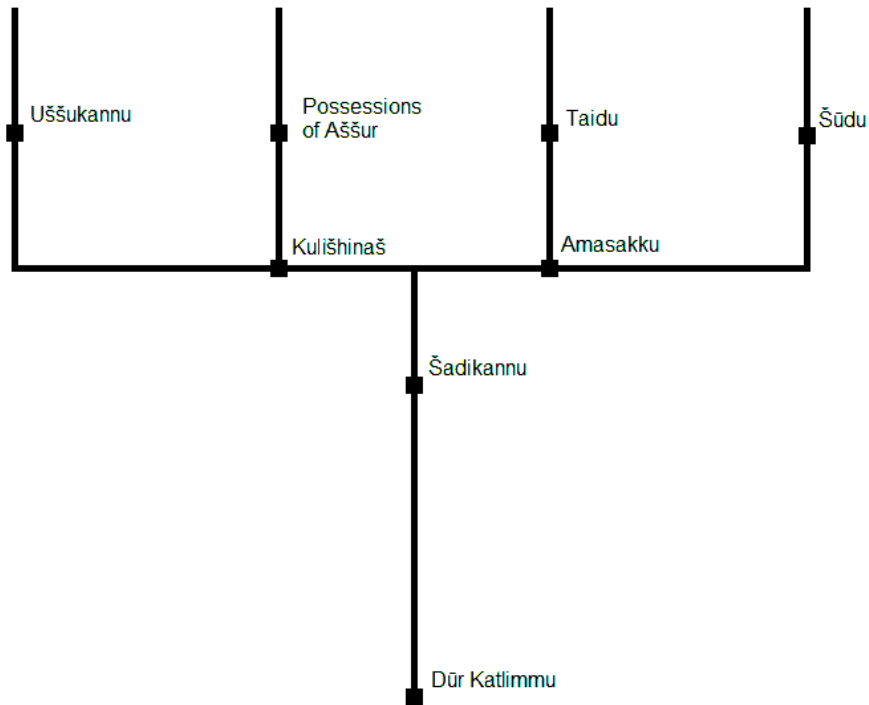


Figure Intro-2: Schematic Map of the Euphrates Provinces

Here we encounter one unpleasant aspect of Middle Assyrian geography. While the Assyrian capital itself was named Aššur, the capital itself was not in “Aššur” Province, but rather in Libbi-āle Province. Where exactly the core of Aššur Province was is a matter of some debate (see I.1), but it seems to have met its *gināu* obligations from agricultural land holdings in the northwestern headwaters of the Habur, labeled here as the “Possessions of Aššur.”

In addition to the land along these two river systems, the Assyrian state also controlled a number of small urban centers in the steppe between them. These are what we will call the *halzus*. Now, as we will show below, the Assyrian state decomposed the provinces on the Habur into the *birtus* in the north and the Kingdom of Hanigalbat in the south. It also seems to have broken the Tigris provinces into three separate groups. The positions of these groups are presented schematically in the following diagram:

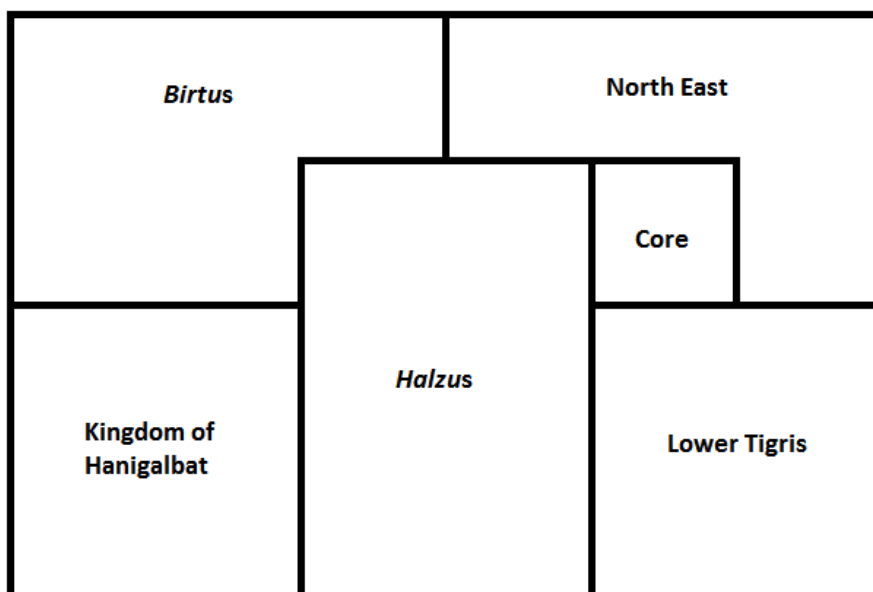


Figure Intro-3: Major Regions of the Middle Assyrian Kingdom

As we will see in later chapters, the reality was a tad messier, but this rough picture will serve well as a point of departure.

3 Survey of the literature on M 4

Now that the ground to be covered by our study has been outlined, we can turn our focus to what other scholars have already built on that ground. Over the century since the texts were excavated a sizeable literature has grown up around them, mostly in the last few decades. This literature can be profitably divided into three broad categories based on its goal. One group of publications focuses on making the texts themselves accessible to the broader scholarly community through publications of copies, text editions, and basic analysis. It is, of course, the work of this group more than any other that has made subsequent work on the archive possible. The second group draws the information from the texts together to form coherent, synthetic pictures of the archive and the Agency that produced it. Works in the third group draw on

information from the archive to address broader issues like chronology, and are not primarily focused on the *Gināu* Agency or its archive.

3.1 Basic text publications

Although the M 4 archive was excavated before the First World War, the publication process was slow and complicated. About a third of the 650 or so texts ended up in Istanbul, while the remainder ended up in Berlin. Since the vast majority of scholarship has focused on the Berlin tablets, we will begin our survey with them.

In 1927—about fifteen years after the archive was first discovered—Ebeling included three tablets from the archive in KAJ, a collection of Middle Assyrian legal and administrative texts (KAJ 105, KAJ 302, KAJ 306a). To my knowledge these are the first texts from the archive to have been published. After that the momentum was lost, and no more texts from the archive appeared until Ismail published an additional five tablets in 1968. Eight years later, Freydanck began to include hand copies of tablets from the archive in the MARV series. The first MARV volumes were not primarily focused on the M 4 archive and contain only a few texts from it mixed in among other Middle Assyrian administrative texts. MARV 1 (1976) contained twelve tablets from the archive and MARV 2 (1982) an additional eight. In 1992 Freydanck published transliterations and editions of the M 4A sub-archive, and in 1994 he provided copies of forty-six tablets from the archive (including the entire M 4A sub-archive) in MARV 3. MARV 4 (2001b) was devoted entirely to Kār-Tukulti-Ninurta texts and so contained no M 4 documents. However, with MARV 5 (2004) Freydanck turned his focus to the speedy and systematic publication of the remaining M 4 texts. He continued his efforts with impressive speed and thoroughness in MARV 6 (2005), MARV 7 (2006), MARV 8 (2007), and MARV 9 (2010). In MARV 5-9 Barbara Feller also provided superb editions of the sealings on the tablets. Unfortunately, comparable work has

yet to be done for the sealings on those texts published in MARV 1-3. Freydank and Doris Prechel included ten more texts in MARV 10 (2011), effectively finishing the publication of the Berlin texts. To the large corpus published in the MARV volumes we must add a few additional texts. These were either mislabeled by the excavators or misplaced in antiquity and so ended up published in works devoted to other archives. Llop published two of these in his edition of the M 8 archive (2009: nos. 128, 167), and Reculeau and Feller have published five more stragglers in their publication of the M 9 archive (2012: nos. 46-50).

While the MARV volumes include short summaries of the texts and very useful indices of place names, divine names, and personal names, there has been no attempt to systematically edit the Berlin texts since Freydank's edition of the M 4A sub-archive in 1992. Individual documents have been treated by various authors, but these are more conveniently discussed as part of the editions of those tablets. The closest thing to a systematic edition we find are the various review articles published about the MARV volumes and Freydank's ongoing series of Anmerkungen articles. These are summarized in the following table:

MARV Volume	Reviews
MARV 1	Farber 1981, Hecker 1980, Postgate 1980, Saporetti 1980
MARV 2	Deller 1987, Postgate 1990, Von Soden 1983, Wilhelm 1982
MARV 3	Cancik-Kirschbaum 1996, Radner (1997-1998)
MARV 5	Jakob 2005/2006, Llop 2007b
MARV 6	none
MARV 7	none
MARV 8	Gaspa 2012c, Jakob 2013, Llop 2010b
MARV 9	Gaspa 2013, Llop 2011c, Ridder 2012
MARV 10	Llop 2012c, Postgate 2013b, Ridder 2013
Anmerkungen	Freydank 1971, Freydank 1985, Freydank 1991, Freydank 2003, Freydank 2006, Freydank 2010, Freydank 2011b, Freydank 2012, Freydank 2014

Figure Intro-4: Reviews of MARV Volumes

Since these articles contain largely technical notes on individual texts, it seems best to discuss their contents in the editions of the texts they describe. A systematic edition of the published texts from the archive still remains a desideratum. Part of the task of this dissertation will be to fill that gap.

Publication of the Istanbul texts has been rather slower. Donbaz has published editions and copies of two texts from the archive in Istanbul, A 1575 (Donbaz 1974: 83-84) and A 981 (Donbaz 1992: 121-122). He has summarized the contents of a number of other unpublished tablets, giving portions of some of them in transliteration (1998). I have provided updated editions of the two fully published texts, but the quotations and summaries in Donbaz 1998 are too brief to be well integrated into the arguments here. Only with their full publication will it be possible to fully incorporate them into the discussion of the *Gināu* Agency. As a result, this study will be based almost entirely on the Berlin texts. Since constant references to the “published two-thirds of the corpus” or the like would be cumbersome, we will take a bit of poetic license and refer to this corpus simply as “the archive” when there is no serious danger of ambiguity. If an individual is said, for example, to appear only twice “in the archive,” this should not be read as a claim that he never appears in the unpublished Istanbul material.

3.2 Synthetic studies of the archive

The second cluster of scholarship is synthetic works drawing on the archive. These fall into two distinct groups. One group was composed when the archive was largely unpublished, while the second was composed during or after the publication of the majority of the Berlin tablets in 2004-2011.

The first important synthetic treatment of the archive was offered by Postgate in his review of MARV 1 (1980).⁶ Despite having a corpus of only 13 published texts and the three jar inscriptions to work with, Postgate arrived at a remarkably clear picture of the *Gināu* Agency and its activities. Part of his achievement was simply to link all thirteen M 4 texts then published to the archive (1980: 68). He also linked the archive to Ezbu-līšēr and gave the basic outlines of the Agency’s personnel structure, noting the presence of brewers, oil pressers, *alahhinus*, and *sāmidu* millers.⁷ He was also able to work out the four canonical commodities handled by the Agency (barley, sesame, honey, and fruit), and the two major food products used in the offerings, *miṭru* and *haršu* (1980: 69).⁸ On the income side, he suggested governors were responsible for payment and that the *maddattu* and *gināu* were distinct (1980: 68, 70). He was even able to comment on the curious involvement of the *šakin māte* in the Agency’s affairs (1980:70). He summarized his note with the comment “What we have, therefore, is the first drop from what promises to be a mighty stream of detail about the *ginā’u* offerings to the Assur Temple in the reign of Tiglath-pileser, and their internal distribution” (1980: 69). While there was indeed much more to be learned about the archive, it would seem that the details were already coming in a strong and steady stream.

Postgate gave a short summary of these results in his survey of Middle Assyrian administrative archives from Aššur (1979-1981: 101). He gave a similar summary in an article on the same topic a few years later, but included the texts in MARV 2 that could be linked to the archive (1986a: 170-171). Postgate’s pioneering work in piecing together the archive was

⁶ Van Driel had included some information from Middle Assyrian inscriptions in his discussion of the Aššur temple’s economic support, but made no mention of the then almost entirely unpublished the M 4 archive (1969: 185-191).

⁷ The only major error in his work was to erroneously restore *ṭa-[i]-ni²-šu*.MEŠ as *dā’išu* “thresher” rather than *ṭā’inīšu* “his miller” (MARV 1 49: 9).

⁸ Following the CAD he erroneously identified *haršu* as “a fruit” (69).

continued by Pedersén (1985). As part of his larger project of sorting out the archives excavated by the German expeditions in Aššur, Pedersén was able to identify some 148 tablets from the archive, which he identified with the siglum M 4. Using the excavation numbers, he was able to reconstruct portions of the sub-archives contained in each of the ten pots. As to the organizing principle behind the sub-archives, with his available evidence he did not think much could be determined apart from M 4A, which contained a large amount of loans and principally involved the affairs of Aba-lā-īde (1985: 44-45, 48). He also worked out that the archive spanned from at least the end of Aššur-dān I's reign well into Tiglath-pileser I's, but left open the possibility that some texts could go back as far as the reign of Aššur-nērāri III (1985: 44 and n.7).

Pedersén also improved somewhat on Postgate's reconstruction of the Agency's administrative practices. Using some of the large tabular texts in the archive, he was able to work out that the Agency handled about 100000 *qa* of grain, 1000 *qa* of honey, 10000 *qa* of sesame, and 5000 *qa* of fruit per year (1985: 46). These figures have been used in most of the subsequent literature on the archive. As we will see, these figures are the right order of magnitude, although the Agency's income in a good year could be (and was supposed to be) about twice this (I.1

In other areas Pedersén also increased the resolution of Postgate's model. He worked out that there were at least four contemporary *alahhinus* (45n.11) and that both *miṭru* and *haršu* were types of bread (47n.23). He also noted that there was a genre of sealed receipts from individual provinces and that at least one text had tally marks on it (1985: 47).

More interesting for our purposes, Pedersén was the first to notice some of the administrative irregularities recorded in the Agency's archive. In particular, he noted that KAJ 306a "has registered what seems to have been problems with the deliveries of offerings, viz. bread, beer, oil and other products, during a period of about 20 days" (1985:47). This was the

first suggestion in the literature that there could be problems serious enough to stop the offerings, or in fact, that there were administrative problems in the Agency at all. He also observed that the *šakin māte* and a certain Urad-Aššur were both involved in the Agency's affairs from time to time, although he did not make an explicit connection between their appearances and the supply crises that afflicted the Agency (1985: 45). As we will see, Pedersén's observation that documents in the archive can record problems as well as smooth operations has profound implications for our analysis. A few years after Pedersén wrote, Freydank provided a detailed summary of the archaeological information available about the archive (1991: 20-23).

As more and more of the Berlin texts began to be published, scholarship on the archive took a radical shift. Much of the earlier synthetic work was largely concerned with making the basic contents of the archive known to those who did not yet have access to the information on the tablets. With the completion of the MARV series this was no longer necessary. At the same time, there was suddenly much more information available and hence much more to synthesize. The approach Freydank adopted was to retain the strong textual focus of the earlier synthetic scholarship, but to apply its methods to the entire archive (2011a). His article thus gives the reader a comprehensive picture of what documents are in the archive and how they might be arranged chronologically or divided into sub-archives. His synthetic work can thus be seen a logical continuation of his own text-editing work and the synthetic format used by Pedersén. His goal is to give his reader the lay of the land, and he does this quite well. If we add the brief summary of the archive offered by Jeffers (2013: 51-52), our survey of this genre arrives at the present day.

Other scholars have diverged from this approach. There have been three attempts to treat the archive as whole, but with the primary focus on the operations of the *Gināu* Agency rather

than the particulars of the texts it produced. Gaspa organized his study around the flow of goods, with sections devoted to the amount paid by provinces, how it was transported to the capital, and how it was made into finished offerings. In keeping with his Neo-Assyrian scholarship (e.g. Gaspa 2012a), he focuses very strongly on the material composition of the finished offerings. Adhering to the older tradition of research, he normally develops his arguments by concatenating examples pertinent to the issue being discussed.

Maul uses the same basic structure as Gaspa, following the commodities from their origin in the provinces through the process of shipping down to their final use as finished goods in the offerings (2013). However, his work is further removed from the source texts than Gaspa's. Maul develops models for the Agency's operations and uses the textual evidence to support these rather than simply presenting the pertinent information from each text. As with Gaspa, Maul's work is informed by a broader focus. In Maul's case, it is an interest in the ideological implications of regular offering structures like the *gināu* in Mesopotamia more generally (cf. Maul 2008).

However, by far the most extensive treatment of the archive to date was the sixty or so pages Postgate devoted to it in his study of Middle Assyrian bureaucracy (2013a). Like Gaspa and Maul, he arranges his discussion to follow the supplies from the provinces to the Agency and then to their final use as offerings, although he goes into considerably more depth. But his discussion differs from them in more than scale. One key difference is that Postgate includes a separate and substantial discussion of the Agency's external contacts. These external relations nicely define the borders of the Agency, giving a clear picture of what activities were conducted entirely within the Agency. The implication of this approach is that the *Gināu* Agency is a meaningful unit of analysis for investigating Assyrian administration and not just an arbitrary

subsection of a poorly differentiated bureaucratic mass. A second point is that rather than discuss the documentation extensively in his description of the Agency's activities, Postgate instead devoted the last third of the article to the Agency's documentary system considered as a whole. This approach implies that the documentary system, despite being our main source for the Agency's operations, was a product of those operations. As we will see in the present work, these two innovations of Postgate allow one to make considerable headway into understanding our archive. It is no accident, then, that the present work will use a large-scale structure quite similar to his.

3.3 Other treatments of the archive

In addition to these general synthetic treatments of the archive there has been a second branch of synthetic scholarship dealing with the tabular texts used to record provincial contributions to the *gināu* offerings and the implications of those texts for Middle-Assyrian geography. Weidner was the first to mention the geographic information on the tables, using them to locate the provinces of Kilizu and Kulišhinaš (1935-1936: 13n.87, 21n.148). As part of this effort, he noted that the tabular texts generally listed the provinces from Arbela through the Lower Province in a fixed order (1935-1936: 21n.148).

Shortly after the first of the *gināu* tables was published (MARV 2 21), Postgate gave a detailed commentary on the text and its geographical import in his review of Nashef's Middle Assyrian gazetteer, RGTC 5 (1985). As with his review of MARV 1, he was able to work out a rather large amount of information given the minuscule corpus then available. A considerable amount of scholarship on Middle Assyrian place names followed Postgate's publication. Rosa incorporated this scholarship into an article-length discussion of place names in the tables, in which he was able to considerably refine Postgate's findings (2010).

Freydank provided a detailed discussion of the tables as an administrative text genre in a style similar to his 2011 discussion of the entire archive (1997c). His work complemented Postgate's largely geographic discussion and offered a fairly clear picture of the tables as a document corpus when they were as yet unpublished and largely inaccessible to the broader scholarly community.

Following the publication of the remaining tablets in Berlin, Gaspa offered a detailed synthetic discussion of the genre based on a sample of the twenty-five best preserved tabular texts (2011b).⁹ He provided editions of the numerical information contained on the texts, and offered some general observations on this numerical data and the payment histories of particular provinces. He also listed the data available on the use of tabular formatting in Middle and Neo-Assyrian times and attempted to integrate the Middle Assyrian tables into Robson's broader work on Mesopotamian tables (2011b: 164-172). He described his project in the following terms:

Since a systematic analysis of the provincial contributions for the *ginā'u* offerings has not been attempted yet, the present study will try to do it through a purely descriptive and preliminary approach on the question in order to lay the foundations for further and more in-depth studies on the topic, as well as to stimulate the scholarly debate about the use of tabular record-keeping in Assyrian *bureaux* (162-163).

This goal is admirable, but unfortunately, the *gināu* tables are not especially amenable to purely descriptive study. As we will show in this dissertation, just to extract the tablets' numerical data in a consistent way requires a considerable amount of synthetic analysis. In particular, since many of the tabular texts deal with arrears, it is necessary to arrive at an estimate of the annual

⁹ For his sample he intentionally selected only the better preserved examples. This included seventeen of the documents we will classify as "full tables" (I.3): MARV 2 21, MARV 5 1, MARV 5 2, MARV 5 4, MARV 5 14, MARV 5 67, MARV 6 5, MARV 6 50, MARV 6 82, MARV 7 27, MARV 7 30, MARV 8 24, MARV 9 1, MARV 9 2, MARV 9 6, MARV 9 9, MARV 9 12. The sample also included eight of a different group of documents, which we will term "partial tables": MARV 5 5, MARV 5 10, MARV 5 64, MARV 7 8, MARV 7 93, MARV 8 35, MARV 8 40, MARV 9 80. Aggregating data from these two formally similar but functionally quite different genres limits the resolution possible for his results.

tax assessment of each province to convert the recorded figures into numbers that can be compared with the received amounts recorded in other tablets.

Another branch of synthetic work has focused on tying the administrative information in the archive into a broader historical narrative. This can be seen as an outgrowth of the long-running interest of Middle Assyrian scholars in matters of chronology (e.g. Bloch 2012c) and political history (e.g. Llop 2001), a topic to which we will return shortly. Freydank nicely exemplified this approach in an extensive article on the chronological implications of a single text from the archive, MARV 6 39 (2007). In the same vein, Bloch attempted to reconstruct the early history of the *gināu* offering and its development over time (Bloch 2010a: 40-48). His particular reconstruction is doubtful because of his narrow focus (see below), but it was an admirable first attempt to start linking the spheres of political history and administrative practice. In a subsequent article he offered a reconstruction of political events around the accession of Tiglath-pileser I (Bloch 2012b). Once again, his exact reconstruction is problematic, but his general suggestion that there was a major crisis at that time fits well with the *maddattu* crisis we will reconstruct in III.1.

Given the small size of Middle Assyrian studies as a whole, this is an impressive number of publications devoted to a single archive. But the archive's presence in the literature extends far further than that. Middle Assyrian scholars have frequently drawn on the archive to prove tangential points about other matters. Indeed, as we noted above, the first published references to the archive occurred in two footnotes where Weidner was trying to work out the location of a few place names (Weidner 1935-1936: 13n.87, 21n.148). Weidner later discussed the archive's inscribed jars and a number of the unpublished Berlin texts as part of a discussion of the *līmu*-officials who served as eponyms during Tiglath-pileser I's reign (1952-1953: 213-215). Deller

referred to two of the inscribed jars in which the archive was found in his study of cooks and cooking at the Aššur temple (Deller 1985: 349). That both articles based their discussions largely on the inscribed jars in which the archive was found rather than the tablets inside bears witness to the difficulty that confronted any scholar working with the texts before the work of Freydank, Postgate, and Pedersén. After the work of those scholars, the archive has become much more accessible and has been consequently pulled into many more arguments, particularly in Freydank (1991) and the dissertations of Bloch (2012c) and Jeffers (2013). These various small and often quite technical points, though, are best dealt with in the context of the individual claims they make. We need not linger on them here.

4 Previous approaches to studying Middle Assyrian administration

As one can readily surmise from the literature on the *Gināu* Agency's archive, there has been a lively scholarly discourse about Middle Assyrian administration for several decades now. Before embarking on a fresh look at the *Gināu* Agency, it will be useful to present an overview of the scholarly literature on Middle Assyrian administration more broadly. Our focus here will not be on the results of that literature, for many of them touch on issues and periods that are well beyond the focus of the present work. Rather, we will look at the methods scholars have employed to obtain their results, and the types of results these various methods yield.

To my knowledge, such a comprehensive methodological survey has not been produced for Middle Assyrian administrative scholarship, although there are some brief remarks on the matter in Johnson (2013). In fact, with a few notable exceptions, most works on Middle Assyrian administration have given little explicit attention even to their own theoretical underpinnings, let alone broader trends in the literature. The situation is not much better in other areas of

Mesopotamian administrative historiography. Nor, indeed, was it that much better in modern public administration before the work of Dwight Waldo and Herbert Simon revitalized that field after the Second World War (see Raadschelders 2011: 2). To quote Waldo,

There is something paradoxical in a study of the theories of a group of writers who until recently have been indifferent or hostile to “theory.” These administrative writers have always supposed that they were concerned only with facts. The text nevertheless should demonstrate that they have been involved with theory in numerous and important ways (Waldo 1948: v).

However, the theoretical landscape has become quite well developed in contemporary public administration discourse since that time.¹⁰ It is my hope that the same development can be brought about in the study of Middle Assyrian administration, and indeed some pioneering efforts in this direction have already been made (e.g. Cancik-Kirschbaum 2012, Johnson 2013). Here I will attempt a synthetic overview of the discourse that has occurred so far. Of necessity this survey here will be largely etic, imposing terminology and categories on the literature not used by most of its authors.

I have intentionally limited the discussion to works primarily on Middle Assyrian administration. Part of the rationale for this restriction is practical; a study of the approaches to administrative history in Assyriology as a whole would be a full dissertation in its own right. More philosophically, though, Middle Assyrian scholarship has not been especially well integrated into the broader field of Assyriology, and much of the conversation about Middle Assyrian administration has been conducted by dedicated Middle Assyrian specialists. It has been a largely separate conversation, and so it behooves us to examine this individual and

¹⁰ For a recent overview of theoretical trends in contemporary public administrations scholarship see Raadschelders (2011).

distinct conversation before investigating how it fits into the broader trends of Mesopotamian administrative scholarship.

For the same reason I have not made any systematic effort to integrate the Middle Assyrian administrative literature into broader trends in historical discourse. In order to preserve the *Eigenbegrifflichkeit* of the discipline within administrative history, to borrow Landsberger's famous term, I have not structured my discussion around a pre-existing system of historiographical terminology. Rather, I have created a terminology specific to Middle Assyrian administrative studies, with the hope that this terminology can later be adjusted to fit the interpretive grids of larger branches of historiographic research.

Finally, as another practical note, I have focused primarily on longer articles and on monographs with large amounts of administrative content. It is not an easy enterprise to isolate clear theoretical principles from the many short technical notes and administrative asides embedded in Middle Assyrian scholarship, and the uncertain results of this procedure generally add little to the discussion that cannot be derived more solidly from the longer articles and monographs. And, of course, even in the larger works the distinctions are often not as clear cut as the neat arrangement of our discussion might imply.

The clearest division in the scholarship centers on what Raadschelders terms "formal objects" (2011:11). These are the analytical terms and theoretical structures we apply to make sense of data, and they are necessary in some form to conduct scholarly investigations. It is only through them that we give meaning to administrative data. Without them, our investigations would be largely confined to unstructured accumulations of data. In fact, we can go one step further and say that without formal objects it would not even be possible to have data, in the strictest sense. The very act of describing an object to make it into a datum requires that we place

the object within some kind of linguistic or symbolic system, i.e. that we have a basic set of formal objects with which to talk about it. Without this we would not even have data, but only bare material things. What is more, these formal objects structure not only the way one might answer a given question, but also how we choose the questions we ask. As a consequence, which formal objects one chooses and how they are employed are of great significance.

Within Middle Assyrians studies there have been two approaches to developing formal objects. One approach has been to look for formal objects in the evidence available to us. The underlying assumption is that since these formal objects are derived directly from the evidence they are somehow ontologically real, what analytic philosophers might term a “natural kind.” That is to say, the proper formal objects are not simply conventions imposed to understand the data but are actually intrinsic parts of the data that just need to be discovered. Moreover, since the categories are ontologically real, simply by showing they apply in a given situation we can uncover new knowledge, just as knowing the metal an object is made of lets one know its melting point and other properties. To return to Middle Assyrian scholarship more specifically, we find the idea of an ontologically real category nicely laid out in passage from Duistermat’s recent work on Middle Assyrian pottery:

Lastly, and most importantly, the characteristic combination of attributes that defines a type should be constructed *after* the evaluation of the individual attributes, and the interrelation of attributes should be demonstrated. Only when it can be proved that a group of pots show the same combination of, for example, inclusions, decoration and shape, one can [sic!] decide to call this group a “type” or “ware.” [emphasis in the original] (Duistermat 2008: 35-36)

As they rely on ontologically real formal objects, we will term these scholars the “realist” school.

Since these formal objects are a part of the evidence and can be manipulated to generate new knowledge, it makes sense to structure our investigations around them. What is more, if our

evidence is tightly connected with the functioning of the administration, we can take the chain one step further and argue that the formal objects arising out of our evidence are intrinsic in the very functioning of the administration. Naturally, these would be the best, and perhaps the only formal objects with which one could effectively discuss an administrative system. This school has been particularly active in scholarship from continental Europe.

The other major branch of scholarship rejects this claim. For them there is not a set of formal objects intrinsic to the evidence that just needs to be discovered, and so, for convenience we will term this the “nominalist school.” Formal objects can be derived from the evidence in this school, but these are not assumed to be ontologically real, only conventions useful for particular purposes. Knowing that a dog is named Rex gives us little insight into its weight or size, and so a category of “dogs whose names start with R” is useless for discussing these properties, though it may be useful for discussing trends in pet naming. To find ontologically real formal objects these scholars appeal to outside systems, either to the solid reality of the material world or to a well-developed theoretical system from another discipline. This school has been particularly favored in Anglo-American scholarship, especially in the works of Postgate. Wiggermann, though from continental Europe, also uses a strongly nominalist approach.

There are several approaches used in both schools. These will be dealt with at length in the main discussion, but it will be useful to provide a quick overview at the start. I have divided the scholarship into three major approaches, which I have termed “general,” “institutional,” and “integrated.” In short, the general approach is unmarked, covering those studies that are not strongly institutional or integrated but can loosely be described as “trying to understand the texts and their contents.” Within this approach, the humanist sub-approach focuses on understanding complete texts and groups of texts. The scholastic sub-approach uses passages drawn from many

texts to investigate a particular facet of the texts. The institutional approach focuses on structures composed of people or places, which I have termed the “personal” and “geographic” sub-approaches. The “integrated” approach tries to tie Middle Assyrian administration into a larger historical system. The resulting ten school-approach categories are laid out in the following table. Where a particular school contains a well-defined sub-group of scholarship, I have mentioned the sub-group in parentheses:

Approach	Sub-Approach	Realist	Nominalist
General	Humanist		
	Scholastic	(Legal Scholarship) (Diplomatics)	(Land Tenure Debate)
Institutional	Personal	(Servile Groups)	
	Geographic		
Integrated		(Chronological-historical)	(Grand Theory)

Figure Intro-5: Schematic Overview of Middle Assyrian Administrative Scholarship

4.1 The realist school

The realist approach is the older of the two schools and so it makes sense to start our discussion with it. It is not an accident that this school predated the nominalists. Realism fits particularly well with the broader intellectual trends that were active in the humanities when the discipline of Assyriology arose in the mid nineteenth century. However, there is more to it than fashion. As we will see, realist approaches are singularly useful for opening up a new field.

4.1.1 The historical-chronological approach

Within Assyriology as a whole, the earliest realist conversation to take form is what we will call the “historical-chronological” approach. For this approach the ideal formal objects are a sequence of basic “events.” Our primary task as historians is to isolate such events and put them in the appropriate order. Then, through the lens of sequenced events we can discuss historical matters, including administration.

The simplest form of this approach is chronology proper, which one could describe as a sequence of calendrical events. There can be little doubt about the ontological reality of such chronological categories, whether ancient or modern. The necessity of this work in opening up a new historical field is obvious. Without some kind of basic chronological framework it is virtually impossible to do meaningful historical research. In other branches of Assyriology interest in this approach has waned somewhat in recent years as basic sequences of “important” events have been worked out. However, constructing such sequences for the Middle Assyrian period has been a rather more involved affair owing to a peculiarity of the Middle Assyrian textual record. To indicate the year in a date, Assyrian scribes would name the man who held the office of *līmu* that year. Since the office normally changed hands at the start of each new year, the *līmu*’s name was in effect the name of the year. The problem is that these “year names” by themselves give no indication of their proper order. For the Old Assyrian and Neo-Assyrian periods this is not a problem, for we have recovered tablets giving ordered lists of the men who held the office of *līmu* for long stretches of time. But, for the Middle Assyrian period no comparable lists have been recovered and so scholars have had to painstakingly sequence the year names based on internal clues, not unlike assembling an elaborate jigsaw puzzle. There have been great strides in this effort in the past few years, but the effort remains ongoing.

As this has been one of the most prolific parts of Middle Assyrian scholarship in recent years, a comprehensive discussion of this literature would take us much too far afield. Moreover, such a discussion has already been provided by Bloch in his dissertation (2012c). There are innumerable small points about administrative practice embedded within this literature. For example, Bloch devotes seven pages of his dissertation to a discussion of age classifications for dependent personnel so that he can use status changes in personnel rosters to bound the time

elapsed between texts (2012c: 118-124), building on similar work by Jakob (2001) and Röllig (2004). In the same vein, Llop has worked out many details of the expeditions sent to obtain grain from Tillê (Llop 2013) and Ša-Sîn-rabi (Llop 2010a), which he uses to better sequence the eponyms of Tukulti-Ninurta I's reign. Such examples can easily be multiplied (e.g. Freydank 1991).

It is hard to characterize these passing discussions about administration as a group. They are called upon for very specific purposes and are not intended to stand alone. It is the ontologically real chronological conclusions, not the administrative activities that are intended to be directly usable for other discussions. As the reader will see, these studies are very useful indeed, and much of the work in this dissertation would have been impossible without the tireless efforts of these scholars to reconstruct chronological sequences.

But, there is another take on this approach. Here the goal is not simply to put calendrical events in the right order, but also political and administrative events. In this view the resulting sequence of important events *is* history in some sense. Bloch has given a rather succinct description of this approach in a recent article:

Modern scholars attempting to reconstruct the history of ancient civilizations rely generally on literary sources, which present a chronologically ordered narrative of events pertaining to the field of their study. Indeed, those are literary sources that provide the basic outline of historical events. However, administrative sources—that is, documents recording routine collection and re-distribution of goods by the state—can complement the historical reconstruction, providing independent evidence of some events or indicating their historical context (including a more precise dating than could be achieved based on literary sources alone) (2012b: 53).

For Bloch, it would seem, the goal of history is to properly reconstruct this sequence of events and put them in “their historical context.” In this particular article the events being

contextualized are largely political—campaigns, rebellions, enthronements, etc.—and most of the scholars using this approach have similar views about what constitutes an important event.

This general position participates in a much broader trend in Mesopotamian historiography, going back to the earliest days of the field. To review all these works, even those dedicated exclusively to Middle Assyrian topics, would be a rather involved project with only tenuous connection to Middle Assyrian administration, and so we will not do so. Happily, Jaume Llop has assembled a comprehensive list of publications dealing with Middle Assyrian history through 2001 (2001: 1-4). To the work cited by Llop we can add a recent article by Jakob, which used such an approach to discuss the larger strategic designs of the Middle Assyrian kings in the east Tigris (2011). As part of this effort, he attempted a reconstruction of Tukulti-Ninurta I's Babylonian campaigns in considerable detail, touching considerably on administrative matters (2011: 196-205).

As with the purely chronological works, scholars using this approach tend to discuss administration as a means to an end rather than as a subject of intrinsic interest. The primary question, for example, is when a campaign took place and what its lasting political consequences were, not how many men were involved or how it was funded. As in some contemporary discourse, administration is treated as the servant of politics.

The one major exception to this trend is Bloch's attempt to reconstruct the early history of the *gināu* administrative apparatus (Bloch 2010a: 40-48). He argues that in the time of Tukulti-Ninurta I the system was largely decentralized, relying on the governors and a royal commissioner active in the provinces to ensure deliveries, while in later times a centralized administration was set up under the *gināu* supervisor. In support of this thesis he cites two texts, MARV 4 115 and BATSH 4 12. The problem is that his focus is too narrow. MARV 4 115 does

indeed refer to a governor being liable for *gināu* payments as he argues, but as we will discuss at length in I.1, governors were also liable for delivering *gināu* supplies in later periods. Second, throughout the period covered by the archive the Agency was in the habit of confiscating unpaid supplies from a governor's assets in the capital, and it normally enlisted the aid of high-ranking outside officials to do so (I.1). The passage about the *gināu* in BATSH 4 12 can be easily accounted for in this way (see I.1). Hence, by looking at a broader selection of texts we find that the passages can, and indeed should, be seen as evidence of striking administrative continuity.

It should not surprise us that a close reading of two passages can lead to wildly divergent interpretations of the administrative activity they describe. The basic problem is that most administrative “events” do not have the same ontological reality as chronology. In doing chronology one can prove discrete points with individual texts. If a single text proves that two particular points in time were a certain space apart, we can generalize this to our discussion of all texts. Once a sequence is established, simply by knowing the date of a text or event we suddenly know a host of information about its relationship in time to other events and texts. These properties are intrinsic to the property of having that particular date.

In contrast, administration is messier. Proving an administrative action happened once does not prove that it was somehow a regular part of the administration. Administrative activity does not show the same level of regularity as the inexorable march of time. Both environmental phenomena and humans can be quite fickle and unpredictable, but truly regular administration requires uniformly predictable behavior from both. In fact, as we will see in the following chapters, a great portion of the actions recorded in our archive are things which were, strictly speaking, not supposed to happen—they were improvisations to cope with the unexpected. Even for regular parts of the administration something that a handful of people do a few times a year is

clearly rather different from the same act done twice a day by hundreds of workers. Again, individual exemplary texts are unable to capture such distinctions. Hence, assigning a person to the category of “people who do activity X,” may tell us no more than that he did activity X on at least one occasion. It does not tell us that he regularly did X, or even that X was a regular administrative action. Indeed, it may not even be possible to say whether other activities really were also instances of X or different activities, since the boundaries between types of administrative actions can be quite blurry. Therefore, “people who do activity X” cannot be assumed to be an ontological category.

This is the major problem of using the historical-chronological approach to study administration. It makes chains of inference based on a few exemplary passages, and so deals very poorly with irregular activity. A single unusual or improperly understood action in the chain of inference can lead to wildly incorrect conclusions.

4.1.2 The realist general approach

Yet not all realist scholarship is concerned with sequences of events. Let us first turn to what one might call the “general” approach. For this approach the formal objects are not events recorded in the texts, but, in a sense, the actual texts themselves. Like the historical-chronological approach, this approach of necessity goes back to the primordial days of Assyriology when all there was to go on was a handful of poorly understood texts. The only way forward was to make better sense of those texts.

The realist general conversation has followed two major trajectories. One looks at whole texts or groups of texts, the other at particular terms and features across a number of different texts. For convenience we will borrow a bit of renaissance terminology and call them “humanist” and “scholastic” approaches, though this is not to imply more than a passing link

with the Thomases More and Aquinas. In principle these are not mutually exclusive, but in practice articles tend to rely primarily one approach or the other.

4.1.2.1 The realist humanists

On the humanist side, there has been a considerable amount of work on individual tablets or small groups of tablets. The theoretical premise behind this work is that by better understanding particular texts the information they contain about administration will become apparent. For this to work well, the interpretation must somehow be ontologically real and valid for most or all questions one would care to ask of the text. Otherwise, one would need to create a different interpretation for each question and hence making a simple “edition” of a text would be effectively impossible.

Weidner was an early user of this approach in his edition of the text later published as MARV 1 14 (1954-1956), but Helmut Freydank has been the most prolific scholar in this area. He has dealt with the thorny legal and administrative documents KAV 217 (1982a), MARV 3 2 (1982b), and MARV 4 119 (2012), coming up with information on the legal and administrative issues behind them. He also dealt with the difficult honey receipt MARV 6 39 (2007), arriving at some chronological conclusions. In the same vein, Deller and Saporetti were able to work out an interest rate from a careful edition of an unusual loan document (1979), and Röllig has analyzed the famously convoluted sealing terminology used by Bābu-aha-iddina in KAV 99 (1980). Llop and George (2001-2002) used a close analysis and re-editing of a literary letter to extract new information about Middle Assyrian political history. Finally, Shibata has used close examinations of individual texts to work out the location of Kulišhinaš (2013) and reconstruct the circumstances surrounding an illness suffered by Ilī-Padda (2015).

Freydank expanded his focus to small groups of tablets when he edited the M 4A sub-archive (1992). He also analyzed three texts describing harvests from different parts of the kingdom and drew some conclusions about agricultural administration (1994a). He built on this latter work with an edition of MARV 5 83 and further discussion (1997b). Finally, in the most ambitious work of this type, Freydank discussed 16 texts relating to agriculture at Kār-Tukulti-Ninurta, providing full editions of about a dozen of them. Doing this he reached a conclusion that agricultural yields in the region of that newly created city had so fallen off within the twenty years after it was founded that the whole project collapsed, likely precipitating the murder of Tukulti-Ninurta I. Using a similar procedure, Röllig obtained interesting results about the state weaving establishment by a study of twelve texts involving *mašhuru* garments (2002).

One can take this approach further and advance from properties of individual tablets to entire archives. Loosely defined, a humanistic approach to an entire archive defines much of Middle Assyrian scholarship, with the clearest examples being the introductions to collections of text editions. However, most of these archive-level works draw heavily on one of the other approaches discussed in this chapter, and so have been classified with them. Here we will look only at those archive-level studies that are primarily about the *texts* in a particular archive rather than their contents. In the diplomatics terminology favored by Cancik-Kirschbaum, these are the “extrinsic factors” (2012: 27-28). Of necessity this approach has been used for early reports on newly discovered archives, as in Speiser (1939) and C. Kühne (1995). Donbaz offered a similar collection of highlights from the largely unpublished Middle Assyrian holdings of the Istanbul Museum (1998). On a more ambitious scale, Landsberger (1935-1936) and Weidner (1935-1936) used the approach to ferret a good deal of information out of the recently published M 6 archive. More recently, Llop has provided a summary for the recently published but still largely unedited

M 8 archive (2014). It is probably best to include in this group as well Gaspa's study of the tabular texts from M 4 (2011b). His goal was to provide editions of the numerical data in the texts and offer a "purely descriptive and preliminary approach on the question" of provincial contributions (2011b: 162).

With most or all of the tablets unpublished or unedited it was a great service to the field just to give an idea of what was out there as a stopgap until full publication could be arranged. As we have seen above, several insightful works on the M 4 archive were composed in this vein when most of its tablets remained unpublished. However, perhaps the pinnacle of this approach was Pedersén's systematic and thorough study of all known Middle and Neo-Assyrian archives from Aššur (1989), a work which remains the starting point for any Middle Assyrian archival research. While this archival approach was quite fruitful in its time, it cannot be continued indefinitely. Put bluntly, there is only so much basic organizing and cataloging of tablets that needs to be done, and the lion's share has already been done or is at least well underway. Cataloging is essential, but it can only take us so far in our study of Middle Assyrian administration. This fact seems to have been generally acknowledged by the field.

Yet, there is a more general problem with the realist humanist approach as a whole. This is the notion that one can capture the "meaning" of a text in some absolute sense. At a basic level this is an eminently workable project. The issue comes when one tries to ask very specific and pointed questions of the texts. As the questions become more detailed it becomes progressively harder to make an isolated edition of a text that can answer all of them. This is particularly true for administrative documents. While, for instance, it may be easy to tell if a text is a loan in isolation, it is more challenging to explain why it was made and to what degree it was a regular or an exceptional act. We can see this as another manifestation of the problem that arose in the

historical-chronological school; it is hard to discuss administration through exemplary texts. The realist humanist approach in effect treats every text as an exemplary text. Taken beyond a certain point this can lead to a rather distorted picture of administrative practice.

4.1.2.2 Legal studies

While the humanist approach relies on understanding individual texts or groups of them, the scholastic approach tries to understand particular expressions across a number of texts. Perhaps the earliest example of this in field is the sizeable literature on the Middle Assyrian Laws and the Harem Edicts, which goes back to at least the 1920's (e.g. Koschaker 1921). Here is not the place to summarize or synthesize the large literature on Middle Assyrian law, which has been done admirably by Lafont (2003).¹¹ In one sense this literature is a natural outgrowth of the humanist approach, trying to understand the two famous Middle Assyrian legal anthologies. Yet, this quickly came to include a discussion of particular points of Assyrian law carried out in a scholastic fashion. One factor behind this body of literature is the tantalizing idea that since the Assyrians' laws governed their society, they contain a set of formal objects useful not only for discussing law, but for talking about Assyrian society and government more generally.

It is no surprise then, that Lafont's synthesis includes not only the intricacies of case law but also a section on the Middle Assyrian State and its administrative officials (2003).¹² However, for the Middle Assyrian period the study of law by itself is of only limited value for understanding the administration. There is the thorny issue of how much of the laws represent actual as opposed to ideal practice. Compounding this problem, the laws proper only tangentially

¹¹ Since Lafont published her synthesis, Bellotto has published on the role of witnesses (2009, 2012) and Lafont herself has written on the role of women in Middle Assyrian law (Démare-Lafont 2011).

¹² This decision was not, strictly speaking, Lafont's but was part of the framework imposed on all the contributors to Westbrook (2003).

involve members of the administration, and the Harem Edicts are concerned largely with protocol within the palace. Furthermore, the laws do not give any idea of how frequently or infrequently statutes were executed. A statute invoked once every decade would imply different things about a society than the same statute invoked on a daily basis.

More philosophically, it is unclear that the Assyrian administration understood much of its activity in purely legal terms, let alone that it was neatly organized along legal lines. Hence, there is reason to doubt that formal objects derived from Assyrian legal texts would be especially useful in studying administration. As we will see, a few legal points are indeed quite useful, but they are most helpful when embedded in a larger, non-legal framework.

4.1.2.3 The realist scholastics

If one would not study law per se, another workable realist approach is to take various Akkadian lexical items and to try and match them to items in the material world. This is what I have termed the “scholastic” approach. One of the earliest examples of this in Middle Assyrian scholarship was Landsberger’s attempt to isolate and explain the various administrative titles and terms for livestock mentioned in the M 6 archive (1935-1936). In the same vein, Donbaz (1988) discussed various terms for bread, and Röllig and Tsukimoto worked out the meaning of a number of plant names (1999). Llop also devoted a great deal of energy to pinning down the identities of particular food items in the large and extremely forbidding offering summary MARV 3 16 (2009-2010). Taking this approach to its logical conclusion, Gaspa has devoted an entire monograph to cataloging and identifying foodstuffs in Middle and Neo-Assyrian sources (2012a). Freydank’s note on the descriptions of seal designs in the Bābu-aha-iddina corpus, and Llop’s studies of the terms *karmu* (2005) and *rēmuttu* (2007a) are in this same general vein.

Other scholastic studies have been devoted to the terminology used to describe particular actions. Saporetti has discussed the measuring phrase *ina sūti ša bēt hiburne* (1970). Freydank noted the admittedly unlikely potential for some phrases involving the verb *šasû* “to call” to refer to a schedule of fixed prices (1985b). He also studies the phrase *bitqu batāqu* (1997a) and the grain measuring terms *šihṭu*, *hiṣnu*, and *riḥsu* (2010). With a somewhat wider focus, Llop has collected and systematically organized all known terms for making offerings in the published Middle Assyrian corpus (2008b). All of these studies touch on administrative matters, although that is not their primary focus. In addition to them Freydank has offered two studies with more explicitly administrative focuses. One looked at the use of writing boards in the administration (2001a), and the other the accounting terminology used to discuss flock growth (2010).

Finally, note should be made of two articles. One is Llop’s prosopographic study of the *šakin māte* Šahhutu, essentially a scholastic study of a person (2008a). The other is Cancik-Kirschbaum’s work on information about art in the administrative record, which can be seen as a more generalized application of realist scholastic principles to extract usable information about Assyrian art from administrative tablets (2008).

What all these scholastic studies have in common is that their results can be expressed in something amounting to a statement of the form “Akkadian phrase X means Y.” This allows one to use X and Y interchangeably as formal objects with which to discuss the text. The studies arrive at these conclusions through largely philological means, deriving their identifications from a close study of the texts rather than an appeal to outside models. In principle, one could use identification with aspects of the material world as a starting point to apply formal objects we use to discuss the material world in other contexts, but realist scholars in this school have generally not taken that step. Rather, explaining particular terms and phrases is taken as a sufficient end in

and of itself. The underlying assumption seems to be that these correctly understood phrases should be the formal objects on which we base our discussion of the documents.

On the one hand, this work is invaluable, for we can hardly discuss administration if we do not know the basic vocabulary of our texts. On the other hand, by itself this approach is limited in what it can achieve. Even if we perfectly understood every administrative text at our disposal, we would only be at the starting point of scholars of modern public administration who can read documents in their native tongue and easily get clarification from living informants. To carry on a discussion of administration we must go beyond this point.

The scholastic scholars have risen to this challenge. The principles behind this have been most clearly enunciated by Cancik-Kirschbaum, who did so using the language of diplomatics (2012). As she argues:

Middle Assyrian administrative documentation mirrors the conditions and procedures of imperial governance and thus deserves to be studied not only with respect to its contents as a historical source, but also to its state as an *epistemic thing*, an artefact consciously designed within the framework of a complex technical system (29-30). [emphasis in the original]

That is, to study administration we must study the system of administrative documents it created.

She explains the rationale behind this as follows:

The functioning of the document-producing organism in its own right is not easy to understand. However, since every document is related to classification systems and means of retrieval, not only the actual formation of the document itself conditions its outlines; the intended usage on secondary and tertiary levels within the administrations also conditions parameters of recording and formatting. Following these terms in a long-term perspective by observing continuities and discontinuities allows one to see changes within the administrative system as a—partly delayed, partly anticipatory—reflection of governmental processes (2012: 23-24).

In her view, administrative documentation is so intrinsically linked with the activities of its creators that by understanding the documentation as a system in its own right we can come to understand the administration that produced it.

Although Saporetti was not as explicit about his principles, a variation of this hypothesis undergirds much of his voluminous work on Middle Assyrian loan and contract documents (e.g. Saporetti 1970a, 1970b, 1975, 1978-1979, 1981). Indeed, his recent monograph (2012) is perhaps the pinnacle of this approach in practice. Llop has attempted something similar with his recent and exceedingly thorough investigation of Middle Assyrian letters (2012b), as has Canci-Kirschbaum with her study of Middle Assyrian summonses (2013).

It is not an accident that loans and letters have been the primary focus of these works. These text genres tend to be extremely formalized, as, in fact, are their modern counterparts. It is not unreasonable to think that every last phrase in a contract or letter greeting had a clearly defined meaning and reflects a careful and deliberate writer. Hence, they form a clear system that can be recovered through careful and thorough investigation.

The problem comes when we turn to what Postgate terms “unilateral” documents (2013a: 80), that is, documents written for purely internal use. *A priori* it is not clear that these should show the same level of formalization or standardization as loans and letter greetings. In modern governments internal documents are often quite formalized, but as Kaufman has shown in his famous monograph, the driving force behind this red tape is related to the extreme complexity of modern governments, and their desire to achieve some sort of democratic oversight over their administrators (1977). We will return to this point at greater length at the end of the chapter. What matters here is that we have reason to doubt that unilateral administrative documents ever formed a completely consistent system in Late Bronze Age Assyria. Rather, there could be a

considerable amount of essentially random variation mixed in with deliberate adherence to a particular system of textual norms. In the language of signal processing, the documentation is “noisy.” When we are dealing with large numbers of tablets and only a handful of very prominent characteristics this is not a problem, but as we increase our focus and expand the set of characteristics, it becomes progressively harder to distinguish between meaningful patterns and random variation without appeals to the contents of the texts.¹³

The second problem is that it is not clear that the full scope of administrative activity can be recovered from the documentary system per se. Even where the texts may have formed a consistent system, it is not clear that every administrative act had a unique representation in the documentation. In mathematical terms, the map from reality to the space of administrative documents may not be one-to-one. Thus, a study of documentation alone might be unable to distinguish between one of several administrative acts. Compounding this, two similar, but slightly different administrative acts might map to different places in the documentary system, while quite different acts might be mapped to the same document because of a superficial similarity. Indeed, within our archive we find that an emergency loan to continue operations resembles a regular working contract for oil pressing in formal features far more than an emergency grant made to continue operations. This is in spite of the fact that emergency loans

¹³ For instance, Jeffers carefully notes a number of texts in which Ezbu-līšer does not receive his title of *gināu* supervisor, whence he concludes that this was normally used when he was acting outside his responsibilities as *gināu* supervisor (2013: 130n.273). There is indeed a general correlation between the use of the title and the overall formality of the document. About half of the documents in which Ezbu-līšer has the title are sealed, as opposed to about a third of those in which he does not receive the title. Yet even Jeffers admits that a few instances do not fit his paradigm, and several of his stronger examples are in fact just instances of virement (MARV 5 37, MARV 9 112). It seems rather simpler to assume that there was some random variation in when the title was used. In some instances it would be essential, but in others it could be added or dropped at the whim of the particular scribe writing, especially in informal internal documents. One suspects that a study of the usage of modern professional titles would turn out much the same.

and grants are one-time ad hoc measures used to make the same food items, while work contracts are a regular part of operations used in an entirely different sphere of the Agency's activities.

4.1.3 The realist institutional approach

A different approach is not to construct a system out of the texts themselves, but rather the terms they use for various social and administrative institutions. We will call this approach the "Institutional" approach. In a sense this is a logical outgrowth of work using the realist general approach. The proper formal objects for the study of Assyrian administration are the terms the Assyrians used to discuss their own administration, and we need only recover and analyze them. Indeed, one can see institutionalism as the response of the realist school to the nominalist positions taking shape in the land tenure debate begun by Garelli (1967) and Diakonoff (1969).

4.1.3.1 Terms for workers

The earliest interest of the institutionalist discussion was in the terms for various groups of people in state service. The first contribution to this was Freydank's (1975) discussion of deportees in the Middle Assyrian kingdom, which he saw as a direct predecessor of Neo-Assyrian practice. He then turned his attention to soldiers and workmen considered as groups (1976). Garelli, Charpin, and Durand offered a more detailed study of particular groups of deportees (1982). Following this there was also a discussion of the *šiluhlu* servile class in Brinkman (1985) and Fincke (1994), as well as Deller's study of the term *umzarhu* (1984), and considerable synthetic discussion of deportees in Harrak (1987). These works were all characterized by a strongly philological methodology, nuancing the meaning of these terms by

the close reading of particular well-chosen texts. As this discussion had yielded reasonably good definitions of the groups in question, the institutionalist conversation shifted elsewhere.

The shift took two directions. One focused on understanding Assyrian administration by systematically investigating the titles of officials in the administration. The other focused on the institution of the province. For convenience we will refer to these as personnel and geographic institutionalism.

4.1.3.2 Realist personnel

In a sense the personnel discussion can be seen as a natural outgrowth of the discussion of deportees and other servile groups. Sometimes this has been approached in a scholastic fashion focusing on the activities of a particular profession. One finds this approach in Saporetti's study of the term *tamkāru* (1977), Freydanck's work on the *šallimpāyu*-official (1985a) and Cancik-Kirschbaum's work on the title *sāpiu* (1999a). More recently, Gaspa used a more elaborate version of this procedure in his work in the Neo-Assyrian period, with considerable space devoted to the Middle Assyrian corpus (2012b). Here he assembled not just references to scribes, but also a broad swath of documents that could be implicitly connected with writing and accounting professionally. In the same vein, Llop provided a systematic study of all foreign rulers mentioned in Middle Assyrian administrative documents (2015).

However, there has been a general move away from studies of individual offices to large scale works that reconstruct a whole system of administrative titles. The earliest example of this was Garelli's work on local power, which focused largely on the titles of officials and the names of particular taxes (1982). Cord Kühne used a similar approach in his preliminary analysis of the Tell Chuēra documents, which focused extensively on the functions of the *bēl pāhete* "governor" and *haziānu* "mayor" in the archive (1996). In the same vein Röllig provided comprehensive

discussion of the personnel active in the Dūr-Katlimmu agriculture and husbandry texts he edited (2008), and Salah has done the same for the personnel texts from that site (2014). Faist presented an impressive synthesis of the highest officials in the kingdom and their functions (2008, 2010). She also produced a detailed and thoroughly realist description of Middle Assyrian trade focused especially on the particular commodities traded, the legal terminology used, and the merchants involved (2001). However, the pinnacle of this school remains Jakob's monumental study of Middle Assyrian administrative and social structure whose body is organized largely as thorough studies of individual titles grouped into chapters by general function (2003).

The personnel approach can be quite productive, as this body of work has shown. Indeed, much modern comparative bureaucratic scholarship has used this approach (e.g. Heady 1979). What is more, it has the advantage of being entirely emic, and so reduces potential bias from our own culture. However, this system still relies on the ontological reality of professional titles, which can generate problems.

The first problem is similar to that which hinders the diplomatics project of the realist scholastics. We cannot be certain to what degree Assyrian administrative titles ever formed a coherent system. As the administrative historian S. E. Finer remarked when confronting a muddled group of Neo-Assyrian professional titles, "It may be that the Assyrians did not use precise administrative terms because the duties of the administrators were imprecise" (1997: 231-232). If we turn to other pre-modern governments we find that well-organized systems of personnel titles are not something that can be taken for granted. Indeed, Faist has already noted that the duties of the highest officials in the realm were not well defined in the period (2010: 21-22). One cannot rule out, *a priori* that the system of personnel titles was riddled with inconsistencies and blurred lines of responsibility. Thus, it may not be possible to construct neat,

mutually exclusive spheres of responsibilities to go with each title or to say what a particular profession or agency did and did not do, but only what it did often versus what it did infrequently.

The second related problem is that even when the titles do form a coherent system, it need not follow that this system actually worked as designed. It may simply describe how the Assyrians wanted it to work. Or, in the same vein it may describe how they thought the system worked; administration is complicated, and oftentimes the way large scale structures actually function is not obvious to those who participate in them.

The third problem is the limited resolution offered by titles. Even in areas where the titles were fairly systematic and had well-defined spheres of activity, we cannot take it for granted that all officials with the same title had the same responsibilities. The titles may aggregate several quite different areas of responsibility. Indeed, in the *Gināu* Agency the title *alahhinu* was used to describe two very distinct posts. Similarly, we cannot assume that every function performed by the government mapped to exactly one title. For instance, in the *Gināu* Agency both the *rab gināe* and individual *alahhinus* could take out loans to continue the offerings. What is more, during part of the *maddattu* crisis the *rab gināe* Ezbu-līšer and the outside *alahhinu* Urad-Aššur exercised nearly identical administrative roles.

More generally, the lens of titles may make our description of some activities needlessly complicated. Consider an office where it is the responsibility of the last person to leave to lock and secure the facility for the night. Despite the clear lines of responsibility, the distribution of officials performing the closing operation would not correlate well with official titles, but rather with work schedules. In this situation a study of the “closer” based on titles would at best isolate

those officials whose duties often keep them late, and so would be rather less parsimonious than the rule which generated the distribution.

4.1.3.3 Realist geography

Of course, a state does not have to be thought of only in terms of people. Most modern states are associated with fairly well-defined territorial units, and so it is natural for modern scholars to approach the Middle Assyrian kingdom from a geographic perspective. In writing political history this might take the form of assessing the extent of Assyrian control in various regions at various times (e.g. Harrak 1987). Our concern here, however, is not with political history but administrative history. Where scholarship on historical geography can be considered administrative history is where it touches on administrative sub-units of the state. Of course, if one is of a realist persuasion, administrative sub-units and similar named geographical entities are an ideal set of formal objects with which to investigate the administrative structure of the state.

Perhaps the most natural formal objects for administrative geography are provinces, and it can be little surprise that much of the realist literature has focused around working out the name and location of each Assyrian province. One finds this approach, for instance, in the discussions under the heading “administration” in the historical monographs of Harrak (1987) and Jeffers (2013). Llop has also devoted two articles to working out the names and locations of the kingdom’s provinces at various times (2011a, 2012a). Rosa similarly tried to work out the larger geographic structure of the provinces mentioned in texts from the *Gināu* Agency. Two articles of Cancik-Kirschbaum also concern themselves with the details of particular Assyrian provinces and the Akkadian terminology used to describe provincial administration (2000, 2014b).

With less of a focus on the provinces per se, Llop discussed the Assyrian border with Babylonia almost entirely in terms of which named geographic locations were and were not under Assyrian control at any given time (Llop 2011b). Llop rather succinctly encapsulates the motivation behind this approach in another article, where he states “From an administrative point of view, archival documentation is, of course, central. It confirms or clarifies annexations, territorial dominance or expansion (for example in the case of Katmuhu)” (Llop 2015: 264). In his view administrative geography consists in locating those regions which were and were not under Assyrian control. Such discussions based on geographic names have been very common in the literature on Middle Assyrian history, and one could easily multiply examples. The notion behind it is that space can be decomposed into a number of named geographic entities to be found in our source documents. Any discussion of administrative geography is thus a matter of mapping these geographic entities into a set of administrative formal objects.

The theoretical case for this sort of approach has been made quite explicitly by Cancik-Kirschbaum in a number of recent articles (2009, 2012, 2014b). In one article she noted that “Die Art und Weise, wie Orte genannt werden, welche Orte genannt, bzw. nicht genannt werden, können als Indikatoren für die konkrete politische und sozioökonomische Situation gewertet werden,” (2009: 143) and she has made similar points elsewhere. More specifically, she assumes that place names and Akkadian geographic terms are not simply a way of getting access to Middle Assyrian geography, but *are* Middle Assyrian geography. A deeper investigation of the subject therefore revolves around unpacking the meaning in each term. This approach serves “to prevent the (eventually misleading) inscription of etic conceptions into the body of evidence, thus avoiding its contamination” (2014b: 111). However, as a result “the vocabulary applied by historians—philologist or archaeologist—to the textual or material evidence is, so to say, the

servant of two masters: the original term rooted in a given indigenous language and its concepts, and its translation into a particular contemporary language links it to a differing set of conceptions” (2014b: 112).

The realist geographic approach has had some success in locating particular geographic entities. However, it has proved less successful as a way of discussing Middle Assyrian administration. There are at least two major reasons for this. First, the underlying Akkadian geographic terminology imposes limits on the resolution that can be achieved. Part of this is that Akkadian terminology often does not make distinctions we might find useful. For instance, although the texts call many administrative subunits *pāhutu* “province,” these seem to have often differed dramatically in size and available resources (I.1). The resulting discussion would be like writing a work on U.S. geography using an undifferentiated category of “state.” What it means for large and populous state like California or New York to be a state is rather different from the statehood of Alaska or Rhode Island, but a realist approach cannot easily get at this since there is no neat emic category of “small state” or “large state.”

More troublingly, the realist approach assumes that the Akkadian geographic terminology formed a relatively coherent system. As we will discuss in the following chapters, this was often not the case. In particular, some *pāhutus* were decomposed into smaller units also referred to by the term *pāhutu*, a fact which has gone unnoticed in the realist scholarship and derailed a number of geographic discussions (I.1). If the Assyrians themselves were not especially precise in their geographic terminology, any discussion anchored to their terminology will end up similarly imprecise.

The second major problem is that treating named geographic entities as ontological categories tends to result in an implicit assumption that these entities have well-defined

boundaries and act as coherent units. This is what lets one say, for instance, that the Assyrian state “controlled” Arbela province. From a distance this is not unworkable. However, when our focus increases problems quickly emerge since space is a continuum and local populations are made of many people. What the Assyrian “control” of Arbela meant might vary considerably depending on what sub-region or inhabitant of Arbela province one has in mind. Indeed, we have no reason to think that whether a particular region or person “belonged” to Arbela province at all can be answered in simple yes or no terms. Thus, as in the previous cases, the assumption that the appropriate formal objects for our analysis are intrinsic to the data being analyzed proves workable at first, but runs into major problems if one tries to look more closely at particular issues.

As we have seen, a great deal of progress has been made using fundamentally realist approaches. Works in this school have used historical-chronological, general and institutional approaches, and, indeed, Jakob’s recent edition of the texts from Harbe used all three (2009). Yet, there are also structural problems which tend to create what we might term a “resolution limit” for this line of inquiry. One of these is pragmatic. Administration tends to be messy when examined closely. Individual people do not always adhere perfectly to rigid principles within an administrative structure. Indeed, many organizations have operational principles that outright contradict each other or conflict with larger principles of social interaction and the natural world and so cannot be followed rigidly even by the most scrupulous. Furthermore, the unpredictable actions of individual people and natural phenomena influence the situations with which administration has to cope. It is difficult for even the most well planned system to cope with every contingency, and it is far from clear that careful contingency planning was a particularly high priority for Assyrian administration.

Given that the underlying administrative data becomes messier as the focus increases, any system of formal objects built directly on it will also become messier as well. When we deal with large groups much of the local messiness is filtered out and the picture is fairly clear. Here realist analysis is in fact quite productive as we have seen. But, as the focus increases the formal objects become so messy that after a certain point they can no longer be treated as a system. After that the only way to construct a coherent system is to so expand the set of formal objects that it becomes as large as the underlying data set. That is to say, the analysis becomes a very involved form of simply listing the data. It is a resolution limit for such approaches. As we will see in the following chapters, many of the *Gināu* Agency's activities are effectively beyond the resolution limits of realist investigation.

There is also a philosophical objection. While discussing a similar trend in public administration theory in his seminal work, *The Administrative State*, Waldo put this objection quite forcefully:

There is not adequate appreciation of the role that theory must play even in the *primary* stage of a science. Scientific theories do not necessarily emerge from, or rely upon, a large accumulation of data or repetition of instances. To use the apocryphal example of Newton and the apple, it was not because Newton saw many apples—or anything else—fall, that he was able to formulate in his mechanics the laws of gravitation. As Newton himself stated, the basic concepts of his system, such as mass and momentum, are not common-sense notions at all, but theoretical concepts. The heaping up of facts with a blind faith that a science must eventually emerge if the pile becomes large enough can only be described as naïve (Waldo 1948: 181).

We need not go as far as Waldo. As was noted above, it is clear that much has been gained by realist approaches. One cannot readily speak of gravity without having seen at least a few things actually fall; but for the tireless efforts of several generations of scholars we would have no Middle Assyrian apples at all. But this work has largely brought us to the starting point of public administration scholars, who have access to unfathomably large archives of documents in their

native languages. If students of modern public administration with their enormous caches of raw data ran aground in these murky waters, it is doubtful that we can make much more headway armed with only a few thousand tablets in a long-dead tongue.

4.2 The nominalist school

The nominalist school, while not without its own problems, avoids the realist resolution limit by not assuming its formal objects are ontologically linked to the data. For nominalists formal objects are conventions we can use to model phenomena more or less well. Without this tight bond to the studied phenomena they need not become messier as the underlying administrative data does. The fit may become less good, but then one can simply re-optimize by selecting a different set of formal objects that better fit the higher resolution model. As it is consciously a model and not an ontological property of the data, outliers and blurred lines do not create the catastrophic problems they do for the realists. They do not prove the model is wrong, but simply that it is not useful in some cases, whereas for the realist it would call into doubt the ontological link between the formal objects and the data at that level of inquiry and potentially collapse the system. Perhaps the greatest advantage of the nominalist approach, though, is that as much as there are discernable causes behind the messiness, one can try to isolate these and use them as formal objects, creating a neat model for a messy system.

When nominalists wish to ground their models in ontologically real terms, they generally appeal to an outside system, either the material world, comparative data, or a grand theory of some sort. On an ontological level, then, the nominalists' object of study is not in the texts, but behind them. This point was nicely stated by Postgate:

It is not sufficient to consider only the words written on each tablet: its physical appearance (shape, sealing, arrangement of the inscription, etc.) also conveyed a message

of its own, but more than that each legal or administrative document was but one cog in the administrative machine, and the message of its written words was understood by both writer and reader in relation to its function within the system as a whole. For us to receive that message fully, we must at least try to reconstruct that system . . . (Postgate 1986b: 10).

While there has never been a systematic theoretical outline of the nominalist project along the lines of Cancik-Kirschbaum's work (2012), Postgate's writings over the last several decades have contained a number of similar short digressions explaining the theoretical grounding of his work. Conveniently, most of these theoretical insights have been incorporated into his recent synthetic monograph on the Middle Assyrian period (2013a), and they can be assembled into a coherent overarching model for the nominalist project.

Despite this fundamental difference in formal objects, the nominalist discussion has followed much the same outlines as the realist, though, as we will see, with rather different methods and results. There is a general approach with humanist and scholastic methods, and an institutional approach with interest in both personnel and geography. Where they differ most starkly is in their approach to writing "history" in the grandest sense. For the realists this takes the form of the historical-chronological approach of sequencing events. For the nominalists the grandest history involves tying the Mesopotamian evidence into some larger theoretical scheme.

4.2.1 The land tenure debate

When the first discussions of Middle Assyrian administration began there were no nominalists. This approach seems to have come into Middle Assyrian administrative studies through a long and involved debate about land tenure. The opening salvo of this debate was a monograph by Diakonoff on land tenure in Assyria, which included a section on the Middle Assyrian kingdom (1969). The work was originally published in Russian in 1949 and did not make a major impact on western scholars until its section on the Middle Assyrian period was

translated into English in 1969. Diakonoff's discussion did not simply extract formal objects from the data and discuss the meanings of particular terms or systems composed of them. Rather, he attempted to construct a Marxist model that would parsimoniously account for the data and explain conditions in the countryside.

Before Diakonoff's discussion was translated into English, Garelli independently published on the same topic (1967). His guiding question was whether or not the Middle Assyrian kingdom was "feudal," and so he developed a fairly sophisticated model of land tenure in the Assyrian kingdom which could answer questions about feudalism posed in purely etic terminology. This effort can be seen as an extension of the legal tradition that went back to the most ancient days of Middle Assyrian studies and which had often used western legal terminology on the (heroic) assumption that these were ontologically real, universal categories.

Postgate engaged with both Diakonoff and Garelli in his own reconstruction of Middle Assyrian land tenure (1971). Like them, his concern was not primarily to understand Akkadian land sale terminology, but rather to use this terminology to build a model expressible in largely etic terminology. Using the more strictly realist method of tracing particular phrases, Saporetti attempted to tie Middle Assyrian land tenure practices into the end of Mitannian domination over Assyria (1979). Postgate revisited the subject with an article largely organized around explaining the concept of *ilku* (1982). Once again he draws on a considerable amount of external modelling to do this rather than trying to discuss *ilku* with formal objects derived directly from the texts. The discussion continued with a realist institutional take by Freydank (1988). More recent discussions by Garelli (1998) and Lafont (1998) have remained largely in the legalist tradition of the realist school.

4.2.2 The nominalist general approach

4.2.2.1 Nominalist humanists

The nominalist approach is not especially conducive to working with individual isolated tablets. Since the model is a convention there may not be one best model to explain a text, but several depending on the questions one wants to ask. As a result, apart from a single article by Postgate (1994), nominalist scholarship has tended to shy away from editing and discussing isolated tablets. The major exception has been Wiggermann, but in general his editions are so enriched with outside data that they are better considered expositions of larger models using focal texts as a unifying literary device. Here we will only note his brief study of two texts about pottery and three inscribed jar fragments (2008b). To explain an inventory text he uses a larger model of Middle Assyrian ritual feasting, and he paints comparably rich background picture about feasting and relations between Assyrians and Suteans to explain a letter involving a potter.

When we turn to archives the nominalist literature becomes much richer. Simply finding a group of tablets together poses the question of why these tablets should have been kept together, which is rather amenable to nominalist models in addition to any other overarching questions that might arise about the material. Hence there have been quite a few realist humanist analyses of archives.

Weidner was perhaps the first to use this approach in his synthetic overview of the Bābu-aha-iddina archive (M 11) (1959-1960). He did include brief remarks about many minor technical aspects of the archive in a firmly realist vein. However, his overriding interest was in the enigmatic figure of Bābu-aha-iddina himself, a man so important he served three different Assyrian kings and corresponded directly with Hittite royalty, but whose exact position in the Assyrian state still remains unknown (1959-1960: 84).

More recently Postgate used this approach for editing administrative archives in his introduction to the Urad-Šerua archive (1988). His discussion is constructed around the individual members of the family as the primary formal objects, whose various interactions can then be discussed and modelled. The particular individuals give the discussion an ontologically certain base since individual people are ontologically secure for most purposes. This means that he does not have to postulate, for instance, an abstract category of “governor” with neatly defined boundaries, but only note what particular holders of the office tend to do. Postgate used a similar approach in his discussion of the Middle Assyrian archive from Tell Rimah (2002). More recently, he and Ismail used the basic operations of herding and weaving to structure their discussion of an archive from Tell Ali (2008). Again, with transfers of commodities and individual parts of agricultural processes they are on ontologically firm ground. They then explain the texts in terms of these objects and categories built up from them. Maul and Gaspa used similar approaches in their discussions of the M 4 archive, explaining how the various documents fit into the general process of providing finished offerings in the capital (2013).

A very different approach was taken by Johnson (2013), who attempted to explain Middle Assyrian administrative documentation in terms of two different recording systems. In his view, one pole is the system of formalized contracts which abound in Middle Assyrian administration, and the other is texts involving planning for future events, which he terms *Zukunftsbewältigung* following a terminology developed for describing omnia (2013). Here the formal objects are ways of creating texts. Johnson imbues these with an essentially ontological status that allows him to work with a few selected exemplary texts and still arrive at conclusions about the Middle Assyrian documentary corpus as a whole. Unfortunately, this heroic assumption makes the approach problematic. It is not obvious that using the language of formal

contracts and planning for the future are necessarily distinct approaches to composing texts as his scheme requires. In fact, one could argue that such formal documents are the epitome of future planning rather than its opposite since contracts and formal loans are largely designed to compel individuals to undertake actions in the future. A more detailed justification of the distinction would be necessary to continue down that analytical path.

Perhaps the most interesting of these nominalist humanist works is Abraham's study of loan documents (2001), an area already well explored by realist methods. While she does closely track the various particular phrases in the documents, her discussion is not organized around them per se, but rather on the underlying loan arrangements she has reconstructed in etic terminology.

4.2.2.2 Nominalist scholastics

The scholastic approach is also quite amenable to nominalist investigation. On a low level of abstraction one can use nominalist models to explain particular Akkadian terms. Harrak (1989) explained the term *bēt hašīme* by referring to a similarly named grain storage structure used in modern Iraq whose properties neatly lined up with what is known about the *bēt hašīme*. In the same general vein, Reculeau (2009) used what is known about agricultural cycles for sesame in the modern Middle East to argue that *šamaššammū* refers to sesame not just in the first millennium, but also in earlier periods. Cord Kühne likewise used modern nutritional information to discuss the ration amounts given to workers in texts from Harbe (1999).

Postgate has been the most prolific user of this approach. He explained the Akkadian term *tahapšu* "felt" by drawing on evidence from Nuzi and also contemporary Iran and showing how this explanation was consistent with Middle Assyrian data (Postgate 2000). Similarly, he used comparative evidence from elsewhere in Mesopotamia to explain a particular piece of

Assyrian terminology for livestock accounting (Postgate 2012). In his discussion of military uniforms, his starting point is garments depicted in Assyrian reliefs, and again he then finds a way to coherently map Akkadian textile terms to the images (Postgate 2001b). Finally, in his discussion of the phrase *ṭuppa ṣabātu* his starting point was a well-developed model of Middle Assyrian bureaucratic practice.

Admittedly, at such a low level of abstraction, the distinction between nominalist and realist approaches is often largely one of style. However, even when investigating individual turns of phrase, the nominalists show a clear tendency to call upon larger models, often bolstered with comparative data. Indeed, even in a brief two-page note on grain measuring terms Postgate manages to work in an ethnographic parallel (2006).

In larger scale scholastic works, the nominalist approach becomes even more striking. Perhaps the earliest example of this was an article by Grayson which traced developments in the Assyrian king's titles and showed how these mirrored the growth of the state as determined through other lines of evidence (1971). The approach came into its own with Postgate's seminal work on Middle Assyrian administrative terminology (1986b). The topic itself would be fitting for the sort of realist diplomatic analysis advocated by Cancik-Kirschbaum (2012), but Postgate's approach is rather different. He contends that the texts can only be fully understood with reference to the larger administrative system in which they were embedded (1986b: 10). The result is thus not extracting meaning from the tablets per se, but rather constructing a model of administrative practice that is consistent with the tablets and fits with our own understanding of how administration tends to function. Postgate worked in the same vein in his discussion of the shift between Middle Assyrian and Neo-Assyrian legal documents (1997). His work begins by cataloging formulae in the realist style, but then turns to trying to posit a model of social

changes that would explain the observed textual variation. Once again, the meaning is not intrinsic in the formulae, but in the broader question they can be made to answer.

In a later synthesis of Middle Assyrian archival practice (2003), Postgate focused largely on the administrative practices discernable in the tablets rather than the tablets themselves or particular turns of phrase. In fact, he prefaced the short section where he discusses the Assyrian terminology related to documents with the note, “Since the correlation of certain types of transaction or record with certain formats of document is plainly deliberate, one would not be surprised to find that the Assyrian scribes had their own terminology for different document types” (2003: 126). Just because the Assyrians had well defined documents formats and genres, it does not follow that they must have had a well-defined Akkadian terminology to describe them. It is a reasonable hypothesis, but one which must still be tested empirically.

4.2.3 Nominalist institutions

Just like the realists, nominalist scholarship has also tried to approach Middle Assyrian administration through the lens of institutions, both those involving people and those involving land.

4.2.3.1 Nominalist personnel

The earliest study of people in the nominalist school is Postgate’s work on the relationship between nomadic and settled peoples (1981). He describes the goal of this article with the comment “The few definite pieces of evidence, which are given below, are sufficient to reconstruct a plausible picture based on a comparison with other, better documented areas and periods, but are not in themselves the basis for a study of the relations between sedentary and nomad” (1981: 47). This is to say, he is constructing a model that is consistent with the data

using the ontologically real formal objects of the larger discourse on nomads. In his discussion of the Assyrian army, Postgate uses individual Assyrians and foreigners as his basic building blocks (2008). Thus, he does not so much outline the properties of particular military and administrative units per se, but rather how Assyrian citizens could come to occupy those roles.

Perhaps the biggest exponent of this approach, though, is Wiggermann. In two of his articles he builds on the ontologically firm ground of particular individuals. One article focuses on the grand vizier Ilī-padda (2006) and the other on the Babylonian scribe Marduk-nādin-ahhē (2008a). These articles cover much more ground than just the affairs of these two men, but the individuals are used as a grounding for the discussion rather than disembodied titles and “elites.” Wiggermann (2010) returned to the theme of relations with pastoralists first addressed by Postgate. Differing from Postgate’s approach, he used the issue as a point of departure for more far ranging topics about life in the western provinces of the Assyrian kingdom, including such diverse topics as food and prostitution.

4.2.3.2 Nominalist geography

In the sphere of geographic institutions, the pioneering nominalist work was Machinist’s study of the Middle Assyrian provincial structure (1982). While his study does use some emic Akkadian terminology, much of his discussion centers on applying etic notions of public and private to Assyrian provincial administration. In the same vein, in a pioneering article Postgate (1985) located the individual Assyrian provinces as best he was able but then proceeded to discuss larger regional structures which did not correspond neatly to Assyrian conceptual categories.

More recently, Wiggermann composed a study of agriculture in the Middle Assyrian *dunnu* at Sabi Abyad (2000). Here he builds up a comprehensive and astonishingly detailed

model of how that particular *dunnu* functioned, based ultimately on the firm ground of agricultural production. After reading the article, the reader can have no doubt about what it meant for Sabi Abyad settlement to be a *dunnu*. There have also been several large-scale nominalist discussions of the geography of the Middle Assyrian kingdom in recent years. The most incisive of these is perhaps Brown's anthropologically influenced work (2013), but notable efforts have also been made by Harmanşah (2012) and Jakob (2015). On a still more abstract plain there is Postgate's celebrated article on the difference between provinces in the core of the Assyrian kingdom which made contributions for the *gināu* and vassals states at the kingdom's edge which did not (1992). This article is particularly important for the present work since it has brought the role of *gināu* offerings in the Assyrian state to a very wide readership.

In addition to these there are few other nominalist works dealing with largely geographic themes. Postgate's study of Neo-Assyrian core provinces includes considerable discussion of the Middle Assyrian provincial structure (1995). In fittingly nominalist fashion the article does not take the notion of "province" for granted, but spends some time on just what sort of institution might be behind that term. In a more recent work Postgate tried to create a model of state development that could account for the general shape of Middle Assyrian administration as known not only from the documentary record, but also from trends in pottery production in the kingdom (2010). Finally, before leaving the topic of nominalist geography we should mention Faist's discussion of transportation in the Middle Assyrian kingdom (2006).

As can be seen, the nominalist approach has produced quite impressive results in its textual studies. Unlike many of the realist approaches, the nominalist approaches do not run up against an intrinsic resolution limit in the data. However, this approach does generate its own set

of potential pitfalls. The main source of these is what might be called the “greedy algorithm problem.”

In a realist investigation, the formal objects are ontologically real. Once they have been discovered, they can be augmented and sub-divided, but do not need to be fundamentally revised as the scale of investigation changes. In essence each study creates a brick of knowledge, and these can be stacked to form a much more elaborate structure with minimal modification. As a result, one can use what computer scientists term a “greedy algorithm.” That is, one can find the best solutions to problems one at a time and then combine them. If the formal objects follow realist assumptions, there is no problem.

However, this same procedure falters in nominalist investigations. The formal objects are not generally intrinsic in the data, but are only a model that parsimoniously explains the data. This makes it harder to integrate the results. Put simply, the best model for two problems treated together may not be the combination of the best model for each problem taken in isolation. To return to the building metaphor, one is not stacking bricks in a pile, but rather pitching a tent. The most efficient way to cover two plots of land taken as a unit is not normally putting up two tents that would each most efficiently cover half the area.

4.2.4 The grand theory approach

On the nominalist side, the major attempt to remedy the greedy algorithm problem has been through the use of what one might term “grand theories.” Essentially, one uses a model already optimized for an entire administrative apparatuses or societies. As a result any information that can be fit into the model should also be optimized for high level discussions.

The earliest attempt at this touching on matters Middle Assyrian was Pecirkova’s Marxist-influenced history of the Assyrian state (1982). This short piece has held up surprisingly

well despite the great advances in the Assyrian studies in the last three decades. Postgate also developed a general framework to compare Middle Assyrian bureaucracy with that of the Third Dynasty of Ur and the Old Babylonian states (2001a). Like Pecirkova, he did this by using a largely materialist underpinning for his formal objects. As he writes: “Although other matters do of course crop up, it is broadly fair to say that the principal subjects of the written archives are the movement of commodities and the control of people” (2001a: 181). In this particular article he focuses on commodities, and he shows that they are indeed a workable approach for investigating administrative matters.

Finally, we should note that Schloen applied his patrimonial model of Bronze Age states to the Middle Assyrian kingdom (2001a: 298-301). The section is, unfortunately, short and relies largely on the work of Postgate. Thus it is not so much a global optimization but rather a meta-optimization of Postgate’s lower-level optimizations.

Schloen’s analysis raises the biggest potential pitfall of the grand theory. While one can use his patrimonial model to account for the Assyrian data, the results are not especially helpful for the investigation of Middle Assyrian administration per se. Even if one completely accepts his argument for the Assyrian state, it only shows that the Assyrian administration participated in some larger regional administrative and ideological trends. To make inferences about Assyrian administration more generally from these fairly abstract similarities would require assuming that the patrimonial model is ontologically real in some sense. That is, solely by showing an administration used a patrimonial model we can derive new knowledge about it not used to make the classification. This is doubtful. In the modern west there is a tendency for upper level administrative apparatuses of different states to superficially mimic each other, while lower levels retain radically different administrative traditions (Thoenig in Peters 2003: 130). It is a

very real possibility that the Assyrian state's apparent patrimonialism represents the same sort of phenomenon at work.

If we step back a bit, we can see that while the grand theory approach should allow nominalists to avoid greedy algorithm problems, so far it has only been used to frame brief remarks on the Middle Assyrian kingdom. How to conduct a detailed nominalist study of the kingdom's administration and avoid the greedy algorithm pitfalls remains an open problem. It is my hope that this dissertation will offer a possible solution.

5 A model for investigating the *Gināu* Agency

How, then, shall we proceed? In a famous passage from the *Analects*, the following anecdote is related:

Tsze-lû said, "The ruler of Wei has been waiting for you, in order with you to administer the government. What will you consider the first thing to be done?" The Master replied, "What is necessary is to rectify names." "So! Indeed!" said Tsze-lû. "You are wide of the mark! Why must there be such rectification?" The Master said, "How uncultivated you are, Yû! A superior man, in regard to what he does not know, shows a cautious reserve. If names be not correct, language is not in accordance with the truth of things. If language be not in accordance with the truth of things, affairs cannot be carried on to success. . . ." (*Analects Zi Lu.3* (trans. Legge 1971: 263-264))

The task of discussing Middle Assyrian administration is obviously rather different from governing a small Chinese state in pre-imperial times, but Confucius' famous advice is still quite relevant. If we would carry on a constructive discussion of administrative matters, we must have a clear set of terms and a clear idea of what they mean or our study will quickly become muddled. This dissertation will be firmly in the nominalist tradition of Postgate and Wiggermann, so we cannot rely on the formal objects emerging from our data. We must actively choose the formal objects we will use.

Within the nominalist school, the dissertation will have its roots in the humanist approach. As noted above, at its deepest level this dissertation is an attempt to answer why the texts of the M 4 archive were found together. Of course, we will have recourse to speaking about particular terms, institutions, people, and geography, but we will do so in the context of understanding the final resting place of our tablets.

5.1 Scope

Before we go into the particular formal objects to be used for the study, it is necessary to discuss the scope of this work. How much information should we try to incorporate into our model? As mentioned above, we will be using the tablets of the M 4 archive as our primary sources, but there is a great deal of information in those tablets. We will certainly study the bread and butter topics of previous Middle Assyrian administrative scholarship: professional titles, historical geography, chronology, etc. But, we will diverge from these approaches in also making extensive use of quantitative data and performing quantitative analyses. This is necessary if we are to carry on extensive work without ontological categories. To return to our earlier imagery, if we do not accept that there is a well-defined ontological category of “sick lions,” then we will need some way of assessing whether a lion is more or less healthy. For such questions, quantitative analysis is particularly useful. We could talk about its temperature being higher, its resting periods longer, or its food intake less, and all of these would help us impose a notion health onto it. One can of course also use qualitative criteria, like what the lion eats or the color of its face. But even in this scenario we would have to weigh the qualitative indicators in a pseudo-quantitative fashion if we are not to assume a neat ontological category of sickness.

In addition to making heavy use of numerical data, the model developed here has one other difference from previous Middle Assyrian scholarship. We will attempt to make it

comprehensive and thereby avoid the potential pitfalls of using a greedy algorithm. Since this is a rather marked departure from usual Assyriological practice, a few words about this are in order.

The underlying issue here is what one might term linearity. As we discussed above, using the realist approach the problem of investigating Middle Assyrian administration involves isolating the appropriate formal objects from the evidence. Since these formal objects are ontological categories, adding more evidence will not affect them, although it might force us to add new formal objects. This means that the problem is linear and we can attack it by isolating individual formal objects one at a time with a greedy algorithm. A large scale model arises as the simple combination of these individual components without much philosophical trouble.

In a nominalist paradigm things are rather messier, for we have no guarantee that the problem facing us is linear. Of necessity our models are approximations, and frequently the model which best approximates an entire set of data is quite different from the best approximation that can be derived for a particular subset. This, in turn, implies that we cannot solve our problems one at a time with the sure confidence that the solutions will somehow fit together. If we want to be certain the error in our model is at a minimum we must solve it as a single set of simultaneous problems.

In the best documented areas of the Agency's activities this may seem like splitting hairs, since the general outlines to be followed by any model seem quite clear. However, the matter is not so simple. Even in its best documented spheres the Agency's activities are still not completely determined. Things like the quantities of goods, number of personnel, or regularity of the activities involved can easily be adjusted up or down. This is a problem since these sorts of parameters need to be estimated precisely to gain a clear picture of the Agency's activities and

small local errors in estimating them will likely compound severely in any large-scale model. Here the added constraint of explaining *all* of the documentation proves quite helpful, since this can considerably narrow down the possible solutions to such matters.

In practical terms, this means that I have made a point of explaining many activities of the Agency which by themselves would be severely underdetermined in the documentation. Since this involves going beyond what is “obvious” from the evidence, undoubtedly I have introduced many errors by doing so. However, my contention is that the error introduced by tying up these loose ends is more than balanced out by the improved resolution they give to the rest of the model. To speak metaphorically, these are not bricks of knowledge to be stacked into some great masonry bridge, but guywires to steady the various struts provided by the better documented activities. Like a suspension bridge, our model cannot easily be assessed part by part. Individual wires or struts may have quite limited strength against certain stresses and be far less sturdy than a brick. But when considered as a whole a steel bridge can be vastly stronger than an equivalent amount of masonry.

Even so, for the convenience of readers using different methodological paradigms I have made a point of flagging those instances where the reconstruction significantly overreaches what can be proven from the available evidence for a particular activity taken in isolation. Strictly speaking, of course, historical reconstructions cannot be “proven” like mathematical theorems. However, I have adopted this language in the following chapters to embrace reconstructions whose outlines are quite secure if not ironclad in some deeper philosophical sense.

5.2 Formal objects

Now that we have established the scope for our model, we will need formal objects with which to operate. Here it is essential to choose judiciously lest our results end up excessively

muddled. We must be very clear what exactly our terms do and do not mean, and we must not needlessly multiply formal objects for the sake of a slightly better fit. After all, with a sufficient number of parameters *any* model can be made to account perfectly for *any* set of data. The task facing us, then, is the same basic endeavor the great administrative theorist Herbert Simon called for in public administration studies a half century ago:

Administrative description suffers currently from superficiality, oversimplification, lack of realism. It has confined itself too closely to the mechanism of authority, and has failed to bring within its orbit the other, equally important, modes of influence on organizational behavior. It has refused to undertake the tiresome task of studying actual allocations of decision-making functions. It has been satisfied to speak of “authority,” “centralization,” “span of control,” “function,” without seeking operational definitions of these terms. Until administrative description reaches a higher level of sophistication, there is little reason to hope that rapid progress will be made toward the identification and verification of valid administrative principles. (Simon 1997: 38)

5.2.1 Material

Our starting point will be the material world. When it comes to moving sacks of grain or pouring out a jar of honey, we are as close to ontological categories as we may ever get in this sort of investigation. We may dispute whether a particular sack was actually moved as a tablet said, but we have a good idea what it would mean if the sack actually was moved.

5.2.2 Textual

We will also need some formal objects particularly suited to dealing with tablets. Here we will build on the **unilateral-bilateral** distinction used by Postgate (e.g. 2013a: 80). In his words:

These terms serve to discriminate between texts drawn up solely to provide an institution (or in some cases, an individual) with its own written record of an event, and those which have a dispositive force intended to constitute evidence of a liability of one party vis-à-vis another, and would need to be drawn up in the presence of and with agreement of both sides (2013a: 80).

This blurs into the notion of **formality**. Certain features could be added to make it easier to use bilateral documents in a legal context (Postgate 2013a: 80). Here we will use only a weak system of formality. We will not assume that any given document can be considered as either “formal” or “informal” in some categorical sense. Rather, documents are more or less formal. As a related point, we also will not assume that the formality of any two documents must be comparable. In many cases it will be clear that one document is more formal than another, but there may be tablets which differ in the formal features they employ but do not allow one to be said to be categorically more formal than another.

Finally, we will adopt the notions of **first-order**, **second-order**, and **third-order** documents used by Cancik-Kirschbaum (2012).¹⁴ In this system first-order documents are those documents that record a transaction for the first time. They are where information enters the system. Second-order documents are documents compiled from first-order ones. One can define third-order documents and still higher orders in the same way, but we will have little use for these terms, since the *Gināu* Agency was not especially fond of such bureaucratic excesses. Here we must be a bit cautious though, for it is possible for a tablet to contain both first and second order information. For instance, a tablet describing the partial repayment of a debt might record second-order information about the debt based on an earlier tablet as well as first-order information about the amount just paid (e.g. MARV 6 86). Hence, strictly speaking, the notions of first and second order apply to information on a tablet rather than the tablet itself. But it will be profitable to use the terms for tablets, and so we will define the level of a document as the

¹⁴ In her article Cancik-Kirschbaum uses the term “level” rather than “order.” I have opted to use “order” for two reasons. First, the term “level” implies that there were well defined levels of documents and conjures up images of a complex multi-tiered bureaucratic structure, which the Agency emphatically was not. In contrast, the term “order” suggests that the complexity is a function of the document rather than a larger bureaucratic structure. Second, the term “order” suggests a nice parallel with the notion of first and higher-order functions used in contemporary computer science.

lowest order of any information it contains. So our partially paid loan would be classified as a first-order document because it contains information not previously written down.

We will have occasion to discuss many subgroups of documents over the course of this dissertation, and indeed we will offer a fairly detailed categorization scheme. However, this categorization will be functional. Like Postgate's unilateral-bilateral classification, our categories will fundamentally describe what tablets *do*, not what they *are*.

5.2.3 Institutional

In a work on government it is natural to frame our discussion in terms of institutions, but this can give our reconstruction an undue appearance of stability. When looked at closely, administration is not so much a material thing as a collection of actions. As nicely argued by Berger and Luckmann, "despite the objectivity that marks the social world in human experience, it does not thereby acquire an ontological status apart from the human activity that produced it" (1966: 60-61). Administration, then, is not a ship floating on top of the sea, but a wave travelling through it. Better still, we might borrow the language of Assyrian royal inscriptions and call it a storm. Of course, storms can and do develop clearly defined structures, and so can administrative practices, but not every gust is indicative of the general character of a storm. In choosing our institutional formal objects, we would do best to look for institutions that are well-defined and relatively stable. Here the most promising approach is to build off that most fundamental unit of human society, the individual person. As much as possible, we will try and define our institutional formal objects in terms of individual people and relations between them.

First and foremost, we would like to have some stable fundamental unit of government with which to work. The scholarly literature on Assyrian administration abounds with ill-defined notions of offices, *bureaux*, and the like. These entities can quickly pile up into a bewildering

picture of a state filled with level upon level of bureaucrats. While this may look rather like the impressive bureaucratic edifices of modern states with their enormous populations and resources, it looks quite different from pre-modern states comparable to the Middle Assyrian Kingdom.

Happily, the Middle Assyrian corpus offers us a workable candidate for an administrative atom. MARV 1 5 lists men in two groups depending on whether or not they have performed an action described as *simta šakānu* “making a mark.” The exact meaning of the phrase is obscure and not important in this context. What matters for us here is that the men on this list have titles which begin with the element *rabû* “supervisor,” and that the men in each group are summed up as GAL.MEŠ ERIN₂.MEŠ = *rabiūt šābē* “supervisors of workmen.” The particular titles of these men are quite varied, ranging from practical titles like *rab halzānē* “supervisor of fortresses” and *rab hurādāte* “supervisor of soldiers” to the more colorful *rab bāriē* “supervisor of diviners” and *rab usandē* “supervisor of bird-catchers.” All that unites them is that they all have the element *rab* in their titles.

Thus, it would seem that the text is using an abstract notion of *rabû* “supervisor.” Indeed, if one looks in the administrative titles compiled by Jakob (2003), there are indeed a great many *rabûs* in the Middle Assyrian state. Since many professions attested as organized under a *rabû* in later times were in earlier times organized under an official with the title *ša muhhi* “one in charge of,” it makes sense to include them as well. We will refer to holders of such titles collectively as **supervisors**.

We can use this notion of supervisor to construct our stable base unit. We will refer to a supervisor as the head of an **agency**. Men who served permanently as his direct subordinates will be described as members of an agency along with its supervisor. Those who cannot be meaningfully described as direct subordinates of a supervisor, but who regularly interacted with

his agency will be described as **associates** of that agency. An individual employed by members of an agency for a single defined task will be referred to as an **agent**. I have chosen the term agency to be intentionally non-committal about how or if these groups were organized into larger bureaucratic structures. Our assumption will be that an agency was not directly subordinate to any official above its supervisor unless proven otherwise.

This notion is particularly nice for our present investigation because our texts prominently feature an official variously titled *ša muhhi gināe* and *rab gināe*. We will refer to him as the *Gināu* Supervisor, and his agency as the *Gināu* Agency. As we will see, it is this *Gināu* Agency which produced the M 4 archive.

Now, our definition of an agency is based on the people who worked for it. We can therefore easily talk about an individual belonging to an agency. This also means we can speak of people who did not belong and thus distinguish **insiders** and **outsiders** for any given agency (cf. Postgate 2013a: 79). But, it is less clear how commodities fit into this. For instance, if one member of an agency receives extra grain from an outside party for some special task, does this grain belong to the Agency? Here we must introduce a second notion, that of a **fund**. We will define a fund as a clearly-defined collection of property from which certain individuals habitually made temporary or permanent withdrawals or otherwise generated revenue. We will say that individuals habitually making these withdrawals **managed** the fund. This lets us link commodities to people and thence to agencies. For simplicity we can refer to a fund managed by the supervisor or other members of an agency as belonging to that agency, but it must be understood that strictly speaking, people manage funds, not agencies.

The Middle Assyrian texts themselves subdivide the general notion of management into three categories. The strongest, expressed with the phrase *ša PN*, refers to outright ownership.

The phrase *ša qāt* PN refers to a fund controlled by the named individual but owned by someone else to whom he must in theory justify his management activity. Finally, the phrase *ina pittī* PN appears to refer to property given into the custody of an individual for safekeeping and not for active use. Our notion of management includes the first two categories, but we will not make a rigorous distinction between them. That would be useful in a legal study on property rights, but our interest here is on administrative practice. We are interested first and foremost in withdrawals actually made from funds, not in who had theoretical rights to make withdrawals from funds. To make the distinction would embroil us in the unpleasant task of trying to harmonize day-to-day Assyrian administrative practice with the legal framework the Assyrians tried to impose on it. The two might overlap, but this is hardly a given. The real world is often too complicated to be neatly captured by legal formulae.

What is more, we gain little from this thankless task and needlessly complicate the model. We can capture the most pertinent information much more simply by allowing that some funds had restrictions on how their resources could be used. However, the third category, that of property in the possession of someone not authorized to use it, does not fit our definition of management, and so we will give it its own term, **custody**, although we will have only few occasions to use it.

With the small-scale institutions in order, we can turn our focus to large-scale ones. First, we would like some way of talking about the Assyrian provincial structure. Here we will diverge from most scholarship on the middle Assyrian period, and make our base unit for understanding provincial structure the **governor**, the office referred to by the Assyrian term *bēl pāhete*. We will define a **province** as a fund whose management was attached to the office of governor. For convenience, we will refer to the broader geographic area in which the land tied to the fund was

located as a province as well, but in doing so we are not presuming any kind of well-defined border or territorial control. Rather we are avoiding cumbersome phrases like “the geographic region containing and/or near the territories of the governor stationed at Nineveh.”

Raising our gaze higher still, we will also need some way of talking about the entire Middle Assyrian state as a whole. Once again, our starting point will not be an abstract entity, but a person. The obvious choice is the Assyrian king himself. We can capture this nicely with the term **kingdom**, which has already been used quite frequently for the Middle Assyrian State in the literature. As we noted above, when examined closely the state is not so much a static entity as a dynamic collection of actions. Strictly speaking, the Assyrian kingdom for us will not be a place or a set of institutions, but a collection of actions. Moreover, if studies on modern government are any indication, it is quite difficult to say where the state stops and the private world begins (Peters 1988), and we can hardly take it for granted that this distinction was any neater in the Late Bronze Age. Hence, we will not assume that the Middle Assyrian kingdom formed an ontological category. Rather, we will say that particular actions participated in the Assyrian kingdom to the degree that they accorded with the wishes of the king or those who exercised power on his behalf. To the extent that the king would be indifferent to or even disapprove of an action that action did not participate in the Assyrian kingdom and can be said to be **private**.

In as much as the king could expect a particular person to act in accord with his wishes, we will say that that person was a member of the Assyrian kingdom. Specifically, people who held titles in the central government were under particularly close scrutiny and so participated very strongly in the kingdom. So too, if expenditures from a particular fund could be subject to ultimate approval by the king, those funds will be said to belong to the state. To the degree which

a territory was inhabited by members of the Assyrian kingdom, it will be said to belong to the Assyrian kingdom. All this roughly approximates more conventional definitions of a state, but it does not require us to use ontological categories.

Finally we will need a weak notion of **rank**. We will say that an individual is outranked by another if the first would feel generally obligated to follow the wishes of the second. In the textual record this comes across particularly clearly in the greeting formulae used in letters, where the sender often makes it abundantly clear whether he thought the recipient outranked him. Here we do not assume that there was a neatly worked out system of rank in which any two officials could be compared, but rather that a particular official might have some people whose wishes he felt generally compelled to follow, and some whom he might expect to follow his wishes. It is important to note that the notion of rank applies to particular people rather than offices, and that for many pairs of people in the Assyrian government it may not be possible to impose a notion of rank. Would one of the *gināu* millers have to obey an order from a chief singer of the palace? The answer is unclear to me, and it may well have been to the Assyrians as well. It likely came up too infrequently for there to be an established procedure in place.

5.3 Principles

In addition to these formal objects, we will also need a few operational principles to construct our model around them.

5.3.1 Minimize Size

The first principle will be to minimize the **size** of Assyrian government institutions. Of course, size is an ambiguous term. For our purposes we will gauge the size of an institution primarily by looking at the number of people who obtained their livelihood from working for the

institution at a given time. This includes both permanent staff, and temporary workers assigned to the institution and perhaps paid by a third party.

To people accustomed to the enormous civil services of the modern world, reconstructing a bureau of several hundred or a thousand people hardly raises an eyebrow. However, as Webber and Wildavsky so nicely put it “Hierarchy is expensive” (1986: 83). Large modern states are made possible largely by the enormous productive capacity of industrial economies. Most pre-industrial states had to content themselves with only a fraction of the full-time employees that their modern counterparts would employ in the same sized population. In addition, pre-industrial states normally had smaller populations in absolute terms. The result is that we should expect pre-modern states to have much smaller full-time administrative staffs than their modern counterparts.

Indeed, while our sources do not allow precise estimates of the size of the Middle Assyrian government, we have reason to think the kingdom’s entire population was no more than a few million at the absolute largest and that it had no more than a few thousand full-time administrators.¹⁵ If our final reconstruction has a great number of full-time administrators, this

¹⁵ Using some comparative data we can get a rough picture of how small the Middle Assyrian government was. After the reforms of Diocletian the heavily bureaucratized Roman Empire ended up with a civil service of some 35,000 people for a population of about 50,000,000, that is, about 6 “bureaucrats” per 10000 people (Eich 2015: 129). Han dynasty China, famed for its high level of bureaucratization, still only had about 120000 officials active in a similarly sized population, yielding a ratio of 24 officials per 10000 people (Zhao 2015: 63). From these we can arrive at a rough upper bound of say 10 bureaucrats per 10000 in the Middle Assyrian kingdom. This means if we can arrive at an upper bound for the population of the entire kingdom, we can derive an upper bound for the size of the full-time administrative personnel it employed.

Perhaps the simplest approach is to assume that each of the 27 provinces of the kingdom which contributed to the *gināu* had a population equal to that of Nineveh at the height of the Neo-Assyrian empire, which was on the order of perhaps 100,000 people. Adding in a further 300,000 to cover those provinces which did not contribute to the *gināu* at all we get a figure about 3,000,000 people, and so an upper bound of about 3000 bureaucrats. We can refine this a bit though. It seems reasonable to think that where provinces contributed grain to the *gināu* offering the grain amount roughly correlated with the productive capacity of the province, and the latter was likely at least roughly correlated with the total population of the province. Therefore we can use the grain contributions to weight the population estimates. We can assign 100,000 people to Arbela province, the largest in the kingdom, and assign the other grain paying provinces a population equal to the fraction of Arbela’s grain assessment they contributed to the offerings. Doing so we arrive at the following populations:

should give us pause. We will, wherever possible, be looking for reconstructions that do not involve an excessive amount of full-time state employees.

But minimizing size has a second benefit. There is a tendency for modern writers to fill in missing pieces of institutions with what seems most reasonable to modern sensibilities. This drags a reconstruction away from what is uniquely Assyrian toward what we would expect to find *a priori*. Thus, even if our reconstruction ends up smaller than the actual Assyrian

Province	Grain Assessment	Estimated Population
Arbāil	29530 <i>qa</i>	100000
Kilizu	9710 <i>qa</i>	32881
Halahhu	28030 <i>qa</i>	94920
Talmuššu	13560 <i>qa</i>	45919
Idu	13560 <i>qa</i>	45919
Katmuhhu	27860 <i>qa</i>	94344
Šūdu	7710 <i>qa</i>	26109
The Lower Province	14560 <i>qa</i>	49305
Turšan	17560 <i>qa</i>	59464
Libbi ale	12560 <i>qa</i>	42533
Šīme	6030 <i>qa</i>	20419
Husananu	11710 <i>qa</i>	39654
Kalhu	6350 <i>qa</i>	21503

Figure Intro-6: Estimated Population of the Grain Paying Provinces

From these we can estimate that an average grain paying province had a population of about 51767 people. Assuming the non-grain paying provinces had similar or smaller populations, we can arrive at a figure of 1.5 million people for the maximum population of the Middle Assyrian kingdom. Using our previous ratio of bureaucrats to total population, this would mean that the state should have had at most some 1500 full-time administrative employees. That works out to an average of about 50 officials per province, though one suspects a large portion of the full-time employees worked in the capital. Indeed, one finds a large number of administrative officials active in the capital region in MARV 2 17. But a precise reconstruction of the personnel structure of the Assyrian kingdom is beyond our focus.

What matters here is that there is not an inexhaustible supply of bureaucrats for our reconstruction. An agency with a 50 person administrative staff would constitute a sizeable portion—at least one thirtieth—of the entire Middle Assyrian administrative apparatus. This also poses problems for elaborate hierarchies. Assuming each individual had about 6 direct subordinates, like the *gināu* supervisor, the Assyrian state can only have had about five total levels of personnel, including the king. If we assume larger scope of control figures as we find in some personnel texts, this figure can easily drop to three levels.

government was, it will be distinctively *Assyrian* since it will focus on those spheres where we are best informed about what Assyrians actually did.

5.3.2 Minimize information

One of the most difficult problems in large organizations is managing the flow of information (see Simon 1997: 154-171). This has been largely ignored in the literature on Middle Assyrian administration, where it is generally assumed that if a particular person in the administration knew a piece of information, then the administration as a whole somehow knew it—or at least that the individual's superiors did. This ignores the difficulties of transferring information and also the limited attention and data processing capacities of individual administrators. In our reconstruction we will try to minimize the amount of information transfer. We will not assume individuals knew pieces of information unless we have a compelling reason to think they did. Furthermore, if we do posit major information transfer, we will also have to posit a mechanism by which it could have happened.

5.3.3 Minimize red tape

Our enterprise is, at its heart, explaining what it meant for the excavators to find the texts of our archive together. In doing this we would like to have some idea why particular documents were composed. Why they were written should presumably explain how they were stored and how they came to be in their final ten pots. In the literature authors have been rather cavalier about this point. There is often an underlying assumption that bureaucrats record vast amounts of information for no obvious purpose aside from having a record of it. It is an intrinsic property of the bureaucrat that he fills out forms.

It is no coincidence that this is also a prevailing popular view of modern bureaucrats (see Kaufman 1977). Scholars have used their impressions of modern government to fill in gaps in the evidence and to generate quick models for areas outside their main focus. The problem with this is that if one investigates closely, modern governments are not in fact littered with pointless documents and pathological information recording. To quote Kaufman's classic study of governmental "red tape":

Every restraint and requirement originates in somebody's demand for it. Of course, each person does not will them all; on the contrary, even the most broadly based interest groups are concerned with only a relatively small band of the full spectrum of government activities, and most interest groups are narrowly specialized rather than broadly based. So each constraint is the product of a fairly small number of claimants. But there are so many of us, and such a diversity of interests among us, that modest individual demands result in great stacks of official paper and bewildering procedural mazes (Kaufman 1977: 29-30).

As one gets close, what appears at a distance to be an incoherent mass of pointless documentation resolves into a number of discrete documents with clear motivations. For our study we will take it as an axiom that the Assyrians used a similar approach. They did not needlessly busy themselves with paperwork. Rather, if they took the trouble to write out a document, there must have been a perceived need for it. Much of our work in the following chapters will be to find appropriate motivations to explain the documents we have.

5.3.4 Institutional inertia

Another principle we will need is what we will term "institutional inertia." This principle may seem paradoxical given the stress put on the flux and instability of government in the previous sections, but it need not be. For our purposes we will not argue that government was essentially unchanging or built on a foundation that was. Rather we will argue that if a particular structure—or better pattern of behavior—became a regular part of a government's

administrative activity, that structure was likely to be resistant to sudden change. Old habits die hard. This is not to say that structures did not change, only that such changes tended to be slow and incremental. We should be looking mostly for the sorts of changes that turned Latin into French and dinosaurs into birds. This is not to say that there was a uniform gradual change, for languages and species do not develop in this way either. Rather, it is to say that there were normally limits to how much effective change could occur at any given time.

The major consequence of this principle is that the *Gināu* Agency's activities in one period should generally not be too different from its activities a few decades before or after. This means that if we can only reconstruct the Agency's activities in a particular sphere in one period we can use that reconstruction as a rough approximation of its activities in other periods. This is not to say that its activities were entirely unchanged, only that the changes were small enough that they would not introduce an unacceptable level of error. Of course, the Agency did sometimes experience more severe structural changes, and we will try to isolate these where possible, but the presumption will be that there was reasonable continuity in practice over time unless we have a compelling reason to think otherwise.

In practical terms, this means the reconstructions of the Agency's basic activities offered in the following chapters will be synchronic unless otherwise stated. The majority of documents dealing with the Agency's income and the bread and other prepared food actually used in the offerings come from the reigns of Ninurta-apil-Ekur and Aššur-dān I, and the bulk of documents dealing with the receipt and distribution of supplies come from the reign of Tiglath-pileser I. As a result, to the degree that the Agency's practices changed over time, the income information and offering reconstructions will err in the later part of the archive, and the receipt and distribution reconstructions in the earlier periods. However, as we will see, there is quite a bit of empirical

evidence that the Agency's basic activities remained largely unchanged over the period covered by the archive.

5.3.5 The round number postulate

We need one final principle. Many of the texts in our archive will present us with little more than naked numbers, and breaks have rendered other tablets quite coy as to their purpose. We would like to have some way to get at the administrative principles that generated the numbers on a tablet and so fit the tablets into our model more closely. Here we are helped by the fact that the human brain has a predilection for round numbers and neat patterns that the natural world does not share. Thus, numbers created by people for administrative planning, like the amount of bread to be used for an offering, will tend to be round in some fashion, or at least be generated from round numbers. In contrast, numbers that are generated by the natural world, like crop yields or travel times, might fall in a particular range, but will tend to show effectively random variation within that range. Of course, what numbers qualify as "round" vary depending on your counting system. Fortunately, like most modern cultures and unlike their neighbors in Babylonia, the Assyrian administration largely reckoned numbers in base 10, and so the reader's intuitions will overlap quite a bit with a Middle Assyrian's. Still, to be precise, for our purposes we will define an archetypically round number as one that can be expressed as the product of a one or two digit integer and some base unit intuitive to the writer. In Assyrian (and modern) counting these will tend to be powers of 10 (e.g. $3000 = 3 \times 1000$), but we will find instances of other base units. Perhaps the most striking is a phantom 11-*qa sūtu* which has littered the archive with an astonishing number of multiples of 11.

5.4 What is missing?

To finish our theoretical prologue it will be useful to say a little bit about a few terms that I have chosen to not use in this work. First, there are complexity, sophistication, and related notions. The sophistication of Assyrian administrators has been a frequent theme in the literature, particularly in the works of Gaspa. The problem here is that it is not clear to me what an “unsophisticated” or “simple” system would look like. Most administrative systems are reasonably complicated if one looks at them closely, and so describing them as “complex” in the abstract is in effect just calling them an administrative system by another name. If we wish to meaningfully label Assyrian administration as simple or complex we must have some outside point of comparison that is more or less complex. Furthermore, we will not adopt the notion often implicit in the literature that more complicated administrative systems are somehow more sophisticated. There is no virtue in needless complexity, and if the Assyrian state required twice the resources to do the same job as another state, it can hardly be said to be more sophisticated. Since our work is concerned only with Assyrian practice and not comparative study, we will have little occasion to use such notions.

For much the same reason we will not use the term “bureaucracy.” In a comparative context the term can be quite useful, as shown by Postgate (2013a), but I do not accept *a priori* that it is an ontological category. In my view it remains to be shown that classifying the Assyrian administration as bureaucratic can tell us anything not implicit in making the classification.

Another issue is the term “archive.” Following Postgate (2013a: 81) I have intentionally used the term rather loosely. In the following chapters I use it only to refer to a group of tablets found together, implying nothing about how they were used in life or why they ended up buried

in the same place. For a comparative work on archival practice a more precise definition would certainly be in order, but for our purposes such precision is unnecessary and quite cumbersome.

Finally, there is the issue of public versus private. Postgate has rather forcefully made the case that there were well-defined public and private spheres in Middle Assyrian administrative practice (2013a: 80). While I am inclined to agree in general, an ontological distinction is not necessary for the present work. Thus I have adopted the much weaker version of this distinction given above in the discussion of institutional formal objects.

6 Notes on the structure of the dissertation

6.1 Main text

In the main text of this dissertation we will generally follow the flow of goods. This was the structure used by Gaspa, Maul, and Postgate in their synthetic studies of the archive. It is a nicely intuitive way of approaching the Agency's activities. To this end, the body of the dissertation is organized into three large sections. The first will deal with how supplies ended up in the Agency's possession. In a word, they will deal with "income." The second section, called "expenditures," will deal with how goods left the Agency. In ideal circumstances these two sections would suffice to capture the Agency's activities, but matters turn out to have been more complicated. As we will see over the course of this dissertation, the *Gināu* Agency often had to cope with crises and other problems that disrupted its normal operations. These disruptions and how the Agency dealt with them will be the subject of a third section, entitled "management."

There is one further complication in the structure of the main text. If texts are to be interpreted in a nominalist fashion, it is impossible to get at the meaning of particular texts without a model of the Agency's activities already in hand. Yet, we only know about the Agency

from those same documents. We have the proverbial chicken and egg scenario. Given Postgate's nominalist leanings, his synthesis encountered the same problem. His solution was to first outline the Agency's activities and then devote a second section to systematically examining the documentation generated by those activities. We will use much the same approach. Within each section the first two chapters will deal with the Agency's operations in that particular area, while the third will be devoted to documentation generated by those activities.

6.2 Text editions

In addition to the main synthetic text, I have also provided full editions of all published texts from the archive. Thanks largely to the tireless efforts of Helmut Freydank, excellent copies are already available for nearly all of these texts, and so the editions here will have only transliterations, translations, and notes.

The editorial practices I will use differ somewhat from those conventionally used in Mesopotamian administrative scholarship and so a few words on them will be necessary. Quite often Mesopotamian administrative texts are published in transliteration with no translation and minimal commentary about their contents. The implied (or sometimes explicit) rationale for this practice is that because administrative texts do not contain any especially difficult grammatical or lexical items, their content is somehow obvious. The fundamental assumption behind this approach is that all the information in the tablet is coded in a purely linguistic manner; to understand a tablet we need only extract and translate each string of text. If none of these strings is particularly difficult to translate, then it must be that the text as a whole is not difficult to translate.

The problem is that there is rather more information in an administrative text than is explicitly stated in strings of Akkadian language that can be extracted from it. Some of this

information is conveyed by formatting or abbreviations. For instance, in our archive when disbursements are being issued to several people at one time, scribes generally only write out the commodity being disbursed in the first entry, leaving it implied in later sections. The frequent use of the sign KIMIN “ditto” falls also in this category.

More profoundly, though, the meaning of each text depended on a larger context obvious to the author and his readers and so generally not expressed in writing. In effect, writing an administrative tablet was a form of data compression. The writer had a particular administrative event he wanted to encode on a tablet, but he did not record all relevant information. Rather, he encoded in the tablet only those details necessary for someone with a similar knowledge of the administrative context to reconstruct the event.

The modern reader without an intimate acquaintance with the context is not in a position to decompress the information in these texts without considerable effort, whether fluent in Akkadian or not. Thus, making the information in the texts available is not simply a matter of transcribing the texts or translating the text and figures in them. Instead their administrative content must be unpacked.

To this end I have provided interpretive translations. These do not simply translate Akkadian words and phrases, but try to make clear the broader administrative import of the document. Among other things, this means that where scribes used KIMIN, the Akkadian analog of the English ditto sign, I have filled in the pertinent information.

To keep the translations uncluttered and easy to read I have tried to keep brackets and parentheses to a minimum. Uncertain restorations will generally be marked not by brackets but by a raised question mark after the uncertain content. If a personal or geographic name cannot be reconstructed, then it will be rendered as a simple PN or GN in the translation. Dates have been

rendered not by directly translating the cumbersome Assyrian dating formulae, but listing the relevant information in the form Month.day.year (e.g. I.1.Liptānu). Finally, if a restoration is clear but its exact spelling is not, I will restore it in the translation but omit it from the transliteration.

I have also tried to streamline the transliterations. I have not sought to incorporate all features of the original tablet into them. Issues about spacing and paleography are best resolved by looking at a copy or photograph. Since Freydank's excellent copies are readily available and the CDLI has published photos of many of the tablets, the reader interested in exactly what is on the tablet would be better served by consulting them directly than by any summary I could give. For that reason, I have not made any attempt to match the horizontal or vertical spacing of lines, although my interpretation of these features is incorporated into the translations offered. In the same vein, I have systematically used half brackets (´šá´) to mark that a sign is damaged, but have not made any attempt to indicate with the brackets what part of the sign is damaged (e.g. [š]a, š[a], etc.). The reader interested in this is again much better served by directly consulting Freydank's copy than by reading my attempt to convey what I saw on the same copy.

6.3 Other appendices

In order to keep the main text reasonably readable, I have chosen to treat a handful of complicated and highly technical matters in appendices at the end of the work. These include the detailed reconstruction of the *gināu* assessments of individual provinces, a short discussion on chronology, a detailed discussion of metrology in the archive, and the prosopography of the Agency's major officials. Their results are summarized in the main text where relevant, so the reader without a special interest in these thorny (and for many perhaps quite tedious) topics need not feel he or she has missed too much by skipping them.

6.4 Note on style

One final note is in order. The goal of this study is to create a comprehensive model of the Agency's activities that can account for the full scope of the texts it produced. Doing this for an archive of more than 400 published texts is, needless to say, an involved task. Just the main text of this work runs more than 700 pages, and with the various appendices the page count comes to around 1600. This creates something of a problem since the success or failure of such an approach can only be fully assessed by reading the whole work. One cannot neatly extract an argument about one particular point and discuss its merits in isolation, for this would require that the problem being dealt with is essentially linear. As we discussed above, a major assumption behind this project is that the problem of understanding a complex administrative apparatus is profoundly non-linear.

Dedicated scholars of Middle Assyrian administration will undoubtedly be little bothered by the bulk of the present work, but the task of working through more than a thousand pages of technical discussions of administrative matters has the potential to discourage readers from outside this small group. This would be quite unfortunate. Regardless of the merits of the particular reconstruction offered here, the Middle Assyrian kingdom has much to offer all scholars interested in the history of government and administration. In terms of source material, the kingdom's administrative practices are impressively well documented both textually and archaeologically; just the volume and variety of source material should make the Middle Assyrian kingdom the envy of many a specialist in the Late Bronze Age. What is more, the Middle Assyrian kingdom laid the groundwork for the great Neo-Assyrian Empire of the first millennium, whose importance in the development of government was rightly emphasized by *Finer* (*Finer 1997*).

As a result, I have made a concerted effort to make the work as readable as possible. This includes the occasional literary flourish¹⁶, but more saliently, I have adopted the common practice from mathematical writing of using first person plural pronouns. The conceit is that the author and reader are working through a proof together. I am not simply telling readers how I arrived at my conclusions, but inviting them to come with me and arrive at the same conclusion for themselves.

¹⁶ Here my greatest inspiration is Stephen Vogel's celebrated monograph on the mechanics of living creatures in fluid systems, which by deft literary skill manages to make the famously difficult topic of fluid dynamics accessible to an impressively broad readership without sacrificing rigor (Vogel 1994).

PART I: INCOME

I.1: *Gināu* Assessments and Liabilities

*Along the margins of the lake,
stones in a simple line, taking account
of the shouts of generations of lilies,
are polishing the desperate poverty of life
into an opulence beyond all conception of light.*

-James Richardson, “The Encyclopedia of the Stones: A Pastoral”¹

1 Calculating the assessments

The story of the *gināu* offering begins in the provinces of the Assyrian empire. At least in theory, the *gināu* offering was supported by supplies sent in from each of the Assyrian provinces. This point has been made with some frequency in the literature and there is little need to marshal the arguments for it once again. It has also been suggested that this arrangement was ideologically motivated. As we will see in the conclusions, there is good reason to think that was true.² But that is to put the cart before the horse. We must first qualify what we mean by “province” and “support.” This topic, in a broad sense, will occupy the three chapters of this section.

The crux of the problem is that on a philosophical level “provinces” are a mental construct and do not by themselves pay anything to anyone. We must ask, then, who organized the shipments, and how did they decide how much to send? Furthermore, “provinces” do not generate state revenue per se. Instead, it is individual people who provided material goods to the state. We must ask how the Assyrian provinces came to “have” the items sent as *gināu* payments. On the other side, we must ask how the commodities destined for the *gināu* offering were

¹ (Richardson 2004: 17)

² For the most recent discussion on this point see Maul (2013).

actually transported from the provinces to Aššur. It is these practical considerations that gave meaning to the grand designs embodied in the Assyrian “provincial structure.”

1.1 Existence of assessments

One can loosely organize the various ways of supplying an enterprise around two archetypical types, *push* and *pull* (see Brown 1998: 47). In an archetypical *pull* system the decisions on when and where to send supplies are made only by those who will use them. In contrast, in an archetypical *push* system these decisions are exclusively made by those at the supply end, doing their best to send products where they are needed. These categories are not mutually exclusive, and any given system might have elements of both, but they are useful categories all the same. As we will see shortly, the *gināu* system was very much a *pull* system.

In particular, individual provinces were responsible for making yearly payments of a fixed amount, which we will call their annual “assessment” (Freydank 1997c: 49-50; Maul 2013: 565). We know this first and foremost because many of the income texts make use of the term *muṭṭāu* “arrears.” A province could incur *muṭṭāu* obligations in a particular year and pay them down in a subsequent year, sometimes more than half a decade later (see III.1).

It is difficult to explain how this situation could arise in a *push* system. If officials in the provinces determined how much should be sent each year, they could take account of the resources available to them and potential transport difficulties and then adjust the amount accordingly. There would undoubtedly be variation in how much was sent from year to year, but that variation would not result in provinces having unpaid obligations to the *Gināu* Agency. Instead, all the risks of bad harvests, transport difficulties, and the like would be the Agency’s problem. For the provinces to end up with obligations to the Agency they must have some

externally set amount they were supposed to send. In bad years they could fail to meet this quota and so would be obligated to pay it at a later date.

Yet, one might still try to argue that the provinces or their circumstances had some influence on what these assessments were. That is, some of the risk inherent in agriculture and transport might still have been transferred to the Agency. One could, for instance, suggest a system where the assessment was calculated as a fixed percentage of the harvest yield. If this were the case, we would expect some variation in the amount provinces were supposed to pay from year to year. However, this sort of variation is almost entirely lacking when we examine the numerical data. Provinces often pay or owe exactly the same amount in many years, and some, like Ša-šille and Šumēla, owe an identical amount in virtually every text where they appear.³ One doubts that Ša-šille province had five identically sized sesame harvests or even less likely, that Kalhu province experienced four large grain harvests of exactly the same size. This stability suggests that the assessments did not change from year to year in response to local circumstances but rather remained stable for years at a stretch.

1.2 Wider stability

Indeed, thanks to this stability, it is possible to reconstruct the exact amount of the *gināu* assessments for nearly all of the Assyrian provinces during the periods their payments are attested.

1.2.1 The canonical assessment commodities

Before we can turn our attention to the amounts owed by each province, we must say a few words about the commodities in which these assessments were reckoned. In principle the

³ I write “owe” rather than “pay” quite intentionally. As discussed below, these two provinces hardly ever paid even a portion of their assessments.

Assyrians could have made these assessments in a wide variety of commodities. The offering rubrics in MARV 3 16 present a truly formidable number of different food items that could be used for offerings in the capital.⁴ We also hear of a number of different spices being brought from Dūr-Katlimmu on the Euphrates river system *ana tākulte ša Libbi-āle* “for the sustenance of Libbi-āle” (BATSH 9 101: 15-16). But we should not set our hopes too high. There is no clear evidence that the first text even belonged to the Agency’s archive, and the second text—found in a provincial archive in the far west—most certainly did not. When we turn to the Agency’s own texts, the picture is rather more mundane. Normally assessments were made only in four basic commodities: “grain” (*u’u*), “honey” (*dišpu*), sesame (*šamaššammū*), and “fruit” (*azamru*), which were in general listed in that order. We will look briefly at each of these.

1.2.1.1 Grain

The main grain handled by the Agency was barley (*u’u*), and in most periods this seems to have been the only grain they handled. In principle the Akkadian term *u’u* could be used as a blanket term for all types of grain rather than barley specifically, and we do find the term clearly used in this way in MARV 7 97. Thus, one might suspect that wheat often was silently included in the Agency’s grain sums. This cannot be entirely ruled out but, as discussed in II.1, most wheat explicitly attested in the Agency’s records seems to have been used for the production of a wheat bread distinct from the normal *gināu* bread products. What is more, the references to wheat in the archive are confined to a few short periods lasting no more than a few years each (II.1). Therefore we will assume the term *u’u* refers to barley unless we have clear reason to think otherwise. Since the Assyrians themselves used this term to mean “grain” as well as

⁴ For a thorough edition of this text see Llop (2009-2010).

“barley,” in subsequent discussions I will use the terms somewhat interchangeably, with the understanding that the “grain” involved was barley unless stated otherwise.

Whether barley or wheat, all grain credited toward grain assessments seems to have arrived as unmilled grain and not as flour. This makes some intuitive sense. Milling grain greatly reduces its storage life and makes it rather more vulnerable during transport. In addition, the cost of milling the flour would effectively increase the size of a province’s assessment. There are a few references to flour filed under the heading “fruit,” but as we will see, there is reason to think that this “flour” was not actually a grain product.

1.2.1.2 “Honey”

The category “honey” is a bit more complex than it might seem. For one, it is not entirely certain that the substance denoted by the word *dišpu* in this period actually was honey in the strictest sense; rather it could have been some other type of sweet syrup (Gaspa 2011b: 173). The matter has been debated at considerable length in the literature, though the identification as honey currently has the upper hand (Postgate 2013a: 113-114). However, it remains possible that the substance was in fact a type of fruit syrup, or that *dišpu* was a general term for all syrupy substances, including both honey and other products. Fortunately, the exact resolution of the question is not of great importance for the matter at hand. The Agency was not involved with producing the substance, and so details of its manufacture do not appear in the archive. At best we might try to link a bump in deliveries to a date harvest or the peak honey production season. However, both products keep for long periods of time and the amounts of *dišpu* are quite small, so it is very possible that when they were sent was governed as much by available boat space as when the products were actually produced. To avoid cumbersome references to “fruit syrup,” “sweet viscous fluid,” or the like we will follow Postgate’s most recent work and translate the

term as “honey” throughout, accepting that the product involved may often have been only honey-like rather than true honey.

The second complication is that, on occasion, obligations for honey could be met with oil. We hear of *gināu* payments of 100 *qa šamnu kīmu dišpe* “100 *qa* of oil instead of honey,” (MARV 5 27: 3) and 60 *qa šamnu kīmu dišpe* “60 *qa* of oil instead of honey” (MARV 3 36:1). Similarly, the table of late payments MARV 6 1 + MARV 6 17 has amounts explicitly labeled as oil in its honey column (20, 22). The notion that the two commodities were roughly equivalent also appears in MARV 5 8, where the Agency used oil to repay a large number of honey loans it had taken out. As we will see in III.1, these various interchanges all occurred in crisis periods, the first three in the *maddattu* crisis, and the last in the Liptānu crisis. Hence, it seems safest to assume that conversions from honey to oil were not a regular part of the Agency’s operations, and that obligations incurred in honey would normally need to be paid in honey.

A likely motivation for allowing oil to be substituted for honey was that the two products seem to have been of roughly equivalent value by volume.⁵ In MARV 3 36 the Agency accepted 60 *qa* of oil for Amasakku’s regular obligation of 66 *qa* of honey. In MARV 5 27 it accepted 100 *qa* of oil toward Šadikannu’s normal 90 *qa* honey obligation. If we assume that the oil payments were an attempt to cover the full assessment, then the ratio of honey to oil is 110% in the first text and 90% in the second. It is attractive to think that the exact ratio varied based on the availability of the two commodities and the Agency’s needs at the moment, at least roughly responding to market forces. The fact that the ratios are unusually round suggests that the oil payment amounts were derived from the honey assessments by fairly simple, rule-of-thumb

⁵ It is tempting to try and use this equivalence to solve the problem of whether *dišpu* really was true honey. As it turns out sesame oil and honey are in fact of roughly equivalent price by volume in modern times, but modern production processes are too different for this observation to be particularly helpful.

calculations. Since both texts also involve governors making personal deliveries, it is possible the exact conversion ratio was negotiated when the shipment arrived.

1.2.1.3 Sesame

The third major category was “sesame” (*šamaššammū*). As Reculeau (2009) has rather forcefully argued, in this period the term must refer to the sesame plant and not some other oil-producing plant. Interestingly, sesame assessments were always paid with sesame and never with finished oil (*pace* Maul 2013: 566n.19). The reasons for preferring sesame seeds over oil were likely the same as those for preferring grain over flour. Sesame oil has a much shorter shelf life than unpressed sesame seeds. In addition, and factoring in the cost of having it pressed would effectively increase a province’s assessment.⁶

1.2.1.4 “Fruit”

The final category is “fruit.” Whenever it is specified, the actual fruit in question is always figs (*tīttu*), though it is quite possible other fruits were used as well (Postgate 2013a: 117).⁷ Gaspa has suggested that these were probably dried or otherwise preserved (Gaspa 2011b: 172-173; see also Postgate 2013a: 117). Undoubtedly, this was done in cases where fruit was shipped from the more distant provinces. In principle, fresh fruit could have been brought from nearer provinces, but this seems rather unlikely. Fresh fruit spoils quite quickly, and so arranging

⁶ I am indebted for this suggestion to Rachel Lambert.

⁷ In the reign of Ninurta-apil-Ekur 2 BÁN PÈŠ.MEŠ *hap-pu-a-tu* appear in a loan text (MARV 3 32:2 (Erīb-Aššur)). From the reign of Tiglath-Pileser I one finds 1 ANŠE 7 BÁN GIŠ.PÈŠ.MEŠ in a table’s *azamru* column (MARV 6 1: 20 (Tiglath-pileser I)). From roughly the same period is an undated text which appears to list three shipments of figs, the first labeled explicitly as such 2’ ANŠE 4 BÁN GIŠ.PÈŠ.MEŠ (MARV 7 51: 3). The next two entries do not give a commodity, just a quantity, and likely also refer to figs (5, 7). The final summary, however, refers to fruit (9).

Gaspa suggests pomegranates were used in the *gināu*, but his only evidence for this comes from MARV 4 13 (2011b: 173). As the connection of that text to the archive is quite doubtful, it is not especially compelling evidence, though we still cannot prove that pomegranates were never used in the offerings. Other fruits likely to have been used in offerings in Middle Assyrian times, and so possibly in the *gināu*, are discussed in Gaspa (2011b: 173).

to have it delivered and used before spoiling would be, to say the least, a rather complicated affair requiring considerable administrative attention. This increased attention in turn would almost certainly require treating fresh fruit separately from preserved fruit, instead of under the single term we find in the archive. It also would probably have produced a flurry of small time-sensitive documents about fruit disbursements, few if any of which have survived in the archive. It seems much more likely that all the fruit arriving at the capital was to some degree preserved.

There is one further complication in understanding the category of “fruit.” In several texts we find a product referred to as *mirqu*, which was written with the ZÌ.(DA) determinative used for flour but still regularly categorized as “fruit.” In MARV 1 73 we find a single cargo referred to as “fruit” on the envelope but *mirqu* on the inner tablet. This suggests that *mirqu* was not only an acceptable substitute for fruit, but a particular type of “fruit,” at least in the Agency’s understanding. In two other texts *mirqu* appears after the entry for sesame, which is the slot for fruit in the usual order of commodities (MARV 5 27: 5, MARV 5 39: 5, 12). *Mirqu* is also associated with figs in MARV 10 83 and MARV 5 39, and may well have been made with figs.⁸ While the majority of these texts are from the early and middle years of Tiglath-pileser I, there is at least one damaged reference to *mirqu* being received by the Agency in the first year of Ninurta-apil-Ekur (MARV 5 35: r.7’).

The question then is why this flour was grouped with fruit for accounting purposes. Gaspa (2011b: 173) has suggested that this product involved at least some fruit, and it is attractive to take this idea one step further and see *mirqu* as a product made entirely out of fruit

⁸ In MARV 5 39 the copy twice has GIŠ.MEŠ following quantities of *mirqu* flour. This makes little sense in context. It seems better to understand it as scribal error for PÈŠ!.MEŠ. The same writing occurs in MARV 10 83, where the middle horizontal is noticeably smaller than the other horizontals. Then it would somehow qualify the quantity of *mirqu*, suggesting that it was made of figs, or that the quantity given included amounts of both figs and *mirqu*.

(pace Postgate 2013a: 112). As the name is cognate with the verb *marāqu* “to crush” it may have been made by crushing (Postgate 2013a: 112). The result would presumably be a paste or small pieces of fruit. In either case, it would not take an overly active imagination to see the end product as a sort of “fruit flour.” It seems likely that the references to simple “flour” (written ZÌ.DA) in place of fruit in MARV 3 36 and MARV 6 1 + MARV 6 17 were also understood to refer to *mirqu* and not simple barley flour. This would nicely explain why the Agency never classified incoming “flour” as grain, but always as fruit; the “flour” it was receiving was not actually made of grain. Even so, this identification cannot be taken as conclusively proven.

1.2.1.5 Unwritten commodities?

There is one final matter. It is conceivable that the Agency handled more than these four commodities, but that some were not documented. One might posit that the Agency only devoted major administrative oversight to the most important commodities, leaving small quantities of seasonings and the like undocumented (Gaspa 2011b: 167). This is certainly within the realm of possibility. Still, we have virtually no evidence that the Agency used such “non-canonical” supplies. Perhaps such spices were obtained locally as needed and did not go through the Agency’s usual supply channels, but this remains to be proven. Until clearer documentation comes to light, it seems simplest to assume either that the Agency did not handle such commodities, or that it used them in negligible amounts whose exclusion will not greatly affect our model.

1.2.2 The table of assessments

Now that we have isolated these four canonical commodities in which assessments were made, we can turn to the particular amounts owed by each province. Here it is perhaps easiest to

partially anticipate our results and present the full table of reconstructed assessments before examining the details of the assessment system from which the table was derived. The arguments used to arrive at the individual figures are often rather involved and so the details are dealt with in Appendix D. The results are given in the following table:

Province	Barley	Honey	Sesame	Fruit
Addarik	0	66 <i>qa</i>	660 <i>qa</i>	270 <i>qa</i>
Amasakku	0	66 <i>qa</i>	660 <i>qa</i>	670 <i>qa</i>
Apku	0	66 <i>qa</i>	660 <i>qa</i>	270 <i>qa</i>
Arbāil	29530 <i>qa</i>	188 <i>qa</i>	1770 <i>qa</i>	1160 <i>qa</i>
Aššur	0	88 <i>qa</i>	880 <i>qa</i>	890 <i>qa</i>
Halahhu	28030 <i>qa</i>	180 ⁷ <i>qa</i>	1540 <i>qa</i>	1260 ⁷ <i>qa</i>
Hiššutu	0	66 <i>qa</i>	660 <i>qa</i>	270 <i>qa</i>
Husanānu	11710 ⁷ <i>qa</i>	88 <i>qa</i>	880 <i>qa</i>	360 <i>qa</i>
Idu	13560 <i>qa</i>	77 <i>qa</i>	770 <i>qa</i>	580 <i>qa</i>
Kalhu	6350 <i>qa</i>	44 <i>qa</i>	440 <i>qa</i>	60 <i>qa</i>
Karānā	0	66 <i>qa</i>	660 <i>qa</i>	270 <i>qa</i>
Katmuhhu	27860 <i>qa</i>	187 <i>qa</i>	1870 <i>qa</i>	2150 <i>qa</i>
Kilizu	9710 <i>qa</i>	77 <i>qa</i>	770 <i>qa</i>	580 <i>qa</i>
Kulišhinaš	0	33 <i>qa</i>	330 <i>qa</i>	320 <i>qa</i>
Kurda	0	66 <i>qa</i>	660 <i>qa</i>	470 <i>qa</i>
Libbi āle	12560 <i>qa</i>	100 <i>qa</i>	1000 <i>qa</i>	90 <i>qa</i>
Ninua	0	20 <i>qa</i>	200 <i>qa</i>	0
Ša-šilli	0	11 <i>qa</i>	110 <i>qa</i>	110 <i>qa</i>
Šibanibe	0	66 <i>qa</i>	660 <i>qa</i>	270 <i>qa</i>
Šīme	6030 <i>qa</i>	44 <i>qa</i>	440 <i>qa</i>	310 <i>qa</i>
Šūdu	7710 <i>qa</i>	66 <i>qa</i>	660 <i>qa</i>	70 <i>qa</i>
Šumēla	0	0	0	150 <i>qa</i>
Taidu	0	88 <i>qa</i>	880 <i>qa</i>	590 <i>qa</i>
Talmuššu	13560 <i>qa</i>	77 <i>qa</i>	770 <i>qa</i>	580 <i>qa</i>
The Lower Province	14560 <i>qa</i>	88 <i>qa</i>	880 <i>qa</i>	90 <i>qa</i>
The Upper Province	0	180 <i>qa</i>	1800 <i>qa</i>	910 <i>qa</i>
Turšan	17560 <i>qa</i>	110 <i>qa</i>	1100 <i>qa</i>	440 <i>qa</i>

Figure I.1-1: Gināu Assessments by Province

1.2.3 The assessment amounts are stable

There are two aspects of the above table that require some clarification. First, it is conceivable that the assessments, while not changing annually, could still be altered from time to time. While we do have a few recorded instances of this happening, it does not seem to have been very common, nor is it clear that the changes were permanent (see already Postgate 2013a:104). The biggest change was for Halahhu, which paid at least 1980 *qa* of sesame in the earliest *gināu* table (MARV 7 27), but had a sesame assessment of 1540 *qa* in later texts. It is possible the sesame burden of the province was reduced around the accession of Ninurta-apil-Ekur between the composition of MARV 7 27 and that of the other *gināu* tables, but this cannot be certain. MARV 7 27 also shows that Arbela province had paid none of its sizeable sesame assessment that year, and so it is possible that the assessment of Halahhu was temporarily adjusted up to compensate.

On a smaller scale, in MARV 7 63 we find 100 *qa* from the sesame assessment of Idu transferred to the neighboring and closely linked province of Talmuššu. Again, this change occurs in a single text, and so it is quite possible that this was simply a one-time adjustment. Even if it lasted for several years, by the reign of Tiglath-pileser I Talmuššu was back to paying 770 *qa* (MARV 5 42).

Finally, the two tables from the year Salmānu-zēra-iqīša imply that Arbela had a honey assessment of 217 *qa* and Halahhu an assessment of 164 *qa* (MARV 6 5, MARV 9 12). Both provinces had normal assessments around 180 *qa*, and this may represent a similar temporary assessment transfer. However, that particular year featured a number of accounting irregularities (III.1), and the discrepancy is perhaps better seen as a further bookkeeping complication rather than an actual attempt to change either province's assessment.

On the other hand, there are a number of quite striking examples of continuity in assessment levels across several decades. Of course, in principle all provinces should exhibit this striking continuity if their assessments did not change, but the limited scope of low-level administrative activity makes such continuities hard to spot. Many texts record only partial payments of assessment, and most of the information on provincial payment levels comes from the earlier portions of the archive. We will have to content ourselves with a few particularly striking examples that can be isolated from the extant texts.

Gaspa has noted the surprising consistency with which Amasakku province paid sesame and fruit, and one finds it hitting its 660 *qa* sesame and 670 *qa* fruit targets both under Ninurta-apil-Ekur and well into Aššur-dān I's reign (Gaspa 2011a: 194-195). Talmuššu paid a grain assessment of 13560 *qa* in the reign of Aššur-dān I (MARV 2 21) and also in the year Hiyašāyu under Tiglath-pileser I (MARV 5 42) (see Gaspa 2011a: 192-193). Perhaps the most striking is Kalhu. From the *gināu* tables we learn that it made payments of 6350 *qa* of grain in the reigns of Ninurta-apil-Ekur and Aššur-dān I. What is more, a summary document notes that the province had paid 6350 *qa* grain in the reign of Tiglath-pileser I (MARV 6 70) (Gaspa 2011a: 197). Thus the province's assessment shows no variation at all over a period of about three quarters of a century.

For a broader comparison we can look at the assessment values from the years Salmānu-zēra-iqīša, Liptānu and Pa'uzu, the three years for which we have the best data on their levels. The three years must span at least a decade and likely span three, with the first two in Ninurta-apil-Ekur's reign and the third well into the reign of Aššur-dān I, probably around his 26th regnal year (III.1). By chance, only fruit figures are well preserved in the tablets from all three years. The pertinent figures are summarized in the following table:

Province	Assessment Year		
	Salmānu-zēra-iqīša	Liptānu	Pa'uzu
Katmuhhu	2140 <i>qa</i>	2140 ⁷ <i>qa</i>	2140 <i>qa</i>
Šūdu	70 <i>qa</i>	70 ⁷ <i>qa</i>	70 <i>qa</i>
Taidu	590 <i>qa</i>	590 <i>qa</i>	590 <i>qa</i>
Kulišhinaš	320 <i>qa</i>	320 <i>qa</i>	330 <i>qa</i>
Aššur	890 <i>qa</i>	890 <i>qa</i>	890 <i>qa</i>
Apku	270 <i>qa</i>	270 <i>qa</i>	x+170 <i>qa</i>
Karāna	270 <i>qa</i>	270 <i>qa</i>	x+70 <i>qa</i>
Šibanibe	270 <i>qa</i>	270 <i>qa</i>	x+70 <i>qa</i>
Hiššutu	270 <i>qa</i>	270 <i>qa</i>	270 <i>qa</i>
Šīme	310 <i>qa</i>	310 <i>qa</i>	310 <i>qa</i>
Husanānu	360 <i>qa</i>	360 <i>qa</i>	x+60 <i>qa</i>
Ša-šille	110 <i>qa</i>	110 <i>qa</i>	110 <i>qa</i>
Šumēla	150 <i>qa</i>	150 <i>qa</i>	150 <i>qa</i>

Figure I.1-2 (cont.): Fruit Assessments Attested in the Years Salmānu-zēra-iqīša, Liptānu, and Pa'uzu

The only variation is that the fruit figure for Kulišhinaš is 10 *qa* too high in the year Pa'uzu. The province paid all 330 *qa* in this year, and one could reasonably posit that this overpayment was the consequence of a measuring error.⁹ The governor sent slightly too much fruit and did not think recovering the 10 *qa* overpayment was worth the hassle. The rest of the assessment figures appear to have been completely unchanged. Given this remarkable level of stability, we can meaningfully speak of *the* assessment of a particular province, accepting that there were occasional minor fluctuations on the order of a few *qa*, and perhaps even a few larger changes over the course of the archive.

1.2.4 The roster of provinces is stable

The second aspect of this table that requires comment is which provinces pay the *gināu*. It would be quite reasonable to think that new provinces were created and assigned a *gināu* assessment as the Assyrian state expanded, and that when the state contracted, defunct provinces *in partibus* were stricken from the rolls. Indeed, the *communis opinio* has been that changes in

⁹ This possibility was suggested to me by Walter Farber.

the provinces listed on the *gināu* tables reflect the expansion and contraction of the Assyrian kingdom.¹⁰

Yet, a systematic examination of the evidence does not bear out this idea.¹¹ First, one might note that Libbi-āle—the Assyrian capital itself—is omitted from seven lists.¹² It is hard to believe the Assyrian state lost control of its own capital, and harder still to explain how it managed to continue funding the *gināu* offerings in the lost capital.¹³ Equally striking, we can find dramatically different selections of provinces in pairs of tables dated to the year Saggiu (MARV 5 1 MARV 5 2), Salmānu-zēra-iqīša (MARV 6 5, MARV 9 12), and Liptānu (MARV 5 67, MARV 6 9 + MARV 8 24).¹⁴ This is presented schematically in the following table:

Saggiu		Salmānu-zēra-iqīša		Liptānu		
MARV 5 1	MARV 5 2	MARV 6 5	MARV 9 12	MARV 5 67	MARV 6 9+	
						Arbāil
						Kilizu
				Omitted		Halahhu
		Omitted				Talmuššu
				Omitted		Idu
				Omitted		Katmuhhu
		Omitted				Šūdu
		Omitted				Taidu
		Omitted				Amasakku

Figure I.1-3: Provinces Attested in Tables from the Same Year

¹⁰ The discussion has most recently been summarized by Jeffers (2013: 326-338).

¹¹ That there are problems in this interpretation for some of *gināu* tables was already noted by Jakob (2005-2006: 325), although he subsequently used a limited version of the principle to discuss the scope of Tiglath-pileser I's kingdom (2011: 207).

¹² MARV 5 2, MARV 5 14, MARV 5 67, MARV 7 6, MARV 7 30, MARV 9 2, MARV 9 9.

¹³ One might argue that Libbi-āle was sometimes folded in with Aššur province. First, as discussed, below, it is not clear that "Aššur" province actually controlled land near the capital. Second, "Aššur" too is absent from the table MARV 6 5 and likely from MARV 5 4 as well.

¹⁴ The more damaged pair of tables MARV 6 5 and MARV 9 12 exhibit the same behavior, but have been left out to avoid needlessly complicating the argumentation here.

		Omitted			Omitted	Kulišhinaš
		Omitted				Aššur
		Omitted			Omitted	The Upper Province
		Omitted			Omitted	The Lower Province
	Omitted	Omitted				Turšan
	Omitted			Omitted		Libbi ale
Omitted			Omitted	Omitted		Ninua
Omitted	Omitted			Omitted		Kurda
Omitted	Omitted		Omitted	Omitted		Aṗku
Omitted				Omitted		Addarik
	Omitted					Karānā
Omitted				Omitted		Šibanibe
		Omitted				Hiššutu
	Omitted	Omitted				Šime
Omitted			Omitted	Omitted		Husananu
						Kalhu
Omitted	Omitted		Omitted	Omitted		Ša-šilli
Omitted	Omitted			Omitted		Šumēla

Figure I.1-4 (cont.): Provinces Attested in Tables from the Same Year

If we would explain these variations as reflections of changes in the territory controlled by the kingdom, we would have to posit that as many as a dozen provinces could regularly be lost or gained in a single year. This seems rather unlikely.

The accounting information in these texts provides a better solution.¹⁵ Among the pairs of tables cited above, MARV 5 67 explicitly refers to its contents as paid *gināu*, and MARV 6 9 + MARV 8 24 refers to its contents as *gināu* arrears. Indeed, as discussed at greater length in I.3, these form a complementary pair of tables. If a province appears in both tables, then the sum of each pair of matching commodity entries is exactly that province’s full annual assessment. What

¹⁵ Gaspa already has suggested the changing roster reflects book-keeping differences rather than gains and losses of territory, arguing that “the number of districts varied according to the specific administrative scopes of every list,” though he did not elaborate the point (2011b: 169).

is more, when a province seems to have had its full assessment in every commodity in one table in this pair, it does not appear on the other. The pair of tables cited above from the previous year, MARV 6 5 and MARV 9 12, show the same pattern. Therefore, we can neatly account for the changing roster of provinces in the tables by assuming that the scribe simply omitted rows where every commodity cell would be blank.

This seems to have been a common practice. Indeed, only three full table texts can be shown to have included provinces with completely blank rows.¹⁶ Two of these tablets, MARV 2 21 and MARV 9 1, come from the same year and form a complementary pair. Now, if provinces with blank rows were not omitted, we would expect each table to have the complete roster of provinces, and that is exactly what we find. The two tables each contain the same 27 provinces that occur in the other complementary pairs. In the remaining text with a blank row, MARV 6 46 + MARV 7 30, matters are a bit more complicated. The row for Halahhu was left blank although several other rows were entirely omitted. It is perhaps best to see this as a simple error, where the scribe forgot that Halahhu was in complete default when he added the rulings and province names to the tablet.

When we look at the other extant *gināu* tables we find that provinces can be omitted, but that no province is added that is not found in the three complementary pairs already discussed.

The relevant texts are summarized in the following table¹⁷:

¹⁶ MARV 2 21, MARV 6 46, MARV 9 6

¹⁷ The following abbreviations are used in the table:

y = attested

[y] = plausibly restored

0 = definitely omitted

To make the patterns clearer, cells with a y or [y] are shaded grey. The tables are arranged in rough chronological order from earliest to latest (see I.2I). Arbela province is decomposed into sub-units in MARV 6 1+ and MARV 8 35. As noted in the editions of those texts, two things indicate that the lines were understood to refer to sub-units of Arbela province rather than new provinces added to the beginning of the list. First, the entries were separated from

y	[y]	0	y	y		y	[0]	y	y	[y]	y	y	y	y	y	y	[y]	0	[y]	[y]		y ²	Šime
0	y	y	0	0		0	[y]	0	y	[y]	y	y	y	y	y	y	y	y	[y]	y ²		y ²	Husananu
y	y	y	y	y		y	[y]	0	y	[y]	y	y	y	y	y	y	y	y	[y]			[y]	Kalhu
y	y	0	0	0		0	[y]	0	y	[y]	y	y	0	0	y	y	y	0	[y]				Ša-šilli
0	y	0	0	y		y	[y]	0	y	[y]	y	y	0	0	y	y	y	0	[y]				Šumēla

Figure I.1-6 (cont.): Provinces Attested in Surviving *Gināu* Tables

As can be readily seen, the only major variation is that the Upper Province is sometimes replaced by Uššukannu and Šadikannu. This is quite readily explained as the Upper Province being decomposed into two component units (on this point see below). Therefore, it appears that no new provinces were included in the *gināu* tables. What is more, we find that many provinces omitted from tables of received *gināu* payments tend to owe large sums on the arrears tables. The most astonishing examples are Husanānu, Ša-šille, and Šumēla provinces, which are in complete default virtually every time they appear in a reasonably well-preserved table. In the case of Ša-šille, only one actual payment of any kind from the province is securely attested in the archive (MARV 7 6), and that was a year late. A number of unusually solvent provinces have the exact opposite distribution, most notably the Upper Province. This is exactly the distribution we would expect if provinces were being omitted to avoid writing out a blank row.

Admittedly, many of the tables are concentrated in the dozen or so regnal years of Ninurta-apil-Ekur, but there is evidence the same roster was used before and after his reign. MARV 7 27, composed at least a year before his accession, has all but two of the provinces, and the two it lacks, Husanānu and Šumēla, are among the most consistently delinquent in the archive. Turning our attention to the time after Ninurta-apil-Ekur's reign, there are several tables from the middle of Aššur-dān I's reign (for the dating of these see III.1). Going still further forward in time, the tables MARV 6 1 + MARV 6 17 and MARV 8 35, both likely from early in

Tiglath-pileser I's reign, include only entries which are from that same roster of 27 provinces or sub-units of them (see I.3). Thus, it would seem that for a period of more than half a century there was effectively no change in the *gināu* roster.

1.2.5 Sub-provinces

The picture becomes more complicated when we move from the coherent genre of *gināu* tables to other texts produced by the Agency. In the above discussion we found that each member of a fixed group of 27 provinces had a fixed *gināu* assessment in each of the four canonical commodities. However, we find scattered references to other provinces not in that group of provinces. One might posit that these provinces represented a major change to the roster outside the period covered by the tables, but this idea quickly runs into difficulties. In fact, MARV 3 30 describes the *gināu* assessment owed by a certain Habriūte province in the year Marduk-aha-ēreš, during the time period most densely covered by the tables. Rather, we must look for a different explanation.

As it turns out, the problem is not in the reconstruction of the roster, but rather our understanding of the notion of a province and what it meant for a *bēl pāhete* “governor” to govern one. The general assumption in the literature has been that all holders of the title *bēl pāhete* “governor” controlled stretches of well-defined territory and were of essentially equal rank (e.g. Jakob 2003: 14-15, 130; Llop 2011a). Working from this assumption, if a governor is associated with a given location, we can conclude that there was a province around that location under his control and that this area was not part of any other governor's province. This is quite similar to how sub-national governmental units are organized in most western countries today, and so the idea has an intuitive appeal for modern scholars. After all, proving that the governor of Wisconsin had authority in a particular county in 1950 would indeed be sufficient to show that

the county belonged to the state of Wisconsin at that time and was not part of Illinois.

Unfortunately, this idea does not hold up to scrutiny in Middle Assyrian times.

As noted by Postgate, the title *bēl pāhete* seems to have originally had only the general sense of “officeholder” without any geographic connotations (Postgate 2013a: 30), and so we should not be surprised if the term still retained some of the flexibility of its earlier usage. This is why, when we defined a “governor” as the holder of the title *bēl pāhete* in the introduction, we defined his “province” only as the various state assets from which he could extract revenue. As it turns out, this loose model is able to neatly explain the paradox of a fixed roster of assessments and the varied attestations of “non-canonical” provinces.

Let us start with the issue of territory. To say a governor controlled a territory seems simple enough, but the matter becomes rather more complicated when we try to get at what “control” actually means. At least in the extant documents, the main form this control took was managing state material and labor assets in the region (see Brown 2013:109). There is no clear evidence that governors regularly collected taxes from the general population in their regions (Postgate 2011: 186). One is also hard pressed to find any general obligations that a governor had to the people in his region.

Perhaps the closest we come are the *šulmānu* texts from the Urad-Šerua archive, where individuals promised to give gifts to a governor if he would examine their case (Postgate 1988: xiii-xvi). Postgate has suggested these were a form of “officially-recognized bribe” (Postgate 1988: xiii). This explanation, though, supposes that the governor was obligated in some fashion to look into the case without compensation, and to my knowledge there is little evidence that this was so. It seems simpler to assume that this was either a purely private matter, or else a public

service which could be utilized for a fee, a practice well-known in Roman bureaucracy (Kelly 2004: 64-68) and, of course, in our own times.

The important thing for the present discussion, though, is that the litigant had to seek out and pay the governor. It was not the governor's obligation to seek out and resolve problems among the general population, but merely to deal with what came to him. Put another way, he did not exercise any active judicial control over the inhabitants of his "province." To exercise his attested judicial functions a governor would not need any clearly defined territorial jurisdiction, but only deal with problems individuals decided to bring before him.

Thus, we can take a looser approach and model them as individuals who managed particular portfolios of state assets on behalf of the central government. These portfolios had to be clearly defined, and it would be convenient to have them in a geographically circumscribed area, but this does not mean that the territory as a whole was neatly divided up. The governors likely bore some responsibility for making sure the area was not overrun by the king's enemies or decimated by famine after an economic catastrophe, but this would be true of any high official who happened to be in the area. Near his city of residence the governor's responsibilities to the king may well have approached a de facto territorial jurisdiction in some sense, but matters likely became messier as one moved away from the provincial center.

If we look at this model of provincial administration from the perspective of defining the territorial expanse of the Assyrian kingdom, we have something quite consistent with the network model Liverani proposed for the expansion of the Middle Assyrian kingdom into the Habur region (1988: 90). All this can roughly approximate a system of geographic provinces, but there is more flexibility in the system.

All the king had to do to create a new province was reassign some of the state property managed by other governors. While governors made extensive use of their private households and local officials in particular locations, they do not seem to have had large official staffs working directly for them. Thus, creating a sub-province would not require an extensive administrative reorganization, but simply assembling a portfolio and assigning it to an individual with the means to manage it. Perhaps the most extensive examples of split provincial portfolios occur in MARV 4 61+134 and MARV 4 127, which list the current grain balances associated with various provinces and people (on the interpretation of these texts see below). Here we can understand the named individuals are managers of portfolios that cannot be easily summarized with a place name. Some of these men are *qēpus*, probably managing short-term portfolios created for a special purpose, but it is not unreasonable to think some of them held office for a longer period and received the title *bēl pāhete* “governor,” as we find in some of the other attestations of sub-provinces.

There are some examples of portfolios effectively becoming true geographic provinces during our period of study. This is clearest for Katmuhhu, whose governor was solemnly enjoined in one text *šumma iltēn aīlu ša hurāde ina pāhitišu lū āla iṣbat ū lū kī raqāe ana Katmuhhe errub* “if even one man on military service (in one of the above named *halzus*) should seize a town in his province or by stealth enter Katmuhhu (woe to him)” (MARV 4 119: 25-28). Here it would seem Katmuhhu province is in fact a region one can enter rather than a collection of assets in the same general area. This unusual status would explain why the *Gināu* Agency consistently wrote the name of the province with the KUR determinative for a region rather than the URU determinative for a city. This same orthographic distinction was made for Halahhu

province, suggesting that it too was not a seat of a governor per se, but rather a region. Indeed, MARV 4 127 seems to name four different fund managers active in the province (8-11).

This observation in turn sheds light on the curious phrase *pāhutu ša* GN “the province of GN” that occurs a number of times in the Agency’s archive. Apart from the Upper and Lower Provinces, we only find the phrase used with five provinces, Katmuhhu, Halahhu, Arbela, Talmuššu, and Šīme.¹⁸ Of course, the Agency could and did use *pāhutu* more generally to refer to all areas where *bēl pāhetes* were active¹⁹, but it only occurs with these five provinces taken individually. We need not postulate that these formed a clearly defined class of geographic provinces, but it is still attractive to see this turn of phrase as a way the writer could indicate that he was thinking more of a region than a particular city and its near environs. In fact, in the case of Katmuhhu and Halahhu, it seems the scribe must have had a region in mind since neither name actually refers to a city. It is probably no accident that at least three of these provinces were located on the kingdom’s borders, as were the Upper and Lower Province. It is precisely where the kingdom ran up against major kingdoms or uncontrollable mountain tribesmen that it would be most useful to have clearly defined boundaries. For convenience we will refer to these seven particularly coherent provinces (the Upper Province, the Lower Province, Arbela, Halahhu, Talmuššu, Katmuhhu, and Šīme) as “Regional provinces.”²⁰

But let us return to the question of the extra provinces. We can understand each assessment as the amounts due from the governor stationed in a particular city. If the portfolio

¹⁸ Katmuhhu: MARV 3 14, MARV 6 42

Halahhu: MARV 3 38, MARV 5 51, MARV 6 10, MARV 6 42

Arbela: MARV 6 42

Talmuššu: MARV 5 12 MARV 6 42

Šīme: MARV 6 3

¹⁹ It is also used in this general sense in a letter from Harbe, where the sender notes: *ina gabbe qaqqere pāhāte harit* “(the grass) is eaten up in all the land of the provinces” (Jakob 2009 10:8-9).

²⁰ For a discussion of the ties between the term *pāhutu* and cities, regions, and personal names, see Cancik-Kirschbaum (2014a: 297-298).

was split up, the governor in a particular city might no longer have the resources to pay. To prevent this, it seems that when assets were detached from a *gināu*-paying portfolio, some of the *gināu* duties were transferred as well. Since the total assessment did not change, the Agency seems generally to have not kept track of the subdivisions unless there were complications. For convenience we describe these additional portfolios as “sub-provinces,” though it is unclear how these sub-governors interacted with the governor of the original *gināu*-paying province. During the *maddattu* crisis there was no governor for Arbela province as a whole, and the two remaining sub-governors seem to have been largely independent. However, matters may have been more complicated in some of the other sub-governor arrangements.

Such a sub-governor arrangement is already hinted at in MARV 4 127, discussed above, where four different portfolio managers appear to be active in Halahhu province, although that text predates our archive by several decades. Similarly, agricultural summary texts frequently decompose provinces into sub-units. A number of texts from Dūr-Katlimmu refer to a center at Duāra partially controlled from the main town (Röllig 2008: 19). Similarly, we find three minor towns associated with the provincial center of Turšan in MARV 3 10, and the town of Rēš-nēbere is apparently linked to Hiššutu province in MARV 2 23. Dūr-Katlimmu was not regularly on the *gināu* roster, a point to which we will return below, but it is striking that both Turšan and Hiššutu were on the *gināu* roster, while their tablet mates were not. Whether there were ever governors appointed for these sub-units remains an open question, but clearly the provinces had fairly well defined sub-units. It does not seem a stretch to think that under the right circumstances it would prove useful to install a governor in sub-units like these, creating a sub-province.

The regional provinces were particularly prone to sub-province arrangements. In MARV 5 5 we find the deliveries made on behalf of Talmuššu province itemized into the three sub-regions of Šimkina[?], Šuhurda, and Šahullu. It is not clear that these cities each had their own governor, but it is a distinct possibility. The best documented example, though, is Arbela province, which was divided into three sub-provinces, Habriūre/Habriūte, Āh-hurre, and Arbela proper. As this particular arrangement was a rather complicated affair and is quite well documented, we will postpone further discussion of it until a dedicated section later in the chapter.

We also find a similar arrangement in the Upper Province, which seems to have been composed of the two sub-provinces Uššukannu and Šadikannu, as alluded to above (Jakob 2005-2006: 325). The Agency vacillated on whether to treat this as one province or two. In earlier times the Upper Province seems to have included another sub-province based on Harbe, since that town had its own governor who was subordinate to an official in Uššukannu (Jakob 2009: 4, 11).

The last example of a sub-province involves the province referred to as “Aššur” in the tables. In MARV 3 28 we find the mayors of “Aššur” and Šaduhu jointly liable for a *gināu* payment. Likewise, MARV 10 83 mentions a single transaction involving fruit and sesame from “Aššur” and Šaduhu. This is likely the same Šaduhu whose provincial governor appears in KAJ 109, though we cannot be certain it still had a governor two generations later when our archive begins. Interestingly, taken at face value this identification would appear to put “Aššur” in the Habur region since Šaduhu province was clearly near Urad-Šerua’s province of Nahur in the Habur headwaters (Harrak 1987: 106). This is not a one-time fluke. As we will see, several other lines of evidence also suggest that “Aššur” province’s principle economic and administrative ties

were with provinces in the western Habur. Sorting out the precise geographic relationship behind these ties is a thorny enterprise which we will take up at the end of the chapter. For the present investigation we will make only the weak assumption that Aššur province controlled some agricultural land in the western Habur, allowing that the core of the province may have been elsewhere.

One final note is in order. As we discussed above, it would not be especially hard to create or dissolve provinces, and one wonders if the sub-provinces were largely ephemeral creations to deal with short term problems. Certainly, the sub-province at Harbe seems to have been dissolved at some point, but we also find a surprising level of continuity in the sub-provinces. In particular, Habriūte owed 620 *qa* of fruit for two years in Ninurta-Apil-Ekur's reign (MARV 3 30). More than a decade into the reign of Tiglath-pileser I we find a certain Habriūre province paying 360 *qa* of fruit for a single year (MARV 5 20). If one assumes Habriūte and Habriūre are variants of the same name, then we find the same sub-province paying roughly comparable amounts of fruit more than half a century apart. Indeed, if one assumes it had made a payment of 100 *qa* before MARV 3 30 was drawn up, then its fruit assessment would be identical. Similarly, the sub-province of Āh-hurre is attested already at the end of Aššur-dān I's reign (Jakob 2003: 112).

Thus, the roster of *gināu*-paying provinces shows a remarkable amount of stability. While the underlying managerial structure could be—and was—altered, the *gināu* obligations did not change, forcing sub-provinces to join together in paying a single obligation. In a sense, then, it is not the provincial structure that is unchanging, but the *gināu* obligations imposed upon it.

1.2.6 Non-paying territories and the geographic scope of the *gināu* system

If the *gināu* obligations were largely fixed, this raises the question of what happened when the state gained or lost significant amounts of territory. One explanation, of course, is that the kingdom simply did not expand or contract in the period covered by our archive.²¹ This is simple, but rather problematic. We find this same roster of provinces—and the same assessment values—in use for at least three quarters of a century. If the roster was intended as an accurate representation of the Assyrian kingdom’s total holdings, this would imply an astonishing level of institutional stability. Not only were the provinces unchanged, but their estimated payment abilities were evidently also unchanged for at least two generations. This is hard to believe given the dramatic shifts in the Assyrian provincial structure seen in other periods of its history. It seems rather simpler to assume that the provincial roster and the particular assessment values remained unchanged because the appropriate authorities never decided to revise them.

But if we do not assume the roster’s consistency reflected an underlying territorial consistency, we must explain how the roster handled territorial variations. On the side of lost territory, the chronic defaulting in Husanānu, Ša-šille, and Šumēla gives the impression that these provinces had drastically decreased in productivity or perhaps been entirely lost for extended periods, but few other provinces defaulted enough that one could say they were entirely lost. Hence, it would seem that the Assyrian state managed to retain control over most of the *gināu* paying provinces for the duration of our archive. Certainly, none of the provinces seems to have been so completely lost that the Agency could not at least entertain the hope that it might soon resume paying its assessments.

²¹ Postgate’s contention that MARV 2 21 was a comprehensive list of the kingdom’s provinces would seem to require this interpretation (2013: 99).

But if the Assyrian kingdom lost little of its core territory, we must wonder how it dealt with newly annexed territory. If new territory was incorporated in the provincial structure, it would seem the resulting governors were not required to pay the *gināu* (Gaspá 2011a: 233). Certainly, we know of a number of governorships that do not appear on the *gināu* roster (see Jakob 2003: 95-99). Some of these may also have been sub-provinces of *gināu*-paying provinces, but it is possible others were not.

The bigger issue, though, is the Assyrian vassal kingdoms centered on Ṭābetu and Dūr-Katlimmu on the Euphrates river system, which do not seem to occur in the roster. As we will see shortly, we can explain their absence using the principle that vassal kingdoms were not part of the Assyrian kingdom proper and so not subject to *gināu* duties (see Maul 2013: 565).

But before we solve this problem, we must show that it exists. Some of the recent literature has tried to eliminate part of the problem by assuming Dūr-Katlimmu was part of the Lower Province, nicely placing that province immediately downstream from the similarly named Upper Province (e.g. Gaspá 2011b). The major problem with this is the Lower Province was almost certainly in the Lower Tigris region, as discussed in greater detail below. Indeed, MARV 8 40 appears to explicitly treat the Lower Province and Dūr-Katlimmu as separate entities, though the restoration of Dūr-Katlimmu in that text is not entirely certain.

Still, there are at least three possible references to Dūr-Katlimmu itself contributing to the *gināu*. One is restored in the badly damaged passage in MARV 8 40 just discussed. If correctly restored, it likely refers to an irregular measure since it is tacked onto the end of the list. The other two references involve Aššur-iddin, the king of Hanigalbat. In BATSH 4 12 he is informed about a royal *qēpu* threatening to confiscate unpaid *gināu* from his house in the capital. In MARV 4 10 the Assyrian king writes directly to him, apparently on a similar subject. The letter's

opening section mentions small quantities of various commodities and includes the phrase *ana gināe* “for the *gināu*,” although the passage is now too damaged to provide a more detailed interpretation (9). These passages do suggest Aššur-iddin was personally liable for a *gināu* payment. But, it is possible he held a governorship in the north, perhaps the Upper Province, in addition to his kingship. Indeed, a few texts from the Agency seem to refer to the Upper Province as ‘the province of Ilī-padda,’ Aššur-iddin’s successor as king of Hanigalbat (see the edition of MARV 3 35).

In any case, BATSH 4 12 predates the earliest texts in our archive by several decades, and even if Dūr-katlimmu had once been on the *gināu* roster, it clearly was no longer on the roster at the accession of Ninurta-apil-Ekur. This is very striking since Dūr-Katlimmu was hardly a new addition to the Assyrian state, but had been a major Assyrian center in the region for some time. In fact, the collateral branch of the Assyrian royal family that took power when Ninurta-apil-Ekur seized the throne had served in that province for several generations (Cancik-Kirschbaum 1999b).

There are two lines of reasoning that can explain why Dūr-Katlimmu did not contribute to the *gināu*. One is ideological, the other, practical. On the ideological side, the Assyrian ruler of Dūr-Katlimmu was styled the “king of Hanigalbat.” It has been generally assumed in the literature that this was a purely honorary title since it was mostly held by a native Assyrian dynasty which also used the title *sukkallu rabiu* “grand vizier” (Jakob 2003: 59-65). Yet, we have good evidence that the nearby vassal kingdom of Tābetu was an administratively separate state (Shibata 2012). While the kingdom of Dūr-Katlimmu was rather better integrated into the Assyrian kingdom, it is not unreasonable to think that it was still understood to be a vassal kingdom ruled by the king of Hanigalbat. In this sense it would not be all that different from the

Hittite vassal kingdoms of Carchemish and Aleppo. The latter two entities, one might point out, were not so far from the kingdom of Hanigalbat, and could well have inspired the Assyrians to adopt a similar type of administrative structure.

Hence, as a nominally independent state, the kingdom of Hanigalbat could be seen as separate from the land of Aššur and so not subject to regular *gināu* obligations. In favor of this idea, in the list of provincial fund balances, MARV 4 127, the current king of Hanigalbat Aššur-iddin receives his own section 46-58. While much of it is badly damaged, all the geographic names that can be made out are not on the *gināu* roster, whereas virtually all those in the previous sections of the tablet are. This suggests that Dūr-Katlimmu and its dependencies formed a coherent administrative unit of provinces, and that none of them contributed to the *gināu*.

Second, on the practical side, Dūr-Katlimmu was likely too far south on the Habur to transport supplies to the capital without considerable expense. Most commodities shipped from the Euphrates river system to the Tigris seem to have been carried overland between the headwaters of the Habur to the Tigris somewhere upstream of Nineveh, where the overland distance between the rivers was shortest (I.2). Hence, Dūr-Katlimmu would be at the extreme end of the transportation network for shipments back to the capital, making shipments uneconomical for all but the most valuable items. In keeping with this, the only shipment made from Dūr-Katlimmu to the capital recorded in the provincial documents consisted of 200 *qa* of various aromatic plants—a small cargo of value-dense goods (BATSH 9 101). In contrast, Dūr-Katlimmu and its dependencies were very close to the border of the Hittite empire, and so it would make sense for the Assyrian state to leave resources in that strategically important area rather than ship them back to the capital at great expense.

2 Assessment amounts and the deep structure of the provinces

The above discussion shows that the *gināu* assessments formed a remarkably stable system that endured with minimal changes for more than half a century. Since we would expect some change in the economic condition of individual provinces over half a century, these assessments cannot have been very closely tied to economic conditions on the ground. Rather, whoever set the assessments had to use some abstracted or idealized system to reckon the amount each province should pay. By looking closely at the assessment amounts we can see traces of what this system must have been.²² If we further combine this with other information about the geography of the Middle Assyrian kingdom, we can arrive at a fairly coherent model of the state's provincial structure, excluding sub-provinces and those regions which were not incorporated in the *gināu* system.

2.1 Establishing Regions

2.1.1 Grain comes only from the Tigris River System

The most prominent organizing principle of the assessments is whether a province pays grain. Only 13 of the 27 attested provinces are ever attested paying grain. At first glance, one might try to explain this by arguing that the state simply did not obtain significant grain revenues from those provinces which did not contribute grain to the *gināu*. However, Hiššutu, a province which never contributed grain, shows up in an agricultural text that records a yield of 151250 *qa* of grain from state-run fields in the province for a single year. Clearly the issue was not a simple lack of grain, since a small grain assessment like the 6030 *qa* paid by Šīme would amount to only a minuscule 4% of state revenue from the Hiššutu area.

²² Some time ago Freydank made a call for using this general approach to extract geographic information from the tables, although his version for this involved only tracking whether or not a province paid a particular commodity, not the exact amount it paid (1997c: 52).

We get more traction if we consider not the agricultural capacity of the provinces, but their location. All nine grain-paying provinces whose location can be securely established are on the Tigris or its tributaries²³, and two more can be located on the Tigris system with reasonable certainty.²⁴ As for the remaining two provinces, Šūdu, and the Lower Province, we have little firm evidence for their locations from outside the archive, and so nothing contradicts locating them on the Tigris as well (Rosa 2010: 333-335).²⁵

In contrast, not a single one of the provinces known to be on the Euphrates is ever attested sending grain to the capital in the texts from the archive, and the practice is quite rare in the Middle Assyrian corpus as a whole.²⁶ Likely the difficulties of overland transport made it prohibitively expensive to move grain between the Tigris and Euphrates river systems with any regularity. Thus, we have our first organizational principles: if a province was not on the Tigris, then it did not pay grain. The converse is not true, since some provinces that were clearly on the Tigris, like Ninua, did not pay grain. Rather, it would seem that some Tigris provinces were either too small to contribute, or had more pressing demands on their grain supply than contributing to the *gināu*.

2.1.2 Regional groupings in the archive

The principle that *gināu* grain only came from provinces on the Tigris river system is hardly the only geographic information embedded in the *gināu* assessment system. To go further,

²³ Arbāil, Halahhu, Idu, Kalhu, Katmuhhu, Kilizu, Libbi-āle, Šīme, Turšan (Rosa 2010).

²⁴ Husanānu, Talmuššu (Rosa 2010: 332, 336)

²⁵ As noted above, the current consensus that the Lower Province was located around Dūr-Katlimmu is based entirely on the idea that the Lower Province should be downstream from the Upper Province, and that a spot must be found somewhere on the *gināu* roster for Dūr-Katlimmu. Additional reasons for locating the province on the Tigris will be discussed below.

²⁶ There are a few references to efforts to ship grain from the easternmost part of the Euphrates river system (see Llop 2013). However, these seem to have been extraordinary measures intended to finance some of Tukulti-Ninurta I's more ambitious plans. There is no evidence that any of this grain was used for the *gināu*.

though, we need some way of pinning down more precisely the location of the various individual provinces. Here we are helped by the fact that, with a few minor exceptions, the *gināu* tables always list the provinces in the same order (Postgate 2013a: 94). Rosa has worked this order out in some detail and cogently argued that the ordering principle was largely geographic (2010). We will largely build on and refine his findings. The order is presented below in the form it takes in MARV 2 21 along with the larger groups in which Rosa divided them.²⁷ Subgroups of provinces whose order is not entirely fixed are put into a single cell.

Province	Group in Rosa (2010)
Arbela	Border Provinces (Group 1)
Kilizu	
Halahhu	
Talmuššu	
Idu	
Katmuhhu	Border Provinces (Group 2)
Šūdu	Border Provinces (Group 3)
Taidu	
Amasakku	
Kulišhinaš	
Aššur	
The Upper Province	
The Lower Province	
Turšan	Border Provinces (Group 4)
Libbi-āle	Inner Territory
Ninua	
Kurda	
Apku	
Addarik	
Karāna	
Šibanibe	
Hiššutu	
Šīme	
Husanānu	
Kalhu	

Figure I.1-5: Regional Groupings of the Middle Assyrian Provinces

²⁷ Rosa breaks the border provinces into four groups curiously numbered 1, 2, 3, and 5. I have emended 5 to 4 in this table on the assumption that the odd numbering was a typographical error.

Ša-šille	
Šumēla	

Figure I.1-5 (cont.): Regional Groupings of the Middle Assyrian Provinces

Now that we have the order established, the question becomes, how do we improve the picture?

The easiest place to start is to look at which subgroups of provinces are treated together in the documents. After all, even if we did not know they used a fixed order for their tables, it would be reasonable to think Agency officials did not group provinces arbitrarily, but followed regional or administrative boundaries.

We find large numbers of suitable subgroups in two places in the archive. First, in most of the full *gināu* tables we find the provinces broken into subgroups by rulings. In the majority of cases, the number of provinces between each pair of rulings varies, so we cannot dismiss them as a purely mechanical process (for instance putting a ruling after ever two lines). Rather, it seems that the provinces were being intentionally grouped together based on some criterion, though this perhaps differed for each tablet or even each group. The various groups formed in this way are summarized in the following table:

Text	Groups of More than One Province				
MARV 5 2	Kilizu Halahhu	Talmuššu Idu	Šūdu Taidu Amasakku Kulišhinaš	Aššur Šadikannu Uššukannu	Ninua Addarik Hiššutu Apku
MARV 5 1	Talmuššu Idu	Amasakku Kulišhinaš	Šadikannu Uššukannu	Karāna Hiššutu	Šīme Kalhu
MARV 6 32	Arbela Kilizu	Halahhu Talmuššu Idu	Šīme Kalhu Šumēla		
MARV 7 31	Arbela Kilizu				

Figure I.1-6: Groupings of Middle Assyrian Provinces Attested in Full *Gināu* Tables

MARV 9 12	Arbela Kilizu	Halahhu Talmuššu Idu Katmuhhu	Šūdu Taidu Amasakku Kulišhinaš Aššur Upper Pr.	Lower Pr. Turšan Libbi-āle Karāna Hiššutu Addarik Kurda Apku	Šīme Kalhu Šumēla
MARV 6 5	Arbela Kilizu	Halahhu Idu	Libbi-āle Ninua	Kurda Apku? Karāna? Addarik? Šibanibe?	Husanānu Kalhu Ša-šille Šumēla
MARV 5 67	Arbela Kilizu	Talmuššu Šūdu Taidu Amasakku Kulišhinaš Aššur Upper Pr.	Turšan Kalhu	Lower Pr. Karāna Hiššutu Šīme	
MARV 6 9+	Arbela Kilizu	Halahhu Talmuššu Idu Katmuhhu	Šūdu Taidu Amasakku Aššur	Turšan Libbi-āle Ninua	Kurda Apku Addarik Karāna Šibanibe Hiššutu
	Šīme Husanānu	Kalhu Ša-šille Šumēla			
MARV 6 82(i)	Arbela Kilizu	Halahhu Talmuššu Idu	Katmuhhu Šūdu	Aššur Lower Pr. Libbi-āle	Kurda Apku Addarik Karāna Šibanibe Hiššutu
MARV 6 82 (ii)	Aššur? Lower Pr. Libbi-āle	Kurda Apku Addarik Karāna Šibanibe Hiššutu	Šīme Husanānu Kalhu	Ša-šille Šumēla	

Figure I.1-6 (cont.): Groupings of Middle Assyrian Provinces Attested in Full *Ginū* Tables

MARV 9 6	Ninua Kurda Apku	Addarik Karāna Šibanibe	Šumēla Ša-šille		
MARV 5 14	Kilizu Halahhu	Talmuššu Idu	Katmuhhu Šūdu	Taidu Amasakku	Kulišhinaš Aššur
	Upper Pr. Lower Pr.	Turšan Ninua	Addarik Hiššutu	Šīme Husanānu	
MARV 2 21	Talmuššū Idu				
MARV 6 16+	Kulišhinaš Aššur ²				
MARV 6 49+	Kurda Addarik	Karāna Apku Hiššutu Šibanibe			
MARV 7 6	Kurda Addarik	Karāna Apku Hiššutu Šibanibe			
MARV 6 1+	Talmuššu Idu				
MARV 5 31	Taidu Amasakku				
MARV 8 35	Šadikannu Uššukannu				

Figure I.1-6 (cont.): Groupings of Middle Assyrian Provinces Attested in Full *Gināu* Tables

Second, we also find a number of small-scale tabular texts, which mention only a small subset of provinces. Again, we have the Agency apparently selecting sub-groups of provinces based on some implicit criterion. These data are summarized in the following table:

Partial Tables	Provinces mentioned on the tablet
MARV 5 3	Talmuššu, Idu
MARV 5 5	Talmuššu, Lower Pr., Šibanibe, Hiššutu, Karāna, Apku
MARV 5 10	Šūdu, taidu, Amasakku, Šadikannu, Uššukannu
MARV 5 64	Taidu, Amasakku, Kulišhinaš, Aššur, Šūdu, Šadikannu, Uššukannu
MARV 6 2	Arbela, Kilizu, Talmuššu, Idu, Halahhu, Husanānu
MARV 6 3	Kilizu, Halahhu, Talmuššu, Idu, Katmuhhu, Šīme
MARV 7 8	Karāna, Šibanibe, Hiššutu, Kurda, Ninua, Apku
MARV 7 44	Arbela, Katmuhhu

Figure I.1-7: Groupings of Middle Assyrian Provinces Attested in Partial *Gināu* Tables

MARV 7 93	Aššur, Kulišhinaš, Šadikannu, Uššukannu, Lower Pr., Addarik, Turšan
MARV 8 40	Arbela, Kilizu, Talmuššu, Idu, Upper Pr., Lower Pr. Turšan, Kalhu, Kurda [?] , Apku [?] , Karāna [?] , Hiššutu [?] , Šime, Ša-šille, Šumēla
MARV 9 80	Arbela, Kilizu, Talmuššu, Halahhu, Katmuhhu, Šūdu, Ninua

Figure I.1-7 (cont.): Groupings of Middle Assyrian Provinces Attested in Partial *Gināu* Tables

Using these data, for each pair of provinces we can compute the number of times the two are grouped together on a table, and the number of times they are grouped together on a small-scale tablet. We can use these figures to generate larger groups in the following way. For a given value of n, we break the roster of provinces into the smallest groups possible where each member has fewer than n connections with any province outside the group. Using this analysis we arrive at the following two tables:

<i>Gināu</i> table groupings	n = 11	10	9	8	7	6	5	4	3	2	1
Arbāil	a	a	a	a	a	a	a	a	a	a	a
Kilizu	a	a	a	a	a	a	a	a	a	a	a
Halahhu					b	b	a	a	a	a	a
Talmussu	b	b	b	b	b	b	a	a	a	a	a
Idu	b	b	b	b	b	b	a	a	a	a	a
Katmuhhu					b	b	a	a	a	a	a
Šūdu							c	c	a	a	a
Taidu						c	c	c	a	a	a
Amasakku						c	c	c	a	a	a
Kulišhinaš							c	c	a	a	a
Aššur							c	c	a	a	a
Pāhutu Elītu									a	a	a
Pāhutu Šaplītu									d	a	a
Turšan								d	d	a	a
Libbi-āle								d	d	a	a
Ninua								d	d	a	a
Kurda			e	e	e	e	e	e	e	a	a
Apku			e	e	e	e	e	e	e	a	a
Addarik		f	f	f	f	e	e	e	e	a	a

Figure I.1-8: Strength of Provincial Groupings in Full *Gināu* Tables

Karāna	f	f	f	f	e	e	e	e	a	a
Šibanibe	f	f	f	f	e	e	e	e	a	a
Hiššutu	f	f	f	f	e	e	e	e	a	a
Šīme					g	g	g	g	g	a
Husanānu					g	g	g	g	g	a
Kalhu						g	g	g	g	a
Ša-šilli					h	g	g	g	g	a
Šumēla					h	g	g	g	g	a

Figure I.1-8 (cont.): Strength of Provincial Groupings in Full *Gināu* Tables

Small-scale text groupings	n = 4	3	2	
Arbāil		a	a	a
Kilizu	a	a	a	a
Halahhu	a	a	a	a
Talmussu	a	a	a	a
Idu	a	a	a	a
Katmuhhu	a	a	a	a
Šūdu			a	a
Taidu			a	a
Amasakku			a	a
Kulišhinaš			a	a
Aššūr			a	a
Pāhutu Elītu			a	a
Pāhutu Šaplītu			a	a
Turšan			a	a
Libbi-āle			a	a
Ninua			a	a
Kurda			a	a
Apku		b	a	a
Addarik		b	a	a
Karāna		b	a	a
Šibanibe		b	a	a
Hiššutu		b	a	a
Šīme		b	a	a
Husanānu				a
Kalhu				a
Ša-šilli				a
Šumēla				a

Figure I.1-9: Strength of Provincial Groupings in Other Texts

A quick perusal of the tables reveals that the small-scale texts are rather less helpful in this analysis than the *gināu* tables. The small-scale text corpus is so small that no two provinces are associated more than four times. Hence, we shall content ourselves to note that this data follows the same broad trends as the much clearer data from the full *gināu* tables.

Looking at the data from the full *gināu* tables, we find the following groupings. First, two pairs of provinces are extremely closely tied, Arbela and Kilizu, and Idu and Talmuššu.

Reducing the value of n the provinces coalesce into larger groups. At n = 4 we find nearly all the provinces formed into the following groups, most of which hold at higher n values:

A	Arbāil, Kilizu, Halahhu, Talmuššu, Idu, Katmuhhu
B	Šūdu, Taidu, Amasakku, Kulišhinaš, Aššur
C	Turšan, Libbi-āle, Ninua
D	Kurda, Apku, Addarik, Karāna, Šibanibe, Hiššutu
E	Šīme, Husanānu, Kalhu, Ša-šilli, Šumēla
Ungrouped	Pāhutu Elītu, Pāhutu Šaplītu

Figure I.1-10: Provisional Provincial Groupings

These groupings fit nicely with what we know of the regional geography of the period. It will be profitable here to look at each group in turn.

2.1.2.1 The northeastern provinces

As already noted by Rosa, the provinces of Group A (Arbāil, Kilizu, Halahhu, Talmuššu, Idu, and Katmuhhu) are all along the north-eastern border of the Middle Assyrian kingdom (Rosa 2010: 332-333). As will become apparent later in the chapter, these provinces were by far the most substantial contributors to the *gināu* (Gaspá 2011a: 234). The provinces seem to be listed generally from south to north (See Rosa 2010: 342). Van Soldt noted that two bricks mentioning a certain Abbi-zēri (^m*ab-bi-NUMUN*) *šar māt Ide* “king of the land of Idu” were found at the Lower Zab site of Satu Qala (Van Soldt 2008). He tentatively identified Satu Qala as

the seat of this kingdom of Idu, which would slightly buck the trend, although he noted that the king's main residence could have been elsewhere. There is, in fact, good reason to locate the center of the Middle Assyrian Idu province a bit further north, where the general geographic progression in the tables would seem to place it. This hardly contradicts Van Soldt's evidence, though whether the kingdom of Idu was centered a bit further south than the Assyrian province of that name or perhaps Satu Qala was located in the far south of the kingdom must remain an open question for the time being.

The major reason to place Idu further north is that it was closely tied to and almost certainly adjacent to Talmuššu province. We find Idu and Talmuššu province linked extremely closely in our table-ruling data. They are, in fact, the two most closely linked provinces in the archive. More compelling still, we twice find a single shipment carrying supplies from both provinces (MARV 5 35, MARV 6 29). This would hardly make sense if Idu was centered on the Lower Zab while Talmuššu was on the Tigris north of Nineveh. Going from one province to the other by boat would involve passing through the capital and then going upstream for a considerable distance. Note that this location would mean that Idu should be rather closely associated with Halahhu and Katmuhhu, which would border the Talmuššu-Idu area to the east and west, and only distantly associated with Arbela and Kilizu which were much further south. This is exactly what we find in the data from the *gināu* tables groupings.

2.1.2.2 The *birtus*

With the provinces of group B (Šūdu, Taidu, Amasakku, Kulišhinaš, and Aššur) the grouping is even clearer. As noted by Rosa, the small-scale *gināu* receipt text MARV 5 64 refers to Taidu, Amasakku, Kulišhinaš, Aššur, Šūdu, Šadikannu, and Aššukannu as the *birātu* “*birtu*-fortresses” (Rosa 2010: 330-332). Šadikannu and Aššukannu are the component provinces of the

Upper Province, as discussed above. It is not a stretch to add it to group B since in the *gināu* table groupings it merged with group B at $n = 3$ (although both also merge with group A as well). As Rosa notes, Taidu, Amasakku, Kulišhinaš, Šadikannu, and Aššukannu all seem to have been in the Habur Triangle (Rosa 2010: 333-334). As we will discuss in more detail below, Aššur province also seems to have controlled land in this region. For Šūdu province information from outside the archive is generally unhelpful (Rosa 2010: 333-334), and indeed, there has been considerable debate on whether it is simply another name for Šuduhu/Šaduhu province (e.g. Harrak 1987: 106; Bloch 2012c: 113-114). However, since it pays grain, it must have been on the Tigris system and hence is unlikely to be the same Šuduhu that interacted regularly with Nahur province in the far northwest in the Urad-Šerua archive.

Here two cryptic passages in the inscriptions of Adad-nērārī I are helpful. While describing his conquest of the northern portion of the Mitanni kingdom, that king boasts that his conquests extended from Šūdu (spelled URU.*su-du*) to Harrān (RIMA.76.1: 13, RIMA 76.3: 40). The first thing this tells us is that our conjecture was correct and Šūdu and Šuduhu must be different locations, for a city written Šuduhu shows up in a different list of conquered Mitannian cities in both texts. But this phrase also gives us an idea of Šūdu's particular location. Harrān's location is well known, and it is clearly the westernmost of the major cities mentioned in the inscription. Since Šūdu is on the Tigris river system, it would have to be east of all the located Mitannian cities mentioned in the inscription. It seems reasonable then, to understand the phrase "from Šūdu to Harrān" as poetic way of referring to the full breadth of the Mitannian kingdom by listing its easternmost and westernmost cities.

With Šūdu roughly located, we can return to the issue of the order of the other provinces in group B. I would suggest that the order within this group is not random, but rather, that it

continues the arc of Group A. Šūdu, the first province of Group B in the canonical order, would then be the easternmost *birtu*-fortress. Bordering Katmuhhu it would still be in the headwaters of the Tigris, which would explain how it continued to pay grain. The last two provinces listed in the group, Šadikannu and Uššukannu, are clearly the westernmost, and if one accepts the identification of Uššukannu with Tell Feḫerīye, then the two would be listed from east to west as well (Rosa 2010: 334).

This leaves us with the problem of placing the four provinces Taidu, Amasakku, Kulišhinaš, and Aššur. We know something about all of these places. Taidu has been plausibly identified with the site of Hamidiya (Szuchman 2009: 75-76). Amasakku’s exact location is not known, but MARV 5 39 refers to a boatman carrying supplies for both Amasakku and Taidu, suggesting the two were close together. Shibata has recently shown Kulišhinaš is to be located somewhere near the lower vertex of the Habur triangle (forthcoming).

This is a somewhat jumbled picture, but we can make reasonable sense of the data by assuming some of the provinces were “stacked” with one north of the other, and that the provinces were listed in groups east to west and north to south within the group. Moreover, as shown below in the discussion of Aššur, there is reason to think that Aššur’s Habur possessions were adjacent to Taidu on the east and slightly more distant from Amasakku, which lay somewhere to the south of Taidu. Putting this together, we arrive at the following schematic arrangement:

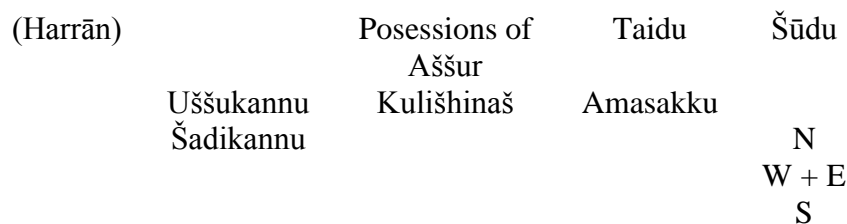


Figure I.1-11: Schematic Arrangement of the *Birtu* Provinces

One suspects it is possible to identify more of these provincial centers and their satellites with known archaeological sites, but that would take us much too far afield. The historical geography of the Middle Assyrian kingdom has already been the subject of two recent monographs (Tenu 2009 and Szuchman 2007) and quite a number of articles. A great deal of labor and likely further excavations will be needed to bring this blurry picture into clear focus. For now we must content ourselves with the rough “administrative geography” used by the Agency.

However, there is still one further aspect of administrative geography that merits note. The term *birtu* can simply mean “fort” in Akkadian, and we find this meaning in BATSH 4 8: 26’, where the term is apparently used to describe temporary forts build as part of a siege. Yet, the term *birtu* is also used to describe more permanent structures. Strikingly, every time the term is used to describe a permanent structure in the published Middle Assyrian corpus, the fortress in question lies in former Mitannian territory. More specifically, the *birtus* all lie in the northern headwaters of the Habur and adjacent regions to the east and west. In MARV 2 22 we read that an event took place *ina ūmi šarru šābē Muškaye ina Quba ša birāte ša Hanigalbat idūku-ni* “on the day when the king slew the Mušku soldiers in Quba among the fortresses of the Hanigalbat” (1-2). Similarly a letter writer notes of some apparently mutinous troops *ana birāte urrudūne bēli ana birāte ša māt Harrāne u birāte ša šiddi šadē Kašiare lišpur liklūšunu* “they are going down to the *birtus*; let my lord send to the fortresses of the land of Harrān and the fortresses of the side of Mt. Kašiyari that they might detain them” (BATSH 4 7: r.8’’-11’’). Another damaged passage refers to men who *ittalkūne kī birātu barāe* “have come in order to inspect the citadels”²⁸

²⁸ The spelling of the line is curious: *ki-i bi-ra-tu <a-na> ba-ra-e*. A preposition has been dropped and *birtu* is in the wrong case. The line is almost certainly an error. Perhaps the most reasonable explanation is that scribe originally intended to have *kī* govern a subordinate clause of which *birātu* would be the subject. midway into writing this he decided on a construction using an infinitive instead, but did not bother to fix the earlier part of the line.

(BATSH 4 8:3'') two lines after a reference to men bringing grain to the land of Hanigalbat.²⁹

Putting this evidence together, it would seem that for the Assyrian administration, “the *birtus*” referred to a particular collection of forts in the northwest of the kingdom, largely along the Habur headwaters, exactly the way the Agency used the term in MARV 5 64.

2.1.2.3 The lower Tigris provinces

When we turn to group C (Turšan, Libbi-āle, and Ninua), things become somewhat messier. Reducing *n* to 3 in the *gināu* table groupings groups the Lower Province with this group. The other three provinces in the group, Turšan, Libbi-āle, and Ninua, form a line going north along the lower Tigris system, and so it would make sense to put the Lower Province at the bottom of this line at the border between the Assyrian kingdom and the Babylonian kingdom to the south.

This raises problems since it has been widely assumed in the literature that the Lower Province was adjacent to the Upper Province and included the environs of Dūr-Katlimmu (e.g. Postgate 2013a). As we mentioned above, there is little solid evidence for this conjecture. It relies on two assumptions. One is that all territory in the Assyrian kingdom was part of a province which contributed to the *gināu*. Following this reasoning, since Dūr-Katlimmu was part of the kingdom, it must be placed in one of the *gināu*-paying provinces. But, as we saw above, the *gināu* roster did not systematically incorporate all land controlled by the kingdom at any given time, but rather was composed of a fixed subset of the kingdom’s territory. Thus, that the kingdom controlled Dūr-Katlimmu is hardly sufficient to prove that Dūr-Katlimmu contributed to the *gināu*. What is more, we have reason to think that not only Dūr-Katlimmu but the entire “Kingdom of Hanigalbat” did not contribute to the *gināu*.

²⁹ MARV 10 28 also refers to *birtus*, but is too damaged to discern where the forts in question were located.

The other assumption is that the Lower Province was “lower” because it was downstream from the Upper Province. It does seem quite likely that the one province was “upper” in the same sense that the other was “lower,” but as we will see shortly, this need not be understood in the sense of upstream and downstream.

The strongest argument against the Lower Province being on the Habur is that it paid a sizeable grain assessment. As noted above, no province that can be securely placed on the Euphrates river system paid any grain at all. What is more the province has a small fruit assessment of only 90 *qa*. The only other provinces to have fruit assessments less than 100 *qa* are Šūdu, Libbi-āle, Ninua, and Kalhu, all of which were located on the Tigris river system. In contrast, the smallest amount contributed by a Euphrates-system province is 270 *qa*, with many provinces paying amounts two or three times larger than that. This makes good sense. Shipping a value-dense commodity like fruit between the river basins is rather more cost-effective than shipping a bulk commodity like grain.

It remains, though, to explain in what sense the Lower Province was “lower.” Happily its location on the Babylonian frontier offers an attractive explanation for why its name was so similar to the Upper Province. Both “provinces” were where the Assyrian kingdom bordered the land of another great king, with the “upper” one at the border nearest the Upper Sea, and the “lower” one nearest the Lower Sea, that is, the Persian Gulf.

The Lower Province is therefore a logical starting place for the second part of the list. Having traced the first arc all the way the northern marches of the realm, the list begins its second half by jumping to the southern marches and going up the Tigris. Indeed, if the Lower Province included extensive territory on the right bank of the Tigris, one might conceptualize the progression not so much as a jump as a continuation of the half circle traced by the previous

entries, skipping over those areas which did not contribute to the *gināu* like Dūr-Katlimmu and Țabetu.

The Lower Province, Turšan, and Libbi-āle are all major contributors to the *gināu*, though they cannot quite match the enormous payments of the largest northeastern provinces. One suspects that this subgroup ends at Nineveh because that town seems to have been where most cargoes travelling from the Euphrates system first reached the Tigris (I.2).

2.1.2.4 *Halzus*

Group D (Kurda, Apku, Addarik, Karāna, Šibanibe, and Hiššutu) is very well defined in the *gināu*-table grouping. While we have no texts as helpful as MARV 5 64, the partial table MARV 7 8 seems to have dealt exclusively with provinces from Group D (the names of at least five of these provinces are preserved) and Ninua, suggesting that they were conceived of as a group. We get slightly more information from MARV 4 119. That text comes from outside the archive and predates the bulk of our texts (it comes from Tukulti-Ninurta I's reign), but it neatly refers to five of these provinces (Kurda, Addarik, Karāna, Apku, and Šibanibe) as *halzu* districts along with Šīme and a site called Hušuāni. It does not seem a great stretch to think that all six provinces in group D had that status around the time of Tukulti-Ninurta I. For convenience we will refer to them as the “*halzus*,” though it is possible they were no longer referred to by this term when the archive was composed. In fact, as Llop has noted, the term *halzu* is not attested in Middle Assyrian after the reign of Tukulti-Ninurta I (Llop 2012a: 97), though it must be pointed out that only Hiššutu province is actually attested having a *bēl pāhete* “governor” in later Middle Assyrian texts.

That these provinces belonged to a special administrative class distinct from other provinces would also nicely explain why the two large summaries of provincial grain balances

did not include them (MARV 4 61 + MARV 4 134, MARV 4 127). Unlike the provinces in those lists, which include provinces from the four other groups of *gināu* provinces and the provinces under the king of Hanigalbat, the six provinces in the present group evidently were not expected to contribute grain to larger state enterprises. In keeping with this idea, none of these provinces is attested contributing grain to the *gināu*, even though some (e.g. Apku, Hiššutu, and Šibanibe) appear to have been on the Tigris river system, and at least Hiššutu seems to have had substantial state-managed agricultural lands in its vicinity (MARV 2 23).³⁰

Geographically, it would seem these provinces occupied a band across the middle of the Assyrian kingdom, with the first four in the wide space between the Tigris and Euphrates river systems (Rosa 2010). There is no especially obvious ordering for these provinces, and it is not surprising that the Agency was not very consistent in how it listed them. Even so, by far the most common order seems to have been Kurda, Apku, Addarik, Karāna, Šibanibe, Hiššutu.³¹

Using the locations given in Rosa (2010), the most reasonable way to account for this order is to divide the provinces into three latitudinal groups, each taken from west to east as in the following table:

Kurda	Apku
Addarik	Karāna
Šibanibe	Hiššutu

Figure I.1-12: Basic Arrangement of the *Halzu* Provinces

The top four provinces in this table are all known to have been west of the Tigris, but Šibanibe is to the east of the Tigris, and if this rule is correct Hiššutu would be as well. Here the information

³⁰ MARV 1 48 + MARV 3 70 seems to refer to a quantity of at least 212600 *qa* grain in a transaction involving a *halzu* province, though the context is too damaged to say much about it.

³¹ All six provinces occur in this order in six texts (MARV 2 21, MARV 5 4, MARV 6 9 + MARV 8 24, MARV 27, MARV 9 1, MARV 9 6). A composite of the two damaged passages involving the provinces in MARV 6 82 also yields this order. Four additional texts list a subset of the six provinces in an order compatible with that order (MARV 5 1, MARV 5 14, MARV 5 67, MARV 6 62). In contrast, only four texts clearly violate the order (MARV 5 2, MARV 6 46, MARV 6 49, MARV 9 12).

the Middle Assyrian kingdom in an ad hoc manner. The whole affair would not be so different from how the relatively short-lived Carolingian empire left parts of Europe littered with counties (its main unit of low-level territorial organization), many of which were only partially integrated into later administrative schemes (Dunbabin 1985: 6-8).

These *halzus* were evidently fairly small administrative units since just the completely readable parts of MARV 7 13 mention at least 14 of them, and the complete text evidently mentioned many more.³² Only one of these, Hiššutu, formed the basis of a later Assyrian province and most of the *halzus* named in MARV 7 13 are evidently small and obscure towns. The great number of these units would nicely explain why the title *rab halzānī* “supervisor of the (several) *halzus*” was necessary, while a title like *bēl pāhāte* “governor of (several) provinces” is not attested. For such small units to easily interface with the Assyrian state they needed to be formed into larger groups. Fittingly, in MARV 4 39, we find a group of 445 men described as *ša halzānī ša . . .* “of the *halzus* of (break)” (8). One *halzu* was hardly sufficient to supply so large a group of men.

The more important of these *halzus* could serve as a focus for territorial administration. Thus, in MARV 8 76 we find a reference to the *ālānī ša halze Kurda* “towns of the *halzu* Kurda” (r.6’). Similarly, in MARV 4 119 a string of 7 *halzus* and one other geographic unit seem to roughly outline the southern limits of Katmuhhu province. It is probably no accident that Kurda and the *halzus* in MARV 4 119 are the ones that turned into provinces in the later Middle Assyrian kingdom. At least some of the bigger *halzus* seem to have had garrisons, which it seems were quite prone to desertion (Jakob 2009: 79, MARV 4 119).³³

³² We also know Bēt Bēlti and Bēt Zamāni were *halzus* based on the titles of their governors (see Jakob 2003: 141).

³³ Donbaz 2004 A 877 also refers to *hurādu* soldiers active near a *halzu*, though perhaps not part of garrison.

2.1.2.5 Central provinces

The final group (Šīme, Husanānu, Kalhu, Ša-šilli, and Šumēla) seems to have been in the center of the kingdom. Kalhu's location is not in doubt, but the others are difficult to locate exactly. Šimi, and perhaps Husanānu, if it is the same as Hašuāni, were considered *halzus* in Tukulti-Ninurta I's time (MARV 4 119), but unlike the previous group, they were not excluded from the provincial grain summaries written in that king's reign. All of these provinces seem to have been on the Tigris system near the center of the kingdom (Rosa 2010: 336). Based on the ordering of place names in MARV 4 119 discussed above, it is likely that Šīme was east of Husanānu and that the two provinces were roughly between Apku in the west and Šibanibe in the east.

In keeping with their location on the Tigris river system, Kalhu, Šīme, and Husanānu all pay grain. The remaining two provinces, Ša-šille and Šumēla have the smallest assessments in the archive. The latter seems to have been in the far southeast since it shows up in documents from Nuzi (Rosa 2010: 336), and the closely associated Ša-šille was presumably somewhere near it.

We summarize all the above results in the following table:

The Northeast Provinces	Arbāil, Kilizu, Halahhu, Talmuššu, Idu, Katmuhhu
The <i>birtu</i> -fortresses (Northwest)	Šūdu, Taidu, Amasakku, Kulišhinaš, Aššur, Upper Province
The Lower Tigris Provinces	Lower Province, Turšan, Libbi-āle, Ninua
The <i>halzus</i> (Middle)	Kurda, Apku, Addarik, Karāna, Šibanibe, Hiššutu
The Central Provinces	Šīme, Husanānu, Kalhu, Ša-šilli, Šumēla

Figure I.1-14 Regional Subgroups of the Middle Assyrian Provinces

2.2 Assessment numerology

2.2.1 The size of the honey, sesame, and fruit assessments

With the major groups of provinces clearly delineated, we can now turn to the actual values of the assessments. The previous discussion showed that the assessment values were largely fixed. This raises the question of why exactly the assessments were fixed at their particular attested values. As we will see, the numbers are far from random, and while complete certainty is beyond what our evidence allows, it is possible to fit the attested values into a fairly coherent system.

Here it will prove easiest to start with honey and sesame. As a quick glance through the table of assessments shows, there is a strong tendency for provinces to pay or owe honey and sesame in a ratio of 1:10. Gaspa had already noted this tendency in several isolated cases (2011a: 237-238). With the assessment figures worked out above, we can see that this ratio holds for nearly all of the provincial honey and sesame assessments. The only provinces whose assessments do not adhere to it are Arbela, with a ratio of 1: 9.4 and Halahhu with a ratio of 1:8.6, but one can understand these divergences as ad hoc reductions to match provincial resources. If one adds 100 *qa* to Arbela's assessment and 330 *qa* to Halahhu's, both would pay at exactly the 1:10 ratio.³⁴ Since the honey and sesame assessment almost always occur in a fixed ratio, it is reasonable to posit that one set of figures was derived from the other. This means that only one set of figures requires further explanation.

Regardless of which set we choose, our explanation must cope with a second peculiarity in the assessment numbers, the surprising frequency of multiples of eleven (see Postgate 2013a:

³⁴ Here it is suggestive to note that in MARV 7 27, the earliest *gināu* table in the archive, Halahhu pays 1980 *qa* of sesame, 440 *qa* more than the figure that seems to have been its assessment in the later tables.

106). With the exceptions of Arbela, Halahhu, the Upper Province, Libbi-āle and Ninua, every province has a honey assessment divisible by 11. Of those outliers, all but Arbela's assessment seem to have been divisible by 10. Naturally, this raises the question why should these elevens keep appearing everywhere? Eleven is not a particularly round number in Assyrian counting, and outside the Agency's texts groups of eleven are quite rare in Middle Assyrian contexts. Yet, Middle Assyrian scribes were fond of making volume measurements with different base *sūtu*s, and this allows a nice explanation for the elevens. Within each of these measurement systems there were ten of the *sūtu*s in an *emār* and each *sūtu* contained 10 *qa*. However, if one converted a *sūtu* in one system into a comparable volume in a second system, it could be smaller or larger than 10 *qa* in the new system. Hence we find expressions like "the *sūtu* of 12 *qa*" (MARV 8 3) and the "the *sūtu* of 13 *qa*" (MARV 6 88; see the appendix "Metrology"). It is attractive to explain the multiples of eleven in the assessments as measurements made in a system whose base *sūtu* was a bit larger than the Agency standard and so worked out to be 11 *qa* in the latter system.³⁵ Taking this together, we can posit that the honey and sesame assessments were reckoned as round numbers in two different measuring systems. One, employed in a few special provinces, used the Agency standard *sūtu* resulting in figures that were divisible by 10 *qa* in that system. The other used a slightly larger *sūtu* and was employed in the majority of provinces.

But we can go a bit further. If we order the provinces by the size of their honey-sesame assessments, a clear pattern emerges, as can be seen in the following table:

³⁵ Postgate has offered the interesting suggestion that the number 11 in the assessments is linked to a notion of a calendar year with eleven months of work and one month of rest (2013: 106). We cannot rule out that this notion is the ultimate source of the curious 11-*qa sūtu*. All the same, it seems doubtful the Agency was making something like a 1 *qa* per *iku* per month calculation at the time the assessments were computed. On the production end, the supplies were produced on a yearly, not monthly cycle. On the other end there is little evidence that assessments were intentionally shipped in anything resembling monthly installments (I.2).

Province	Honey	Sesame	Region
Arbāil	188	1770	Northeastern, large
Katmuhhu	187	1870	Northeastern, large
Halahhu	180	1540	Northeastern, large
Pāhutu Elītu	180	1800	<i>birtu</i> , large
Turšan	110	1100	Lower Tigris, large
Libbi ale	100	1000	Lower Tigris, large
Taidu	88	880	<i>birtu</i> , large
Aššur	88	880	<i>birtu</i> , large
Pahūtu šaplītu	88	880	Lower Tigris, large
Husananu	88	880	Lower Tigris, large
Kilizu	77	770	Northeastern, small
Talmuššu	77	770	Northeastern, small
Idu	77	770	Northeastern, small
Šūdu	66	660	<i>birtu</i> , small
Amasakku	66	660	<i>birtu</i> , small
Kurda	66	660	<i>halzu</i>
Apku	66	660	<i>halzu</i>
Addarik	66	660	<i>halzu</i>
Karānā	66	660	<i>halzu</i>
Šibanibe	66	660	<i>halzu</i>
Hiššutu	66	660	<i>halzu</i>
Šīme	44	440	Central Provinces
Kalhu	44	440	Central Provinces
Kulišhinaš	33	330	<i>birtu</i> , small
Ninua	20	200	Central Provinces
Ša-šilli	11	110	Lower Tigris, small
Šumēla	0	0	Lower Tigris, small

Figure I.1-15: Honey and Sesame Assessment Regional Patterns

The largest half dozen provinces—most of which use the less common 10-*qa sūtu*—are ideosyncratic, but beyond them the assessment values for provinces of similar resources in the same region tend to be identical, with the most extreme example being the six *halzus*, all of which have assessments of exactly 660 *qa* of sesame. It is not a leap to think that each of these subgroups was assigned its assessment at one time. Indeed, one might posit that the Agency worked out the assessments of the half dozen or so irregular provinces based on some external

constraints and then systematically filled in the remainder by assigning fixed assessments to the remaining provinces using the 11-*qa sūtu*. Admittedly, the exact mechanics of this reconstruction are not entirely certain, but the general patterns in the data are quite clear.

When it comes to the fruit numbers, matters are rather more curious. As noted by Gaspa, there is a general relationship between the amount of fruit and sesame paid, though nothing resembling the precise 10:1 ratio for honey (2011a: 238-239).³⁶ His suggestion that a special ratio was chosen for each province does explain the distribution, but there is rather more order than that (2011a: 239).³⁷ What is more striking is that all eight provinces that pay 66 *qa* of honey pay an amount of fruit ending with the digits 70, but with different hundreds digits. In a similar pattern the three provinces that pay 77 *qa* of honey have fruit assessments ending in the digits 80, and three of the four that pay 88 *qa*, 90. We must therefore wonder why these provinces' fruit assessments should be similar in their 10-*qa* digits but differ in larger ones.

Here it is useful to observe that Ša-šille province paid 110 *qa* of fruit, and Šumēla 150 *qa*. Let us assume that fruit values could be reckoned in even units of 110 *qa* (i.e. using the “11-*qa*” *sūtu*) and of 100 *qa* (using a 10-*qa sūtu*). Then we could posit that every province's fruit assessment consisted of two components. One would be reckoned as an even multiple of 110 *qa* and the other as a multiple of 100-*qa*. Adding or subtracting multiples of 100-*qa* would not affect the 10-*qa* digit of the assessment. Hence, we can hypothesize that small groups of provinces were each assigned a base value reckoned as a multiple of 110 *qa*, and that this was then adjusted up or down by multiples of 100 *qa* for each province. Now, Šumēla's exact assessment, 150 *qa*,

³⁶ His figures have the ratio of fruit to sesame ranging between 1.03 and 1.97, but his calculations were on a small sample and used actual payment figures rather than the theoretical assessments. Using the assessment values one finds that fruit assessments range between 0 and 1.15 times a province's sesame assessment (excluding Šumēla for which the ratio is undefined). The median ratio is 0.58.

³⁷ Interpreted literally, Gaspa's model suffers from having as many degrees of freedom as variables to predict. One could choose any arbitrary string of 28 numbers and use the same method to show it was related to the provinces' sesame quotas, with each province having its own special ratio.

was not a multiple of 100, but it was a multiple of 50 *qa*. We can account for this exact value if we generalize a bit and assume that the component measured with the 10-*qa sūtu* was worked out in units of 50-*qa* rather than 100-*qa*. Using this approach we can generate the following table:

Province	Fruit	11 <i>qa sūtus</i>	110 <i>qa</i> component	Shift to reach attested assessment	Region
Halahhu	2260	160	1760	500	Northeastern, large
Katmuhhu	2140	140	1650	600	Northeastern, large
Arbāil	1160	60	660	500	Northeastern, large
Upper Province	910	60	660	250	<i>birtu</i> , large
Aššur	890	40	440	450	<i>birtu</i> , large
Taidu	590	40	440	150	<i>birtu</i> , large
Lower Province	90	40	440	-350	Lower Tigris, large
Libbi ale	90	40	440	-350	Lower Tigris, large
Turšan	440	40	440	0	Lower Tigris, large
Kilizu	580	30	330	250	Northeastern, small
Talmuššu	580	30	330	250	Northeastern, small
Idu	580	30	330	250	Northeastern, small
Amasakku	670	20	220	450	<i>birtu</i> , small
Kulišhinaš	320	20	220	100	<i>birtu</i> , small
Šūdu	70	20	220	-150	<i>birtu</i> , small
Kurda	470	20	220	250	<i>halzu</i>
Apku	270	20	220	50	<i>halzu</i>
Addarik	270	20	220	50	<i>halzu</i>
Karānā	270	20	220	50	<i>halzu</i>
Šibanibe	270	20	220	50	<i>halzu</i>
Hiššutu	270	20	220	50	<i>halzu</i>
Husananu	360	10	110	250	Central Provinces
Šīme	310	10	110	200	Central Provinces
Ša-šilli and Šumēla	110	10	110	150	Central Provinces
Kalhu	60	10	110	-50	Central Provinces
Ninua	0	0	0	0	Lower Tigris, small

Figure I.1-16: Fruit Assessment Regional Patterns

In the sesame and honey assessments we found that provinces of similar size in the same region tended to have identical assessments values. Here we find a bit more variation in the final

numbers, but the 110-*qa* components of the fruit assessments show much the same pattern. Again it is attractive to think that those provinces not otherwise constrained were assigned the 110-*qa* component of their assessments as part of a single coherent effort to fill in the system. In contrast to honey and sesame, though, the fruit values were subsequently adjusted to better reflect the circumstances of the provinces to which they were assigned.

2.2.2 The size of grain assessments

With the other commodities accounted for we can turn to the thorny issue of grain. As mentioned above, it is clear that only provinces on the Tigris river system contributed barley to the *gināu*. But, when we turn to the exact amounts paid, this simplicity breaks down. While there is some general correlation between the size of barley payments and the other assessments paid by a province, this does little to explain how the particular figures were arrived at.

One approach is to posit that the barley assessments were somehow based on the agricultural capacity of the region (Gaspa 2011b: 213). MARV 9 18 would seem to fit with this general idea since it refers to 4400 *qa* of grain allotted for the *gināu* from the produce of 400 *iku* of cultivated fields. This looks suspiciously like the *gināu* payment was calculated as one 11-*qa sūtu* for each cultivated *iku* of land. Unfortunately, matters seem not to have been quite that simple, since none of the barley assessment figures is divisible by 11.

But all hope of understanding the figures is not lost. We have a curious string of figures 12560 *qa*, 13560 *qa*, 14560 *qa*, and 17560 *qa*, and another curious string of 7710 *qa*, 9710 *qa*, and 11710 *qa*. These strings are not very likely to arise by multiplying field areas by some *gināu* per unit area figure. Rather, they look suspiciously like the Agency was using a formula of the form $(n_1 \times c) + (n_2 \times 1000)$, i.e. computing a base number and then shifting it up or down by multiples of 1000, which would not change the final three digits. This, of course, is quite similar

to the procedure that we postulated to be behind the fruit assessments. One might note further that the entries for Katmuhhu and Arbela are exactly 1500 *qa* apart. Thus we might generalize, as we did for fruit, and allow shifts of 500 *qa*, yielding the equation $(n_1 \times c) + (n_2 \times 500)$.

Using this we can break down the provinces into several groups by ordering them from smallest to largest total assessment and then grouping together those with the same modulo 500 value of their grain assessments.

Mod 500 value	Province	Total Assessment	Region
30	Šīme	6030 <i>qa</i>	Central Provinces
350	Kalhu	6350 <i>qa</i>	Central Provinces
210	Šūdu	7710 <i>qa</i>	<i>Birtu</i>
	Kilizu	9710 <i>qa</i>	Northeastern, small
	Husananu	11710 <i>qa</i>	Central Provinces
60	Libbi āle	12560 <i>qa</i>	Lower Tigris, large
	Talmuššu	13560 <i>qa</i>	Northeastern, small
	Idu	13560 <i>qa</i>	Northeastern, small
	The Lower Province	14560 <i>qa</i>	Lower Tigris, large
	Turšan	17560 <i>qa</i>	Lower Tigris, large
360	Katmuhhu	27860 <i>qa</i>	Northeastern, large
30	Halahhu	28030 <i>qa</i>	Northeastern, large
	Arbāil	29530 <i>qa</i>	Northeastern, large

Figure I.1-17: Mod 50 Grain Assessments

The question, then, is what to choose for our constant *c*. Since the fruit assessments used 110 *qa* as their base constant, it is an attractive candidate here. A possible decomposition using this value is presented in the following table:

Province	Total assessment	110 <i>qa</i> units	110 <i>qa</i> component	500 <i>qa</i> shift	500 <i>qa</i> component
Šīme	6030 <i>qa</i>	23	2530 <i>qa</i>	7	3500 <i>qa</i>
Kalhu	6350 <i>qa</i>	35	3850 <i>qa</i>	5	2500 <i>qa</i>
Šūdu	7710 <i>qa</i>	61	6710 <i>qa</i>	2	1000 <i>qa</i>
Kilizu	9710 <i>qa</i>	61	6710 <i>qa</i>	6	3000 <i>qa</i>

Figure I.1-18: Grain Assessment Regional Patterns

Husananu	11710 <i>qa</i>	61	6710 <i>qa</i>	10	5000 <i>qa</i>
Libbi āle	12560 <i>qa</i>	96	10560 <i>qa</i>	4	2000 <i>qa</i>
Talmuššu	13560 <i>qa</i>	96	10560 <i>qa</i>	6	3000 <i>qa</i>
Idu	13560 <i>qa</i>	96	10560 <i>qa</i>	6	3000 <i>qa</i>
The Lower Province	14560 <i>qa</i>	96	10560 <i>qa</i>	8	4000 <i>qa</i>
Turšan	17560 <i>qa</i>	96	10560 <i>qa</i>	14	7000 <i>qa</i>
Katmuhhu	27860 <i>qa</i>	176	19360 <i>qa</i>	17	8500 <i>qa</i>
Halahhu	28030 <i>qa</i>	223	24530 <i>qa</i>	7	3500 <i>qa</i>
Arbāil	29530 <i>qa</i>	223	24530 <i>qa</i>	10	5000 <i>qa</i>

Figure I.1-18 (cont.): Grain Assessment Regional Patterns

There is some flexibility in how to decompose the three largest values, but the smaller values are the only workable decompositions. For the moment, then, we will ignore these largest values. At first glance the number of 110 *qa* units seems rather random, but a pattern emerges. All are nearly divisible by 12. This suggests that the Agency was working with base units of around $12 \times 110 \text{ qa} = 1320 \text{ qa}$. The slight deviation fits nicely with rounding error.

Here, we must turn to an observation of Freydanck. In working with three agricultural yield texts (MARV 2 23, MARV 3 4, MARV 3 10), he noted that the Assyrian state tended to use fields of 100, 200, and 300 *iku* in size (1994a: 29). This suggests that the Assyrian state liked to work with fields in 100 *iku* blocks (Postgate 2013a: 37). It therefore makes sense to see if we can derive the 1320 *qa* base unit figure from some grouping of 100 *iku* blocks.

Let us return to the 11 *qa* per cultivated *iku* rate we found in MARV 9 18. We can understand the 1320 *qa* figure as 120 *iku* of cultivated land assessed at a rate of 11 *qa* per *iku*. Now, the 400 *iku* cultivated in MARV 9 18 are part of a larger field with a total area of about 1010 *iku*, implying that 39.6% of the land was cultivated at one time. Of course 39.6% is a rather ugly ratio, and not the sort of thing that occurs often in intentional plans. It is more attractive to see this as the state aiming to use exactly 40% of total area (404 *iku*), but rounding the number down to the nearest 10 *iku*. Using this 40% ratio, the 120 *iku* of our base assessment unit would

require exactly 300 *iku* of total agricultural land. We could then understand the smaller provinces to have between 2 and 8 of these field blocks. This information is presented in the following table:

Province	Number of Blocks (300 <i>iku</i>)	Calculated Total Area	Calculated 40% of Area	Attested 40 % of Area (110- <i>qa</i> shift × 10)
Šīme	2	600 <i>iku</i>	240 <i>iku</i>	230 <i>iku</i>
Kalhu	3	900 <i>iku</i>	360 <i>iku</i>	350 <i>iku</i>
Šūdu	5	1500 <i>iku</i>	600 <i>iku</i>	610 <i>iku</i>
Kilizu				
Husananu				
Libbi āle	8	2400 <i>iku</i>	960 <i>iku</i>	960 <i>iku</i>
Talmuššu				
Idu				
The Lower Province				
Turšan				

Figure I.1-19: Hypothetical Field Sizes for Medium and Small Provinces

The fit is not perfect, but it is never off by more than 10 *iku*. Thus, there is only a little bit of noise that our reconstruction does not account for. The errors are not consistently above or below, which rules out that Agency was using a figure slightly different from 40%.

This reconstruction does not work quite so well for the three largest provinces, but it can be readily adapted. We need only assume that these provinces had their fields reckoned in 100 *iku* blocks, and they too fit, as demonstrated in following table:

Province	Number of Blocks (100 <i>iku</i>)	Calculated Total Area	Calculated 40% of Area	Attested 40% of Area (110- <i>qa</i> shift × 10)
Katmuhhu	44	4400 <i>iku</i>	1760 <i>iku</i>	1760 <i>iku</i>
Halahhu Arbela	56	5600 <i>ku</i>	2240 <i>iku</i>	2230 <i>iku</i>

Figure I.1-20: Hypothetical Field Sizes for Large Provinces

The Katmuhhu figure is exactly correct, and those for Halahhu and Arbela are only 10 *iku* off, a difference of less than 1%. It is not a great stretch to think that land management worked a bit differently in the kingdom's three biggest producing provinces.

Thus, a close analysis of the figures has given us field areas. The question that arises next is exactly what field is being measured? The simplest explanation is that this represents all state land in the area, but this is unworkable. MARV 10 61 appears to be something like a list of total state agricultural land in all of the provinces. The leftmost digits of most of the numbers are broken, but we can work out that Husanānu had at least 2320 *iku* of land, considerably higher than the 1500 *iku* figure worked out from the assessments. Thus, it would seem that the *gināu* was assessed on only a portion of the field area. Here the texts from Kār-Tukulti-Ninurta are again quite helpful. MARV 4 173 is an enormous table describing how arable land in various parts of that region was divided up. The footer appears to qualify all the land as [š*a a-na e*]-*ra*-š*e bat-qu-ú*-[*ni*] “which was detached (from the general pool of land) for cultivation” (23).³⁸

The Kār-Tukulti-Ninurta evidence can tell us more. MARV 9 18 records income from only 1010 *iku* of land. Adding the preserved row totals at the end indicates that the text dealt with at least 5000 *iku* of land. The 400 *iku* from the town which paid *gināu* were clearly only a fraction of the agricultural land. Indeed, it is attractive to see the 400 *iku* cultivated there as just the last two rows of the table, which sum to 400 *iku* and include the *nisqu ša šarre* “choice (land) of the king” and a special plot of land administered by the king's favorite Ušur-Namkur-šarre that was distinct from that official's normal possessions described in two of the preceding rows.

Tying all these threads together, I would suggest the following tentative model. Within each province there was a certain amount of state-owned land on which *gināu* obligations were

³⁸ BATSH 18 23 uses *batqu* lit. “broken off” to describe assigning servile workers to various plowing agencies.

imposed. We know that in Neo-Assyrian times there was dedicated *gināu* land (SAA 6 188, SAA 12 19, SAA 12 24, SAA 12 48), so the basic link between *gināu* payments and particular plots of land is hardly surprising, though it is likely Middle Assyrian practice differed considerably in its details. Perhaps this land was related to the *nisqu* fields mentioned above, perhaps not. Whatever its precise name, this domain included land dedicated to growing grain, sesame, and fruit. It was understood that each *iku* of this land under cultivation would provide one 11-*qa sūtu* of whatever was produced on it for the royal *gināu*. For the administration's convenience, areas in this domain were measured in 10 *iku* units. Since one does not really "grow" honey (or processed fruit syrup) in fields in a way analogous to grain, sesame, or fruit, the amount of honey owed was not based on an area, but rather computed by dividing the sesame assessment by 10. This neatly explains why the sesame and honey numbers are virtually always in a fixed ratio of 10:1.

All of this was well in theory, and the act of taking one *sūtu* from each *iku* of the king's personal land seems pregnant with symbolic meaning, a point to which we will return in the conclusions. The problem the Agency faced was that there was not enough of the appropriate type of land to adequately supply the *gināu* through this "tithe." In the case of honey and sesame the amount of land was sufficient to generate the needed supplies, but the Agency only generated about three quarters of the necessary grain in this way. To make up the remainder, 51000 *qa* of additional grain obligations were assigned to the provinces. With fruit an additional 3850 *qa* was needed, and also some of the provinces evidently did not have appropriate capacity to produce their theoretical fruit yields. To compensate, the state reduced the assessments for some provinces and assigned an additional 5650 *qa* of obligations among the strongest provinces.

Two caveats must be stated about this argument. First, our knowledge of state land tenure in most of the core provinces is too meager to offer anything approaching conclusive proof of

this reconstruction. We will tentatively adopt it because it neatly and parsimoniously accounts for the bewildering array of attested assessment values. The second caveat is that just because the assessments were worked out with a formula of one *sūtu* per *iku* does not mean that the *Gināu* Agency actually received one *sūtu* taken from each individual *iku* of land. As we will discuss below, in practice the *gināu* assessment seems to have been met from a general fund of state assets managed by the provincial governor.

2.2.3 Total income

The assessments do not only tell us about the provincial structure of the Assyrian kingdom and its possible system of land tenure. *Gināu* payments seem to have been the Agency's primary—and likely only—source of regular income, and so they provide a financial upper bound for its activities. There are two ways to get at this. One is to work from the figures for total income given in the Agency's own summary documents. These data are summarized in the following table:

Text	Year	Status	Grain	Honey	Sesame	Fruit
MARV 2 21	Pa'uzu	received	130000+x	1121+x	10057	x
MARV 5 14	Aššur-iddin	received	140890	712	6600+x	x
MARV 5 67	Liptānu	received	78080	1055	7120	5040
MARV 9 12	Salmānu-zēra-iqīša	received	160850	1599	22400	8630
MARV 9 6	unclear	received	140000+x	833	x+4340	5100+x
MARV 6 5	Salmānu-zēra-iqīša	arrears	x	622	8780	4300+x
MARV 6 9 + MARV 8 24	Liptānu	arrears	120650	1196 [?]	14340	8130
MARV 9 1	Pa'uzu	arrears	x	x	12200 [?] +x	8733
MARV 5 4	Aššur-x	arrears	76040	1182.5	8950	7910
MARV 9 2	(two years)	complicated	230030	2780	20100+x	x
MARV 9 9	Sikildu	complicated	140000+x	858	7805	4796
MARV 6 16 +	unclear	47910	1029.5	x+8000	x+8000	5640
Reculeau and Feller 2012 50	received	received	x+49000+x	1034 [?]	x	x

Figure I.1-21: Received or Unpaid Income Figures Available in the Archive

Pedersén used these totals to obtain a heuristic estimate of 100000 *qa* of grain, 1000 *qa* of honey, 10000 *qa* of sesame, 5000 *qa* fruit as the *gināu* income of a normal year (1985: 46). This estimate has become standard in subsequent discussions of the archive, and, as we will see, it is of the right order of magnitude. However, the figure can be improved considerably.

There are two major problems that introduce error into this figure. First, the surviving summary documents tended to be composed in bad years and so reflect only partial payment. Simply averaging these low totals will considerably underestimate the Agency's theoretical income. The second is that some summary tablets deal with unpaid arrears or supplemental late payments rather than income, a fact which has been inexplicably overlooked in most analyses of the tablets' numerical data.³⁹ Now, for any given year, averaging the paid and unpaid amounts will yield exactly half the theoretical assessments as the "average payment."⁴⁰ Hence, regardless of whether the Agency had good or bad years, the act of including both arrears tables and received tables in the estimates is likely to drag the average toward one half of the theoretical income. In fact, as we will see shortly, Pedersén's estimate is almost exactly one half of the true figure.

However, we can use the presence of paid and arrears tablets to obtain a nearly exact estimate. There are three years for which we have both tablets, and on the tablets from the years Salmānu-zēra-īqīša and Liptānu the column totals are mostly preserved. By adding the totals for a commodity in the two tablets together we should arrive at the total amount of that commodity

³⁹ The most striking example of this is Gaspa (2011b), who despite devoting more than 50 pages to the *gināu* tables and their numerical values, makes no distinction between tables that refer to normally received commodities and those that list unpaid arrears or supplemental late payments.

⁴⁰ The argument runs as follows. Assume that each of a matching pair of tables has p provinces. Further, let g_p be the amount paid by province p in the year table was composed, and let A_p be the assessment of province p . Then the average total amount paid of a given commodity in those tables will be $\frac{\sum_p g_p + \sum_p (A_p - g_p)}{2} = \frac{\sum_p (A_p - g_p + g_p)}{2} = \frac{\sum_p (A_p)}{2}$, that is, exactly half the sum of the provinces' assessments in that commodity.

that would be paid in an ideal year. MARV 7 1 gives us a figure of 20820 *qa* of sesame as the theoretical income of one year (only 13450 *qa* of that was actually received; it was not a good year for the Agency). Finally, we can simply add up the individual assessments calculated earlier. Doing this we arrive at the following figures:

Source	Grain	Honey	Sesame	Fruit
Salmānu-zēra-iqīša pair	x	2221 <i>qa</i>	22380 <i>qa</i>	13100 <i>qa</i>
Liptānu pair	198740 <i>qa</i>	2251 <i>qa</i>	21520 <i>qa</i>	13230 <i>qa</i>
Bēl-libūr ⁷			20820 <i>qa</i>	
Total of provincial assessments	198730 <i>qa</i>	2208 <i>qa</i>	21710 <i>qa</i>	13180 <i>qa</i>

Figure I.1-22: Viable Total Income Figures

As is readily apparent, the figures are not always exact matches, but are all clearly quite close. Several factors can account for the discrepancies. One is the great frequency of mathematical errors in the tables. Rare is the preserved column that actually adds to its stated total; inevitably the scribe missed a few wedges or transposed digits while adding (see Gaspa 2011b: 179 and III.3). I have corrected the totals to match the sum of the column entries if those are well enough preserved to do this, but many columns are too damaged to do so. It is also possible the occasional provincial entry was entered incorrectly. We have at least one clear example of this: Amasakku appears as simultaneously owing and having paid its entire fruit assessment of 670 *qa* in the Pa'uzu pair (MARV 2 21, MARV 9 1). A final complication is that the year Salmānu-zēra-iqīša involved some rather unorthodox accounting measures with external funds being temporarily credited to the accounts of several provinces (III.1). Arrears attested for that year in the pair of full tables do not fit especially well with the figures for arrears given in other tablets, and we thus have reason to doubt that the tables perfectly fit with each other either. Indeed, that year saw the composition of two different tables of received *gināu* payments MARV 6 32 and MARV 9 12. It is possible that the arrears values were calculated from figures in the severely

damaged MARV 6 32, and not MARV 9 12 whose preserved totals were used in our calculations.

Despite these discrepancies, it is clear that the various ways used to estimate total income yield very similar values. In fact, the grain values differ by only 10 *qa*, a variation of less than 0.01%. Given the sources of error mentioned above, the best chance we have for getting at the Agency's theoretical total income is probably taking the sum of the various theoretical assessments for individual provinces rather than summing up the preserved totals. After all, we have considerably more data to compute the provincial assessments than the three sets of column totals available to directly estimate the Agency's total income. For simplicity we will use the figure calculated from the theoretical assessment values as the total income of the Agency without comment in the rest of the work, but any of the other figures would work just as well for the arguments used in the following chapters.

Taking a step back, an impressive amount of order appears to have gone into creating the assessment values that at first glance appeared essentially random. As in so many administrative activities, there is much more order than first meets the eye:

*Knowing them to be fond of games, I asked
why they did not arrange themselves
according to the constellations, but they said*

Look.⁴¹

3 Meeting the assessments

In the previous sections we worked out figures for the *gināu* assessments owed annually by each of the 27 *gināu* paying provinces. Here it will be useful to reflect for a moment on what exactly those figures mean. At some point before the start of the archive a system was set up

⁴¹ Richardson (2004: 9).

where each of 27 provinces was made responsible for paying a fixed amount of supplies each year. There is also circumstantial evidence that these figures were linked to state land holdings in each province at the time the system was created. It might seem from all this that we have answered how the *Gināu* Agency was funded, but we do not.

To use the image of the chapter's epigraph, we have in these assessment values a tidy row of stones. And we have learned quite a bit about the Assyrian state by studying how exactly those stones were arranged. But the flow of goods is not an intrinsically static action, like a group of stones. Rather it is a continual process, like the growing of flowers year after year. It remains for us to explain how the Assyrian state ensured supplies were actually delivered in accord with those assessments. Put another way, we have seen how the flower beds are laid out. Now we must consider how the lilies grow.

3.1 Liability for payment

3.1.1 Personal liability of the governor

It is simple enough to speak of provinces owing assessments, but in the strictest sense it is nonsense. A province of itself has no agency or even material existence. Provinces are mental constructs people use to guide and categorize their actions. In many circumstances it can be convenient to ascribe an emergent agency to such entities, but it does not erase the fact that the actions of individual people lie behind it. If the *gināu* assessment was to be paid for a given province, actual people would have to obtain the supplies and arrange for them to be transferred to the Agency. Now, as we have already seen, the *Gināu* was very much a *pull* system. That is to say, decisions about what supplies should be sent were made primarily at the receiving end of the

system. What is more, the big decisions about which supplies would be pulled in from the provinces had already been made and were, so to speak, set in stone.

The problem facing the *Gināu* Agency was how to annually pull in the amount to which it was entitled. Ideally this would be in the hands of some indefinite group of people in the provinces and the supplies would simply show up in the capital at the appropriate time. On the occasions that such smooth operations prevailed, the Agency did not need to trouble itself with which particular individuals actually owed the supplies. When the money keeps rolling in one doesn't keep books.

But, when the system failed to provide the full amount of supplies, the Agency had to find particular individuals or groups it could take action against. That is, particular individuals had to be liable for missed payments. One intuitive way of doing this would be to make the provincial governor personally liable for the payments. This is hardly unique to the Assyrians. The early U.S. federal government used a similar system to collect revenues from its postmasters (White 1965: 180). As we will see, the provincial governor did indeed bear ultimate responsibility for making sure his province's assessments were met (Freydank 1997c: 50; Maul 2013: 565; Postgate 2013a: 94).

Of course, since the Agency was not given to dwelling on abstract administrative principles in its tablets, the point is never made explicitly in the archive. Indeed, the most explicit evidence for this principle comes from outside the Agency's archive. In MARV 4 115 we find that payment of the *gināu* is the responsibility of the *šakin māte* of *Kār-Tukultī-Ninurta*, that is, the local provincial governor. Similarly, in BATSH 4 12 state officials threaten to take action against Aššur-iddin, the "king of Hanigalbat" and chief official of Dūr-Katlimmu over unpaid *gināu* from his region (likely the assessments due from the Upper Province). The Sîn-ašarēd who

makes arrangements for *gināū* payments in Jakob 2009 29 may also be a governor, although his title is not clear.

When we turn to the Agency's own archive, the evidence is a bit coyer, but it is quite consistent with this principle. While other provincial officials and boatmen can at times be liable for payments, the person ultimately liable for full payment of a province's *gināu* assessment was almost invariably its governor.⁴²

We can see this most clearly by looking at how debts were assigned to people who were not in the capital. The texts describing debts do not explicitly state who was present when they were drafted, but they are often sealed, and it is likely that an official was present when his seal was used.⁴³ One cannot rule out that some tablets recording liability were composed and sealed in the provinces and then sent to the capital. However, while we have ample documentation of governors and other officials visiting the capital, we have minimal evidence for documents per se being transferred from the provinces. Moreover, for a period the Agency took to drawing up such formal debt documents with provincial officials IGI *Kusarikku* "before the deity Kusarikku."⁴⁴ While this could in principle refer to some abstract notion of an omnipresent deity or a travelling emblem, it seems simpler to assume it refers to a particular shrine in the capital, especially since offerings were made to the deity in the capital with *gināu* funds (see MARV 6 35 + MARV 7 26). In sum, it is reasonable to assume any given document which involves the *gināu* Agency was composed in the capital unless we have clear evidence to the contrary, and that the officials who sealed it were also present.

⁴² This idea was already suggested by Gaspa in passing (2011a: 240). However, he greatly underestimated the involvement of some of the governors in the delivery process.

⁴³ We should add a small caveat. As we learn from the archive of Bābu-aha-iddina, an official could send his seal to subordinates and authorize them to use it (see Postgate 2013: 228-231). Even so, the scenario requires that the seal owner had trusted agents in the capital to whom he could send his seal.

⁴⁴ MARV 3 20, MARV 3 30, MARV 3 31, MARV 3 32, MARV 3 38, MARV 3 50, MARV 3 51, MARV 5 41, MARV 7 76, MARV 7 89, MARV 7 92, MARV 8 60.

It is possible that the Agency chose to impose liability for missed shipments on easy targets, such as officials who happened to be visiting the capital. As we will discuss below, this does seem to have happened with some frequency. However, if a convenient person was not on hand the Agency would have to obligate someone *in absentia* if it wanted to collect *gināu* arrears. When it did so, that person was always a provincial governor.

Of the officials who are attested paying *gināu* assessments, only governors are attested settling accounts (*nikkassē šabātu*) with the Agency (MARV 3 36, MARV 6 22, MARV 6 86).⁴⁵ That means they could run up debts without being on hand. Strikingly, in all three texts the governors involved still owed supplies to the Agency after the accounts were settled. In MARV 6 22 and MARV 6 86 the amounts owed amounted to more than 10000 *qa* of grain.

If the default of a province was severe enough, other state officials might step in and offer payments from their own funds, but the Agency referred to these supplemental payments as being in place of the debt of a named governor. Hence, we find the *šakin māte* giving large amounts of honey and grain *kīmū pāhāte ša Ibašši-ilī* “in place of the provinces of Ibašši-ilī” (MARV 6 21: 22’). Ibašši-ilī is known elsewhere as the governor of Kilizu (Jakob 2003: 115), though the use of the plural suggests he ended up running more than one province (see the edition of MARV 6 2).⁴⁶ A similar situation likely lies behind two texts from the *maddattu* crisis where we learn about grain used *kīmū gināe ša Salmānu-ašarēd* “in place of the *gināu* of Salmānu-ašarēd” and *kīmū gināe ša Šūzub²-Adad* “in place of the *gināu* of Šūzub²-Adad” (MARV 1 49, MARV 7 4). Neither man’s title is known, but given the immense sums involved (over 17000 *qa* for Salmānu-ašarēd), it seems reasonable to assume they were provincial

⁴⁵ MARV 6 86 also includes a *qēpu*, apparently acting as *locum tenens* of the governorship of Arbela. See the discussion below on the Arbela arrangement.

⁴⁶ As discussed in the edition of that text, the “provinces” in question are most likely Arbela, Kilizu, Talmuššu, and Idu.

governors like Ibašši-ilī. Taken together, this evidence suggests that if a *gināu* payment came up short and no one could be found to deal with it in the capital, the debt could be ascribed to the governor, making him personally liable for payment. Even if another official stepped in to pay his debt, it was not the province's but rather the governor's debt that he was paying.⁴⁷

Governors could also draw up one-time formal debt tablets when they—or at least their seals—were in the capital. The practice is relatively rare. Only a half dozen such tablets can be found in the published texts of the archive.⁴⁸ The unusual loan summary text MARV 7 98 refers to perhaps a half dozen more such texts composed in connection with the *maddattu* crisis, most of which seem to be lost. These are hardly the large numbers we would expect to find if these tablets were drawn up every time a province went into arrears, which for many provinces was a nearly annual occurrence. Likely the parties involved all found it more convenient to keep a running tab and periodically settle accounts than to compose an endless stream of debt notes.

3.1.2 Other provincial liabilities

As we alluded to above, other provincial officials who happened to be in the capital could find themselves saddled with the obligation to pay *gināu* arrears. This is attested at least twice with the *haziānu* “mayor.” In MARV 3 28 the mayors of Aššur and Šaduhu are made jointly liable for a sum of 120 *qa* of sesame and a damaged amount of honey. As the document is sealed, it would seem they were in the capital when the debt was imposed. Likewise, in MARV 3 55 we find the mayor of Nabula obligated to pay commodities which are *rēhtu gināišu ša ina muhhišu iššaknu-ni* “the remainder of his *gināu* which was imposed on him” (12'-15'). Again, the text bears the mayor's seal, indicating he was present. Moreover, the phrase *ina muhhišu*

⁴⁷ Although we have no clear evidence for it, it is reasonable to think that the obligation was not technically eliminated when a third party paid but rather transferred to that party.

⁴⁸ These documents are discussed in more detail in III.3.

šakānu seems to refer to a debt transfer rather than pre-existing obligations which would be expressed *ša (ina) muhhi* PN. Thus, it seems that some of the debt from the province with which Nabula was associated had been transferred to the mayor of Nabula.⁴⁹ The mayor had paid some of this debt, and was given a month to come up with the remainder. The fact the text records a debt of figs rather than generic fruit suggests that the mayor had some concrete plans about where he would obtain the remaining fruit.

It is striking that the obligations incurred by the mayors are not very large in comparison to what a province might be obligated to pay. Indeed, it seems that the size of the obligation was based on an official's ability to pay. In MARV 3 44 we find an individual of unclear profession obligated to pay 450 *qa* of grain, which is *ša libbi 3100³ qa u'e ša Šīme ša ina muhhišu irthu-ni* "from the 3100 *qa* of grain of Šīme which remained for it to pay" (10-13). Here the Agency has clearly chosen to impose only a portion of the province's obligation on a particular person. It is not a stretch to assume something similar lies behind the small debts owed by the mayors.

There is one final consideration. It is not clear whether the Agency had the power to impose payment obligations on any minor provincial official who happened to be in the capital, or if a governor had authorized some of his provincial officials to deal with his outstanding debts. In favor of the latter idea we find a *haziānu* taking a small loan from the Agency at the request of his father, who happens to also be his provincial governor. For the moment we lack the evidence to decide the matter.

⁴⁹ Based on geographic information in the inscriptions of Adad-nērārī I this was probably Amasakku province, or less likely Aššur province. This is discussed more in the Excursus on the locations of Aššur province at the end of the chapter.

3.1.3 The liabilities of boatmen

Given we find boatmen assigned *iškārus* of grain to deliver in our archive (MARV 9 95), one might wonder if they too could be held liable for *gināu* arrears. The answer seems to be “no.” Boatmen could end up in debt to the Agency, but these debts can generally be linked to some failure in their shipping duties.⁵⁰

This is most straightforward in MARV 3 27, where we find a boatman obligated to replace 500 *qa* of grain which had gotten wet in transport and was apparently ruined. More generally, boatmen could be held liable for incomplete or under-volume shipments. In MARV 3 38 a shipment was discovered to contain only 80 percent of its nominal capacity, and the boatman was obligated to bring the missing amount on his next return voyage. In the same vein, in MARV 5 39 the boatman Mār-šilliya brings two large shipments and an obscure passage at the end records that he owes the Agency 65 *qa* of sesame, apparently to replace ruined sesame. In MARV 3 14 a boatman bringing grain from Katmuhhu still has 400 *qa* of grain left to bring. He is given forty days to bring the grain before it will start to accrue interest. Finally, in MARV 1 25 a shipment came in under volume and the missing grain was provided by two officials from outside the Agency, a scribe and an official without title who was likely the boatman. In all of these texts the boatman is either clearly negligent or only liable for an amount that is small in comparison to what he is shipping. All this fits with boatmen incurring liability only in the shipping process. They had to ensure what they shipped was at its full nominal volume, that it

⁵⁰ That boatmen were responsible for damaged or lost shipments was already suggested by Faist (2006: 152). She cites only MARV 2 20 as evidence for this (Faist 2006: 152). Admittedly that text does not explicitly refer to damaged or lost, grain but only “arrears.” Even so, her intuition finds clear support in other texts. Maul has also hinted at this distinction between the liability of governors and of boatmen in his remarks on debt texts from the archive (2013: 566-567).

was not damaged in transit, and that it was delivered in a timely manner once it came into their custody. Obtaining the commodities to ship, however, was not their responsibility.

3.2 Source of payment

3.2.1 From the provinces

3.2.1.1 Supplies can come from the provinces

If the governor was ultimately liable for meeting the *gināu* assessments of his province, we must then ask, where did he get the supplies to do so? Here we must first deal with one unpleasant possibility. As noted by Postgate, it is conceivable that some or all the commodities used for the *gināu* were obtained by governors in the environs of the capital (2013a: 103-104). We might posit some sort of model where each governor managed a field near the capital of sufficient size to supply his province's *gināu* contribution. Since many governors seem to have maintained a household in the capital, the administrative burden of doing this would not be insurmountable.

On this point the Agency's own texts are not very informative, since it was more concerned with the amount paid and the mechanics of shipping than where the supplies originally came from. The texts do at least tell us, though, that boatmen were regularly involved in delivering supplies to the Agency (I.2). Thus, it would seem that many of the fields generating *gināu* were not so close to the capital that it made sense to bring in their produce overland.

Happily, recent excavations have turned up a great number of texts from the Assyrian provinces, and several of these shed light on the matter. MARV 9 18 explicitly refers to *gināu* grain for Kār-tukulti-Ninurta's assessment coming from fields in that city's environs.

Admittedly, Kār-Tukulti-Ninurta was quite close to the capital, and perhaps even part of Libbi-

āle province in later times, but it is clear evidence that the supplies were being produced in their alleged province of origin and at least a few kilometers from the capital.

Jacob 2009 29 is clearer. There we find an official discussing his *gināu* payments with a subordinate at Harbe. What exactly the subordinate was to do about the *gināu* is lost, but it is clear the *gināu* preparations were of concern to the subordinate. It is hard to escape the conclusion that it was relevant because the supplies were coming from Harbe or nearby. That is, a *gināu* payment was indeed being shipped from a province on the western fringe of the kingdom.

This second passage is perhaps the only explicit evidence that a *gināu* payment was genuinely being transported from the distant provinces, but we have no reason to think this was not a regular practice. Certainly foodstuffs could be transported considerable distances within the kingdom. Jakob 2009 83 refers to a shipment of 500 *qa* of sesame sent to Nineveh, apparently from Harbe. BATSH 9 101 refers to various herbs in storage at Dūr-Katlimmu which are being disbursed *ana tākulte ša Libbi-āle* “for the food supply of Libbi-āle” (15-16).⁵¹ Similarly, KAJ 92 refers to the cattle of a provincial governor on the Euphrates which had been given *ana tākulte ša Ninua* “for the food supply of Nineveh” (4-5). Combining this information with the considerable attention given to shipping and boatmen in the Agency’s own archive (see I.2), it seems simplest to assume that most of the supplies for the *gināu* were really shipped from the provinces they are associated with.

3.2.1.2 The general fund

But to say that the governors obtained their supplies from their provinces still does not fully explain where the supplies came from. Assyrian provinces were large places and it is

⁵¹ The meaning of the nebulous term *tākultu* is discussed in II.2.

conceivable their finances were so complex that one cannot easily speak of the supplies coming from a single undifferentiated “province.” Happily, what evidence we have on Assyrian provincial finance fits a simple model with one fund per province or sub-province from which all provincial expenses were to be met. That is to say, we can meaningfully speak of a particular province’s fund of supplies. But that is to anticipate our results.

A priori, one might assume that the revenue from certain parcels of land was earmarked for the *gināu*. Indeed, in the Neo-Assyrian period we hear of revenues from particular plots of land being earmarked for the *gināu* (SAA 12 19, SAA 12 71). Webber and Wildavsky have argued that this sort of “earmarking” of a particular revenue stream to meet a particular expense was a common practice in poorly developed administrative systems (1986: 29). Rather than having to collect the appropriate funds and centrally allocate them to various purposes, particular funds can be directly collected by the branch of the government that will use them.

Yet, we do not find any references to lands devoted exclusively to paying the *gināu* nor do we get any hints there was a special *gināu* fund under a governor’s control. Rather, the texts describing *gināu* payments from the provincial perspective treat the *gināu* as only one of several obligations to be made from a multi-purpose fund. This is perhaps the clearest in MARV 9 18, which, after recording agricultural revenue received from land in Kār-Tukulti-Ninurta province, notes the expenses met from this grain. The pertinent passage is quoted below⁵²:

<i>ina libbe</i>	
11000 <i>qa</i>	<i>bēlē kurummate</i>
4400 <i>qa</i>	<i>ana gināe</i>
160 <i>qa</i>	. . .
1000 <i>qa</i>	<i>Melihumba</i>
446 <i>qa</i>	. . .
780 <i>qa</i>	<i>kurummat sisê</i>

⁵² My interpretation of the passage is adapted from Postgate 2013: 42.

146 *qa* *buqlu*
tēlīt ebūre ša līme Erība-Marduk

Therefrom:

11000 *qa* those possessing (the rights to) rations⁵³
4400 *qa* for the *gināu*
160 *qa* . . .
1000 *qa* Melihumba (PN)
446 *qa* . . .
780 *qa* horse rations
146 *qa* malt.

(All this is) harvest income of the year Erība-Marduk.
(MARV 9 18: 23'-27')

It is clear that the *gināu* is only one of a number of expenses being met with these funds.

Similarly, in MARV 4 115 we find an obligation to provide grain for the *gināu* for Kār-Tukulti-Ninurta as one of *naphar 14 riksānu ša ina līme Adad-uma''i Abatte u līme Etel-pī-Aššur ana Kār-Tukulti-Ninurta raksū-ni* “a total of 14 edicts, which were made for Kār-tukulti-Ninurta in the years Adad-uma''i, Abattu, and Etel-pī-Aššur” (3'-5'). The text of the edict dealing with the *gināu* is badly damaged but does not seem to mention any particular source for the payments.

Rather, it would seem, as with MARV 9 18, that the *gināu* payment was just one of a number of obligations that needed to be met from a general provincial fund.

The two provincial letters dealing with the *gināu* are less explicit, but give the same general impression. In Jakob 2009 29, the sender instructs his subordinate to reduce the stock of sesame due to matters related to the current harvest, and then notes without transition that *emdātu ana gināe ta''urā* “the *emittus* are ready for the *gināu*” (9-11). While this could be an entirely new order of business, it seems more straightforward to see it as a continuation of the

⁵³ Note that these expenditures add to 18002 *qa*, while the reported yield for the harvest is only 16020 *qa*. Most likely the agency in question was running a 2000 *qa* deficit, though it is possible “those possessing (the rights to) rations” is blanket term and that the entries after it enumerate some of the more salient expenditures of that type. One should note, though, that this approach leaves 3998 *qa* of the 11000 *qa* total unaccounted for.

previous matter. That is, this part of the letter deals with a variety of deposits and withdrawals from a single general sesame fund. Certainly, the letter indicates that the same people who handled the reduction in sesame reserves also handled the *gināu* payments.

In BATSH 4 12 an informant in the capital warns his lord that officials in the capital are preparing to seize his assets there to make good his delinquent *gināu* payments. Several other sections of the letter deal with other matters requiring the addressee to immediately send funds, with no clear indication that these are to be met from different revenue sources.⁵⁴ Just as in the previous case, the same individual handles both *gināu* and non-*gināu* related expenses, in a manner consistent with there being no specially earmarked revenue source for the *gināu*.

So there is no evidence for dedicated *gināu* land. But suppose there was still some sort of tie between *gināu* payments and particular pieces of land. When we reconstructed the *gināu* assessments, we found traces of a reckoning of 11 *qa* of produce per cultivated *iku* on a subset of land. Perhaps this was not simply a one-time rule of thumb, and the *gināu* assessment allocated for each cultivated *iku* was actually paid from the produce of that particular *iku*. Indeed, one might even posit that the first *sūtu* collected from each *iku* was the one destined for the *gināu*. It is certainly a poetic notion richly laden with symbolism, and there is indeed reason to think this sort of thinking ideologically underpins the whole *gināu* assessment system. We will return to this point in the conclusions. However, there is little evidence there was ever much of a correspondence between particular pieces of land and the *gināu* payments.

⁵⁴ Bloch suggests that the sender was hoping for Aššur-iddin to send an order that would stop the *qēpu* Da''ānī-bēl-Ekur from seizing the property, rather than actually sending the supplies (2010a: 43). While we cannot entirely exclude this, it seems unlikely. First, the upshot of several other matters in the letter is that Aššur-iddin needs to send supplies, so it would make sense that the message of this section was the same. The second issue is that while Aššur-iddin was quite important in the Assyrian administration in Syria, it seems a stretch to think he had the ability to issue orders to high officials in the central government in the capital on internal matters. One cannot rule out that he was acting as some kind of regent, as Bloch suggests, but it seems safer to assume the letter deals not with state affairs but with his family's holdings in the east (2010a: 43-44).

Here one must stress that such an arrangement would pose an exceedingly difficult administrative task. One *sūtu* of grain looks very much like another. Keeping track of hundreds or even thousands of individual *sūtus* of supplies in a single province would almost certainly require extensive labeling of containers and so the employment of extra scribes to label them and read the labels. It would also require working out exactly where one unit of land began and another ended. Undoubtedly this was done on a global scale; MARV 4 173 in fact lists various chunks of agricultural land and the individuals responsible for cultivating them. However, it is rather less clear that the area of a field was actually conceptualized as a collection of well-defined *ikus*. To create the *ikus* would require extensive surveying, which would have to be redone every year when the fields were moved to allow for fallowing. This surveying would, of course, require surveyors who would need to be paid. None of these are by any means impossible feats, but they would be difficult and costly in terms of administrative labor. One doubts that the first *sūtu* could be extracted from each individual *iku* of land for many years in succession before the procedure was streamlined. One need only posit a few bad years where the province genuinely could not spare the extra labor and was forced to simplify the procedure. If there was a gradual recovery there would never be an obvious point to resume the cumbersome old system and it would slip into complete disuse.

What is more, the great administrative burden of this procedure would make it very likely to show up in the textual record, but we see very little that could be interpreted as references to the practice. Admittedly the provincial texts about the *gināu* cited above do not flatly contradict the notion, but they would be strangely coy about it.

Thus, we have little evidence of a special *gināu* fund deriving revenue from specially designated land. In fact, we have little evidence that Middle Assyrian provinces had any funds

financed in that manner. In contrast, if we look for evidence of a general provincial fund the texts are quite forthcoming. This was first noted by Freydank, who suggested that each province had fields owned by the state and ultimately managed by the governor (1994a: 29-30).

The most abundant type of document bearing on provincial finance is the so call *piširti karue* texts, which describe a single year's yield from a particular set of fields and expenses for the coming year's cultivation to be met from them (see Johnson 2013). That provincial officials kept track of agricultural yields and expenses is hardly surprising in itself. Most large-scale farming operations would have to do something like that.

What requires more explanation is why at least four texts cataloging provincial yields were found in the capital and not their home provinces.⁵⁵ It would seem that authorities in the capital wanted to know the yields of each province. They had some idea what to expect. MARV 10 61 seems to be a summary of state land holdings of some type throughout the kingdom, pairing most of the Assyrian provinces with land areas. It is unclear whether this text dealt with all state land or only one sub-type of it, but it is not a stretch to think the central authorities had at least rough estimates for the area of all state-owned farmland in the kingdom. What is more, all but two of the published *piširti karue* texts work out a figure for the yield per *iku*. With this information, the total area figures, and an estimate for the percent left fallow in a given year the central authorities could at least in theory gain a rough picture of the average agricultural yield of all state properties.

However, these calculations would yield only ballpark estimates. Actual yields could surely vary considerably from year to year. Hence, even if the state worked out estimated yields, it would be useful to send *piširti karue* texts to the capital from which the actual yield in a given

⁵⁵ MARV 2 23 (Hiššutu and Rēš-nēbere), MARV 3 4 (Nēmad-Ištar), MARV 3 10 (Turšan, Tarbaše, Sira), MARV 5 83 (Uzbu).

year could be worked out. Presumably one could spot excessively low yields and so catch extravagant embezzlement, but one doubts that this was the main motivation. That could be done at less expense by the governor or a royally appointed *qēpu* on site. If either individual was corrupt he would be in a ready position to doctor whatever documents were sent in anyway, and both officials had a much better chance of catching fraud at lower levels than officials in the capital.

The figure we would expect to most interest the central authorities would be the amount that could be safely requisitioned for any actions it was planning. That is to say, it wanted most to know about surplus grain, not total grain. Our texts bear this out. Of the 17 published *piširti karue* texts, 11 give a *rēhtu* “remainder” figure for grain remaining after expenses for the next year’s agricultural cycle had been removed.⁵⁶ Of the six which do not compute such a figure, BATSH 9 86, MARV 3 4, and MARV 5 83 contain complicated discussions about where particular quantities of grain were stored; here it seems the available grain could not be neatly summarized by a single “remainder” figure. Two more texts, BATSH 9 73 and BATSH 9 74, give yield and the expenses for the next year, the data needed to calculate the surplus, but do not actually compute a value for it. Only one text, BATSH 9 74, gives harvest yields without any storage or projected expenses information. It is probably no accident that this outlier is from a provincial archive, and it is possible it represents an intermediate calculation from which the surplus figure would be derived. Thus, the harvest texts seem disproportionately interested in coming up with a figure of surplus grain for a given collection of fields. Put another way, this figure would be the balance of a discretionary expenditures fund supported by the revenue from those fields.

⁵⁶ BATSH 9 60, BATSH 9 63, BATSH 9 64, BATSH 9 69, BATSH 9 70, BATSH 9 75, BATSH 9 76, BATSH 9 78, BATSH 9 81, MARV 2 23, MARV 3 10.

We can use these individual provincial reports to explain the two great summary texts MARV 4 61+ MARV 4 134 and MARV 4 127. These texts contain a series of grain quantities associated with personal names and province names. Freydank and Llop have explained the texts as possible early versions of the *gināu* tables that describe grain contributions from the provinces (see Llop 2012a: 97), but this is problematic. Many of the provinces listed are on the Euphrates river system. We would have to posit that massive amounts of grain were shipped between the river systems. This dramatically contradicts the shipping patterns seen in the *Gināu* Agency's archive. What is more, just the sections on the reverse seem to have involved at least 208160 *qa* of grain, more than the *Gināu* Agency's entire annual grain income, and the whole text could have easily dealt with twice that amount. To explain the grain entries as contributions to the *gināu* we would have to posit a much larger offering schedule than that which is attested in our archive.

But let us suppose that the supplies were shipped for some other purpose than the *gināu*. In that case, we would have to explain how a shipping operation perhaps twice the size of the *gināu* would not generate a comparable documentary footprint. It is possible that there was a "Tribute Agency" that handled the shipments whose archive is lost. Yet, in that case since both it and the *Gināu* Agency were involved in shipping large amounts of supplies from the provinces to the capital, it is hard to believe that this "Tribute Agency" would not show up from time to time in the latter's archive, just like the *šakin māte* and palace supervisor.

In addition, if we take a step back, there are strong theoretical reasons to doubt such a widespread tribute model. The major issue is that transporting bulk commodities over extended distances was expensive with the means available to the Middle Assyrian Kingdom. It is an expense the state could and did bear if it needed a lot of supplies in one place, as during the

construction of Kār-Tukulti-Ninurta (see MARV 1 1, MARV 2 17). However, when the state was not feeding thousands of people in one place for an extended period of time, there was no need to pay such a large transport premium. It would be much easier to first try and meet expenses from state assets in the area and only bring in supplemental supplies if the local supplies failed.⁵⁷

This is exactly the picture that shows up in the textual record. This procedure is clearest in the Urad-Šerua archive. In KAJ 113 at the direct order of the king royal *qēpus* authorize the release of a total of 92694 *qa* grain from state funds in Amasakku province for the governor of Nahur to use in supporting deportees. Three *qēpus* are similarly involved with a withdrawal of state funds from under the management of the governor of Taidu to support the deportees of Nahur (KAJ 121). Nahur province was in the far west of the kingdom, and so Amasakku and Taidu would both be nearby provinces. We might explain the latter text as deportees being fed en route from state funds nearby, but KAJ 113 refers to disbursements made over two years and issued by the governor of Nahur. This looks strongly like the state was transferring supplies from one fund to an adjacent one. We can understand the expeditions to Tillê in a similar vein (on these see Llop 2013). Extensive building work in Kār-Tukulti-Ninurta had almost completely emptied out available grain funds in the area and so grain had to be transported from the eastern Habur region at considerable expense. Note that even as the expedition was underway, the state was continuing to scrounge up what limited resources were still available in the capital's environs (MARV 2 20). Similarly, MARV 1 1 which records an enormous expenditure of

⁵⁷ Even in monetized economies, transport costs costs can be non-trivial. The early U.S. federal government used a similar system where local agents who collected government revenue in many areas simply held onto the money until the government had need of funds in the area and authorized them to make disbursements from it (White 1956: 475-476).

818887.5 *qa*, devotes more than a dozen lines of its last column to explaining the various sources from which the grain had been procured (iv.48-62).

With this in mind we can return to the enigmatic summary texts MARV 4 61+MARV 4 134 and MARV 4 127. I would suggest that these are nothing more than a list of the balances of all the various discretionary funds in the kingdom. The various transfers between funds mentioned above require that the central authorities had at least a rough idea what funds were available in the provinces. MARV 10 61 indicates they could draw up agricultural summary documents of this sort, and the *piširti karue* from the provinces found in the capital indicate how the information could have been transferred.

Using this interpretation of MARV 4 61+MARV 4 134 and MARV 4 127 we can answer the question of where our governors obtained their supplies. Some of the provinces are itemized with headings for a few personal names, but many are listed just by the province name. In the latter case, it would seem that there really was a single discretionary fund associated with the province and one could unambiguously talk about the grain fund of Taidu or Šūdu. The itemized entries link all their amounts to particular personal names, and so it is reasonable to think that when only one province was listed, it was understood that a particular individual was actually managing the fund. Here the obvious candidate is the governor. Thus, we find what looks very much like a single province-wide discretionary fund managed by the governor in most provinces. This is presumably the same discretionary fund from which the governors made their *gināu*-payments as we saw above.

In sum, what information we have about how the *gināu* assessments were funded fits nicely with it being met from a general provincial fund. There is no evidence for special earmarked funds. In fact, this lack of earmarked funding can help explain the volatility in the

amount paid from year to year. When major external demands were made on a province's financial resources, it would be easy for them to crowd out the *gināu* payment. If the *gināu* payment was not paid, the gods might be angered with adverse long-term consequences to the state, but if soldiers were not paid one would have to cope with immediate problems like starvation and mutiny. Since the palace generally received the lion's share of the leftover offerings (II.2), the king might also have been angered by underpayment, but he would probably have been much angrier if revolt or famine crippled a province.

3.2.2 From holdings in the capital

The only clear exception to shipments really coming from the appropriate provinces relates back to the personal liability of the governor. As mentioned above, the letter BATSH 4 12 notes that the *qēpu* Da''ānī-bēl-Ekur threatened to confiscate unpaid *gināu* from the governor's household in the capital. Since the governor was personally liable for unpaid *gināu*, it only made sense that overdue *gināu* supplies could be taken from his property. Indeed, in MARV 6 24 this threat seems to have been carried out. There we find the same funds, which are described on the tablet as the *gināu* of Šūdu, referred to on the envelope as coming from the house of a certain Kiditê, the governor of Šūdu.⁵⁸ The grain listed as from the house of Erīb-Aššur in the shipping dossier from Ištu-Aššur-ašāmšu likely reflects the same practice since grain from the house is treated the same way as grain brought by boatmen in other sections of those texts (MARV 1 21, MARV 6 3, MARV 6 88). Indeed, circumstantial evidence suggests that this grain was going to meet some of the obligations of Arbela province, which was then in total default. The massive sum of at least 12000 *qa* of barley *ina bēt Ippitte madid* (MARV 2 24: t.4) "measured in the

⁵⁸ He is only explicitly described as governor in MARV 7 50, where his province is broken. However, we find his name associated with Šūdu's *gināu* payments in MARV 6 24 and MARV 9 14.

house of Ippitte” may have been a similar confiscated payment. Unfortunately, the name of the province is damaged and Ippitte’s exact title is unknown, so one cannot be certain it was not just an emergency payment from an outsider (III.2).

While there is good evidence that arrears could be confiscated from a governor’s household, there is no evidence that members of the *Gināu* Agency were able to do this themselves. In BATSH 4 12 the goods are to be seized by a royal *qēpu*. In MARV 6 24 and the texts involving the house of Erīb-Aššur the grain is also provided by outsiders, Siqqi-Aššur-ašbat in the former, Ninurtaya son of Sinānu in the latter. It seems that the Agency had to enlist the aid of outside officials to actually perform the confiscation. We will unpack some of the administrative implications of this point in III.2.

3.3 Excursus: the Arbela arrangement

There is one final matter before we can turn our focus to the mechanics of actually transporting supplies. The assessment system we have reconstructed is quite tidy. The *gināu* obligations were distributed among some 27 permanent provincial funds, and provincial governors who managed these funds were responsible for making payments. Such a neat system should give us a bit of pause, for demographic and geographic reality is rarely that static. Undoubtedly towns were founded and abandoned and regional populations grew and declined in the period covered by our archive, but this variation is generally masked by the Agency’s accounting practices.⁵⁹ Although the resources available in a particular governor’s discretionary fund might vary over the years, his city of residence and *gināu* obligation did not, and it is precisely those two pieces of information which usually concerned the Agency.

⁵⁹ We can get an idea of this low level fluctuation in the tables of field areas cultivated and their yields which Röllig compiled from the Dūr-Katlimmu texts (2008: 24-25).

We get occasional glimpses into the messy reality of some provinces, but these rarely amount to more than a stray text. However, during the *maddattu* crisis we get a sustained picture of activity within a province. As discussed in III.1, the proximate cause of the crisis was the financial collapse of Arbela province, which went into complete default for several years. We sadly do not have much information on the collapse itself (see III.1), but we have a great deal of information about the province's recovery. As already noted by Bloch (2012c: 86), it seems that in the wake of the collapse the province as a whole had no governor. Indeed, the governorship may well have been dissolved as part of the crisis, as Bloch has suggested (2012c: 86).⁶⁰ As a result, the Agency had to go directly to lower provincial officials to ensure delivery.

Fortunately for the Agency, Arbela had two apparently well-established sub-provinces, Āh-hurre and Habriūre, both of which retained their governors.⁶¹ As noted above, both provinces were attested already by the end of Aššur-dān I's reign. When Arbela province resumed regular payment in the middle of the *maddattu* crisis (with a spectacular shipment of 46600 *qa* of grain), it was the governors of these two sub-provinces and a royal *qēpu* who made the delivery (MARV 6 86). The two sub-governors would continue to interact directly with the Agency and coordinate payments for the province until at least the year Bēl-libūr, some thirteen years later.

⁶⁰ Here it must be admitted that there is surprisingly little explicit evidence for the office of governor of Arbela in Middle Assyrian sources (see Jakob 2003:111-140). This may just be an accident of discovery, but we cannot entirely rule out that Arbela did not normally have a governor. Instead, it may have had a special administrative arrangement, perhaps a royal *qēpu*. In favor of this, when the provinces were aggregated into multi-province units called *ešertus* in Tukulti-Ninurta I's reign (MARV 4 61 + MARV 4 134, MARV 4 127), Arbela is one of only two provinces to be excluded which was not a *halzu* (the other was Talmuššu; on these multi-province units see below). As one of the most productive provinces in the kingdom it would not be unreasonable for the king to rule it directly, not unlike the early Roman practice of ruling Egypt through an equestrian prefect rather than a senatorial governor (Bowman 1986: 37-38). In fact, in MARV 2 17 all the workmen linked with Arbela province are described as belonging to the king's writine board.

⁶¹ Jeffers (2013: 228-229) has already suggested that these two sub-provinces were a relatively permanent part of the administration of Arbela and predate the crisis.

However, despite the fact that these two sub-provinces had considerable stability, the Agency's interactions with them were quite variable.⁶² We can summarize the information in the following table:

Text	Year	Arbela Proper	Āh-hurre	Habriüre
MARV 3 30	Marduk-aha-ēreš			620 fruit (2 years) 300 sesame (1 year)
MARV 6 86	Šamaš-apla-iqīša	(not itemized)		
MARV 7 44	Hiyašāyu	6 entries 57 <i>qa</i> honey 1300+x <i>qa</i> sesame 600 <i>qa</i> fruit		
MARV 6 1 + MARV 6 17	Hiyašāyu	4 entries 0 [?] <i>qa</i> grain x+11 <i>qa</i> honey 370 <i>qa</i> sesame 291+x <i>qa</i> fruit	1 entry 0 <i>qa</i> grain 0 <i>qa</i> honey 0 <i>qa</i> sesame 213+x <i>qa</i> fruit	1 entry 29530 <i>qa</i> grain 75 <i>qa</i> honey 0 sesame 0 fruit

Figure I.1-23: Information on the Sub-provinces of Arbela

⁶² Many of the pertinent tablets are quite damaged and so reconstructing the following table is somewhat involved. In many cases the information on which sub-unit of a province was associated with a particular group of supplies is entirely lost and must be reconstructed. These are indicated in the table by cells with a gray background.

Now, since the Arbela sub-provinces do not show up in most of the *gināu* tables we cannot reconstruct their assessments with the same level of accuracy as the canonical provinces, but we can still make considerable headway. In MARV 6 78 and MARV 6 58 the sesame payments of all three sub units are preserved. Arbela proper pays 330-367 *qa*, Habriüre 820-830 *qa*, and Āh-hurre 570 to 910+x *qa*. These figures can help us place some of the other damaged entries. In MARV 8 35 we find one unit providing 700 *qa* of sesame and the other 320+x *qa*. Since Habriüre is already accounted for on that tablet we can conclude that the former is Āh-hurre and the latter Arbela proper.

Turning to MARV 5 58 we find sub-units with sesame payments totaling 850+x *qa* and 750 *qa*. Clearly these must be Āh-hurre and Habriüre, and the question then becomes which is which. Here MARV 5 20 offers a solution. That text indicates that Habriüre had been at least temporarily exempted from fruit payments by royal decree and in MARV 5 58 one of the provinces has a note “not given” in the cell where its fruit entry should have been entered. Thus we can identify that sub-unit as Habriüre and the other sub-unit, which paid fruit, must then be Āh-hurre. Furthermore, in MARV 9 97 the presence of Armaya, who is otherwise associated with Habriüre province, allows us to link his entry with that sub-province.

This leaves us with only MARV 5 20 and MARV 6 1 +MARV 6 17. Now, MARV 5 20 indicates that Habriüre province normally paid 360 *qa* of fruit. The two remaining entries involve payments of 500 *qa* and 300 *qa* and so the three entries together account for exactly Arbela's full assessment. In the section of MARV 8 35 attributed to Arbela proper above we find at least 400 *qa* of fruit. Since this is larger than the 300 *qa* figure, presumably Arbela proper is the 500 *qa* figure.

In MARV 6 1 + MARV 6 17 Āh-hurre's name is preserved and we need only figure out which of the two remaining sections is Arbela proper and which is Habriüre. The 370 *qa* of sesame in its final section fits quite nicely with Arbela's proper other sesame payments. What is more that province has a payment of fruit and fruit payments are otherwise not attested for Habriüre in the years following the *maddattu* crisis. Hence it seems best to take this sub-unit as Arbela proper, making the other Habriüre.

MARV 5 20	Mudammeq-Bēl	5 entries 500 <i>qa</i> fruit	1 entry 300 <i>qa</i> fruit	(not given) 360 <i>qa</i> fruit
MARV 9 97	Aššur-apla-iqīša		10 <i>qa</i> oil 10 <i>qa</i> honey	20 <i>qa</i> honey
MARV 6 78	Bēl-libūr	330 <i>qa</i> sesame	910+x <i>qa</i> sesame	820 <i>qa</i> sesame
MARV 6 58	~Bēl-libūr	367 ⁷ <i>qa</i> sesame	570 <i>qa</i> sesame	830 <i>qa</i> sesame
MARV 5 58	?		7 entries x <i>qa</i> honey 850+x <i>qa</i> sesame x+200 <i>qa</i> fruit	1 entry x+4 <i>qa</i> honey 750 <i>qa</i> sesame 0 <i>qa</i> fruit
MARV 6 54	?	?	?	?
MARV 8 35	?	5 entries ⁷ 0 <i>qa</i> grain 50 <i>qa</i> honey 320+x <i>qa</i> sesame x+400 <i>qa</i> fruit	2 ⁷ entries 0 <i>qa</i> grain 20 <i>qa</i> honey 700 <i>qa</i> sesame 0 <i>qa</i> fruit	5 entries x+100 <i>qa</i> ⁷ grain 169 <i>qa</i> honey x+200 <i>qa</i> sesame x <i>qa</i> fruit

Figure I.1-23 (cont.): Information on the Sub-provinces of Arbela

While the texts are too damaged to reconstruct the exact details, the outline is still clear. In the year Hiyašāyu, one year after the province resumed payment, Arbela proper was treated as an assembly of 4 sub-units, while the two other sub-provinces were treated as single units. A few years later, in the year Mudammeq-Bēl, matters were much the same though Arbela proper was now divided into five rather than four sub-units. Interestingly, in the texts from the years Aššur-apla-iqīša and Bēl-libūr Arbela proper is once again treated as a single unit.⁶³

When the curtain is pulled back we see that Arbela proper had a relatively stable but not unchanging number of sub-units, which is what we would expect to see where the administrative system interfaced with an ever changing geographic and demographic reality. There was also considerable turnover in administrative personnel. In the little over a dozen years covered by the pertinent texts we meet three different governors of Āh-hurre (Aššur-nāšir, Amurrê, Kursiptu) and two governors of Habriüre (Ninurta-murabbi, Armaya). Arbela proper lacked a governor and

⁶³ A possible wrench in the works is the two undated texts, MARV 5 58 and MARV 8 35. The former appears to sub divide Āh-hurre into seven sub-units, and the latter divides Habriüre and Arbela proper into five units each, and Āh-hurre into two. However, the better preserved text, MARV 8 35 deals with shipping arrangements rather than sub-units per se, and we can posit something similar for the very damaged MARV 5 58.

was represented variously by a certain “*qēpu* of Arbela”, a *gugallu*-official, and the *haziānu* of the city of Arbela. This certainly fits with the administrative chaos we would expect as the authorities attempted to pull the province out of financial freefall.

What is even more interesting is that the assessments are not evenly distributed. This information is summarized in the following table. Since the data is somewhat messy—and we do not have good reason to think it was ever all that neat—I have offered the two largest values for each province rather than attempt to reconstruct a single ideal value.

	Arbela Proper	Āh-hurre	Habriūre
Grain	0 0	0 0	29530 <i>qa</i> $x+100 \text{ } qa^?$
Honey	50 <i>qa</i> $x+11 \text{ } qa$	20 <i>qa</i> 20 <i>qa</i> (oil and honey)	169 <i>qa</i> 75 <i>qa</i>
Sesame	370 <i>qa</i> $367^? \text{ } qa$	910+x <i>qa</i> 700 <i>qa</i>	830 <i>qa</i> 820 <i>qa</i>
Fruit	500 <i>qa</i> $x+400 \text{ } qa$	300 <i>qa</i> $213+x \text{ } qa$	$x^? \text{ } qa$ 0 <i>qa</i>

Figure I.1-24: Largest Attested Payments for the Sub-provinces of Arbela

Perhaps the most striking feature is that Habriūre accounted for all of the province’s grain, the lion’s share of its honey, and virtually none of its fruit. From MARV 5 20 we know that the sub-provinces did, in principle, have particular assessment values assigned to them, though the variation in the attested numbers suggests that these were perhaps more guidelines than firm rules.

In a way these half dozen varying sub-units compressing down into a single province in the *gināu* roster nicely encapsulates the governor’s task in a more stable province. It was up to each governor to wrangle supplies from the various state-owned assets in his province. He was at the interface between the neat administrative world of the *gināu* assessments and the messy reality of day-to-day life in the Assyrian kingdom. Ironically, it is because the governors

performed their jobs well that this low-level messiness is only rarely visible. It took the utter financial ruin of a major province to let the chaotic foundations of the supply system show through.

4 Conclusions

We will leave off this chapter with the goods assigned for the *gināu* awaiting transport to the capital. The details of the actual transportation of the goods will be the subject of the next chapter. Our investigation of the sources of the *gināu* has brought a coherent picture into focus. At its core, the *gināu* system pulled supplies into the capital for the *gināu* offering via a system of fixed assessments. The exact values of these assessments seem to have reflected geographic and administrative subdivisions of the kingdom at the time they were made. However, the assessments and the roster of provinces which paid them remained nearly unchanged over the entire duration of our archive. By the time Ezbu-lišer left office in the last years of the archive the assessments were, so to speak, set in stone.

It was an impressive edifice of stability set atop the kingdom. The assessments were given life by making them the personal liability of provincial governors, with the occasional transfers of liability to other provincial officials who might be able to pay. The governors met this obligation not from some sacrosanct earmarked fund, but from their general discretionary fund, or in cases of default, from their personal property in the capital. It was simply another item in their budgets. This was a shaky foundation for so weighty and permanent an endeavor.

Therefore, we can hardly be surprised that this offering colossus collapsed several times in the half century covered by our archive. Its great iron provincial roster with its brazen assessments stood on feet of clay, not stone.

5 Excursus: evidence for a Euphrates “Aššur”

5.1 The weak hypothesis

With the chapter’s main argument complete we can now return to the unpleasant matter of why the Agency treated Aššur as though it were a province in the western Habur. We will start by noting a curious inscription found among the Stelenreihen in the Assyrian capital:

1. *ša-lam* ^mMAN-hat-ti-be-li
2. *šá-kìn* URU.aš-šur
3. URU.na-ši-pi-na
4. URU.ú-rak-ka
5. URU.ka-hat
6. URU.ma-sa-ak (Andrae 1913: 50)

“Image of Šarru-Hatti-ibella, *šaknu* of Aššur, Našipina, Urakka, Kahat, and Masak.”

The last four locations all seem to be in the Habur region (Harrak 1987: 104-105). In particular, Kahat has been securely identified as Tell Barri on the Habur headwaters (Szuchman 2007: 73), and Masak is perhaps to be understood as a by-form of Amasakku, which was also in that general region (Harrak 1987: 104-105). Harrak made use of this inscription to work out the general location of Amasakku, but qualified his discussion with the note, “this topographical association is not definite since it is difficult to locate Ashur in that area!” (Harrak 1987: 105). As we will show, there is good reason to think that Aššur province controlled agricultural land in that region.

5.1.1 M 4 geographic evidence

We will start by briefly reviewing the data from earlier in the chapter. From the documentation within M 4 we can arrive at the following points. First, “Aššur” was explicitly grouped among the *birtus* in MARV 5 64. The other provinces in this group (Taidu, Amasakku, Kulišhinaš, Šūdu, Šadikannu, and Uššukannu) were all cities in the northern part of the former

kingdom of Mitanni. Indeed, as we have seen, Middle Assyrian texts otherwise only apply the term *birtu* to cities that had been part of the Mitanni Kingdom before Adad-nērārī I annexed large chunks of it. Now, the *birtus* were always listed together in the *gināu* tables. In the full tables they are always listed in the same order (Šūdu, Taidu, Amasakku, Kulišhinaš, Aššur, the Upper Province), although the Upper Province is sometimes decomposed into its components Šadikannu and Uššukannu. Within this group Aššur and Taidu have extremely close assessments, differing only in the 50 *qa* component of their fruit payments. Whatever “Aššur” was, it is indisputable that it was administratively grouped with the *birtu* provinces in the Habur head waters. Indeed, if the name of this town were anything but “Aššur” we would not hesitate to locate it in the headwaters of the Habur, somewhere between Kulišhinaš and the Upper Province with a fair degree of confidence. We can explain this practice quite nicely by assuming Aššur province controlled agricultural land in the region, and that its *gināu* was paid with the revenue from this land. As a result the “Aššur” province that the Agency interacted with would have been effectively in the Habur.

The second point is that Aššur province seems to have contained the region of Šuduhu/Šaduhu, as we discussed above. Thanks to the inscriptions of Adad-nērārī I, we can derive a fairly good picture of where this region was. Adad-nērārī I campaigned in the area and his inscriptions give a list of the cities he conquered. In one version we find the sequence: Taidu, Šuru, Kahat, Amasakku, Hurru, Šuduhu, Nabula, Waššukannu (RIMA.0.76.1). In another we find the sequence: Taidu, Amasakku, Kahat, Šuri, Nabula, Hurru, Šuduhu, and Uššukannu (RIMA.0.76.3). These both show a general movement from east to west, like the *gināu* tables. What is more, in both inscriptions one can extract the sequence Taidu, Amasakku, Šuduhu,

Uššukannu. This puts Šuduhu squarely between Amasakku and the northern part of the Upper Province, right where the *gināu* tables seem to put Aššur province's land holdings.

Indeed, we can say a bit more. While the lists follow the same general sequence, there are quite a few discrepancies with the minor towns. In this variation we can discern four basic groups:

	RIMA.0.76.1	RIMA.0.76.3
Group 1	Taidu	Taidu
Group 2	Šuru, Kahat, Amasakku	Amasakku, Kahat, Šuru
Group 3	Hurru, Šuduhu, Nabula	Nabula, Hurru, Šuduhu
Group 4	Waššukannu	Uššukannu

Figure I.1-25: Sequences of Western Cities Given in the Inscriptions of Adad-Nērārī I

The order of the groups as a whole is preserved, but within the groups they are essentially reversed in the two different inscriptions. There is a fairly simple explanation for how this might have come about. If we understand that the cities in groups 2 and 3 were understood to lie roughly on a line, then the texts would differ on which way they read the line. In group 3 the linear arrangement was perhaps less clear, but it is still striking that one sub-list ends with Nabula and the other begins with it. One might be tempted to assume that these lines reflect the four or so major branches of the Habur, but this hypothesis is not easy to reconcile with the currently accepted locations of Taidu, Kahat, Nabula, and Uššukannu. Evidently the derivation of the lines must have been more complicated (based on the discussion below they seem to roughly follow lines of latitude). What suffices for our purposes is that Šuru and Šuduhu appear to be at or near the end of their respective lines, and so we would have reason to think they were fairly close together. This is not an idle geographic speculation. As we will see below, there is a good chance that the Mitannian town of Šūru was the center of Aššur's Habur holdings.

5.1.2 M 4 payment levels

In a sense, it is strange to find an “Aššur” province at all. In Old Assyrian day-to-day texts, the capital was generally referred to as *ālum* “the city” (Larsen 1976: 117). In the same vein, Neo-Assyrian administrative documents overwhelmingly used the term Libbi-āle “City Center” to refer to the capital.⁶⁴ Indeed, Middle Assyrian documents also used the latter term quite frequently when referring to the capital city. What is odd is that Middle Assyrian administrative texts also frequently use the term “Aššur.” One might posit that they were just inconsistent in their nomenclature, but in the *gināu* tables Aššur and Libbi-āle are treated as separate provinces and are not even grouped together. Clearly the two terms refer to different entities.

The most common explanation for this has been that Libbi-āle refers to the city proper, while Aššur refers to the larger province (Postgate 2013a: 106-107). If this were so, we would expect that the city of Aššur proper would have only limited farmland and hence could not make overly large *gināu* payments. Under these constraints it would be reasonable to think that the city of Aššur focused on honey and fruit, which required less land to produce in the quantities needed for the *gināu*. In contrast, we would expect Aššur province to focus more on land-extensive crops, above all barley. Yet, when we look at the assessment data we see the opposite. Aššur province pays no barley, and Libbi-āle has a barley assessment of 12560 *qa*. What is more, while Libbi-āle should be pressed for land and thus have limited agricultural potential in other commodities, it somehow was assessed more honey and sesame than Aššur. This makes a very poor fit with the hypothesis that Libbi-āle was the city proper and Aššur the surrounding province.

⁶⁴ To my knowledge only six Neo-Assyrian legal or administrative texts use the term Aššur to refer to the capital: SAA 1 98, SAA 6 81, SAA 13 75, SAA 14 13-14 and SAA 19 84.

But we can take this a step further and look not just at the assessments but at the actual amounts the two provinces paid. If the agricultural lands of Aššur and Libbi-āle were in close proximity as the current consensus holds, we would expect their harvests to have similar results each year, be it good or bad. Furthermore, we would expect that, if the resources in one province ran down, the first place the authorities would look for additional supplies would be the other province in the pair. Therefore, if Aššur and Libbi-āle are essentially the same city or at least close to each other, we would expect a considerable amount of correlation between their payment histories.

To do so we must define a quantitative measure of just how different their payments were. We will do this by first normalizing the provinces' payments as a percentage of their annual assessment. Since many of the tables are damaged, we will treat each commodity separately, assembling every time the two provinces have well-preserved entries for the same commodity in the same table. Since Aššur province categorically does not pay grain, we have left grain out of the calculations. Arriving at a set of ordered pairs of the percentages of a particular commodity paid by both provinces in individual years, we can calculate the average difference in payment in each commodity. For comparison we will also calculate similar figures for several provinces in the Lower Tigris region, and for the other *birtu* provinces. These results are summarized in the following tables:

Core Provinces	Aššur	Lower Province	Turšan	Libbi-āle
Aššur	0	31.5%	45.8%	42.9%
Lower Province	31.5%	0	40.9%	49.2%
Turšan	40.9%	45.8%	0	25.5%
Libbi-āle	42.9%	49.2%	25.5%	0

Figure I.1-26: Average Differences in Payment Percentages for Aššur and the Lower Tigris Provinces

<i>Birtus</i>	Šūdu	Taidu	Amasakku	Kulišhinaš	Aššur	Upper Province
Šūdu	0	19.4%	24.6%	17.3%	28.8%	23.5%
Taidu	19.4%	0	20.6%	12.2%	11.3%	16.6%
Amasakku	24.6%	20.6%	0	23.5%	27.4%	28.1%
Kulišhinaš	17.3%	12.2%	23.5%	0	10.3%	8.4%
Aššur	28.8%	11.3%	27.4%	10.3%	0	15.9%
Upper Province	23.5%	16.6%	28.1%	8.4%	15.9%	0

Figure I.1-27: Average Differences in Payment Percentages for Aššur and the *Birtus*

As can be readily seen, Aššur's payment history shows little correlation to Libbi-āle or its neighbors. In contrast, Aššur payments are quite strongly tied to the other *birtus*. We can explain this relationship quite nicely if we assume that Aššur province paid its *gināu* assessments with revenues from agricultural land in the Habur. More specifically, since Aššur's payments are most closely tied to Taidu, Kulišhinaš, and the Upper Province, it seems likely that these were the immediate neighbors of its agricultural holdings. In addition, this would put the land in question in the vicinity of Šuduhu, right we already suspected it was.

5.2 The strong hypothesis

As we have seen, the assumption that Aššur province controlled agricultural land in the western Habur is sufficient to explain the evidence about Aššur province found in the archive. Given that there is evidence for discontinuous provincial holdings in Neo-Assyrian times, one could argue that the Habur holdings were just one part of Aššur province, and that core of the province lay elsewhere, perhaps near the capital (Postgate personal communication). For the purposes of this dissertation we will only use the assumption that Aššur province controlled at least some land in the western Habur region, leaving open the possibility that the core of the province lay elsewhere. However, there is also a more radical solution. As I argued at the 2015 RAI, there is good reason to think that the entirety of Aššur province was located in the western Habur. Of course, this is a rather surprising and iconoclastic proposal, and so I have thought it

prudent to not make the rest of the work dependent on accepting it. Even so, I will summarize the case for this position below.

5.2.1 Evidence from Provincial Administration

As we saw above, the documentation from the Agency's archive strongly favors that Aššur province controlled land in the western Habur. Strikingly, the Agency's documentation gives no indication that Aššur province controlled land anywhere else. As we will see, the other references to "Aššur" in Middle Assyrian administrative documents are likewise consistent with the province being entirely in the western Habur. What is more, many Middle Assyrian texts are considerably simplified by this assumption.

Let us begin in the provinces with the Dūr-Katlimmu archive. A town called "Aššur" appears only once in this archive. In a long discussion of various affairs in the far west of the kingdom, the writer Sîn-mudammeq notes *aššum Şehri mār Mutakkil-Marduk ša bēlī išpuran-ni mā ina Aššur ētazbūne altapar ilteqiūniššu ina Aššukani uššab* "concerning Şehru son of Mutakkil-Marduk ,about whom my lord sent saying "they have left him in 'Aššur'"—I sent and they have taken him. He is now in Aššukannu" (BATSH 4 2: 61-64). If "Aššur" is the capital we must assume that Şehru travelled from one side of the kingdom to the other. This is not impossible, but one wonders why Sîn-mudammeq was called upon to arrange this given he otherwise only deals with affairs in the far west (e.g. BATSH 4 3, BATSH 4 4, BATSH 4 5). At least two other writers in the archive dealt with affairs in the capital, Qarrād-Aššur (BATSH 4 12) and Mutakkil-Marduk (BATSH 4 13). The latter was the abandoned man's own father, and either writer would presumably have been a more logical choice. However, if we assume the Aššur in question was on the Euphrates, the picture simplifies considerably. As we have seen, we have reason to think Aššur province bordered Uššukannu to its west. Thus, instead of journeying

across the kingdom, Šehru would be only travelling one province over. This would put the entire journey within Sîn-mudammq's area of interest and would explain why he was contacted to send Šehru rather than one of the officials active in the east.

The texts from the Urad-Šerua archive paint a similar picture. Four texts referring to Aššur show up in the archive (KAJ 103, KAJ 106, KAJ 133, KAJ 245). If this "Aššur" was the capital, this would be quite surprising. The archive belonged to the governors of Nahur in the extreme northwest of the Habur headwaters. Still, one might argue that the governors maintained a special link with the capital since the archive was found in the capital and contains one document describing the sale of a house there (KAJ 145).

But this explanation does not hold up well to close scrutiny. If the family of Urad-Šerua had regular dealings with the capital, we would expect officials from the capital to show up in some of the texts from the family's archive. Indeed, in KAJ 103 and KAJ 106 we do meet both the governor and mayor of "Aššur," but we do not meet any of the other important officials stationed at the Assyrian capital. In particular, texts from the Urad-Šerua archive never mention the *šakin māte* or the Great Steward, perhaps the two most important men in the capital's administration. For this Aššur to be the same as the capital, we would have to posit that the governors of Nahur had extensive interactions with the capital but never interacted with these two important men. Conversely, we would have to posit that the governor of "Aššur" and the mayor of "Aššur" were stationed near the capital but virtually never interacted with the *Gināu* Agency in its amply documented crisis periods, which seems rather unlikely. However, if this "Aššur" is in the Habur headwaters, the situation makes rather more sense. The governors of Nahur interacted with the governor and mayor of Aššur because those men were stationed one province over. The *šakin māte*, Great Steward, and other capital officials were on the other side

of the kingdom and so they had virtually no impact in the day-to-day affairs of Nahur province. It would come as no surprise then that none of these officials appeared in Nahur's administrative documents. Conversely, the governor of Aššur and the mayor of Aššur, both stationed in the far west, would hardly have been able to meaningfully assist the Agency in crisis periods.

But the texts from the Urad-Šerua allow us to take this matter one step further. KAJ 245 describes a group of nine workmen with the note *naphar 9 šābū ša ana Urad-Šerua ina libbi Aššur tadnūni ina Šūrāya ana tartēnīšunu ta'urū* “total nine men who were given to Urad-Šerua in ‘Aššur’—they were returned to their *tartennu*-official in a Šurayan city/among the people of Šuru (14-18). If we understand “Aššur” as the capital, then we have Urad-Šerua transporting nine workmen all the way from the capital to the western border of the kingdom and returning them to their *tartennu*-official, who just so happened to be one town over in Šuru at that time. This is not impossible, but it is odd. If Urad-Šerua invested the time and resources to transport workmen to the northwest from the capital, one would expect him to bring more than nine, or at least to retain their services for an extended period of time. Alternatively, he could have greatly reduced his workload and commandeered them only after they had already reached the Habur headwaters with their *tartennu*.

If this “Aššur” is in the Habur headwaters the matter once again is considerably simplified. Urad-Šerua borrowed some workmen from the next town over and then returned them to the same general region when he no longer needed their services. This would be a nice labor analog of the virement conducted with supplies that is so well attested in the *Gināu* Agency's texts.⁶⁵ But the most striking thing is that these men received in Aššur are returned

⁶⁵ BATSH 18 8, from Dūr-Katlimmu, refers to at least 7 women detached for temporary service in Šadikannu, essentially the next province over from Dūr-Katlimmu (1'-8'). Interestingly, the same text refers to a single woman dispatched for service in the capital (written *Libbi āle*). A single woman and her dependents are dispatched to the

among the people of Šuru. As noted above, the city Šuru was located in the same general part of the Habur region in which *gināu* lists seem to place Aššur.⁶⁶ I would suggest that the men of Aššur are being returned among the people of Šuru because the Euphrates “Aššur” is nothing more than an alternate writing of Šuru. Supporting this idea, the phrase *Āl Šuru* “the city of Šuru” would sound quite close to *Aššur*. We need only posit that around the time of Adad-nērārī I’s conquest a scribe noticed the similarity and introduced the clever spelling URU.^d*a-šur* / URU.*aš-šur*, which ended up catching on. Since the capital itself was almost never actually referred to by name in administrative texts, the risk of confusion was minimal. In more formal texts, like royal inscriptions, the capital might be referred to by name, but then the context would fill in the gap. After all, there are not many passages in a royal inscription which could be readily construed as referring to both the kingdom’s capital and to a minor provincial center in the far west.

5.2.2 Other texts from Aššur

As we have seen, placing the city of “Aššur” in the Habur headwaters fits quite nicely with its appearances in provincial texts. Most texts make considerably more sense if the Aššur was a provincial center in the northwest rather than the capital, and none make less sense. In fact, the above discussion was comprehensive, including all references to “Aššur” in the published

capital at least two other times in texts from Dūr-Katlimmu (BATSH 18 18, BATSH 18 20). As discussed in II.1, this seems to have been an analog of the practice of sending millers in from the provinces for work. Note that both the women and the millers always occur in small numbers, never more than four are attested from a single province. The seven women transferred to Šadikannu in BATSH 18 8 look rather less like a ceremonial contribution and more like a solution to a short-term labor shortage. That nine workers are mentioned in KAJ 245 would seem to also place it squarely in this second camp, though the people mentioned in it were managed through the writing board system rather than directly by a provincial governor.

⁶⁶ If the identification of Šuru with the modern town of Savur is accepted (Harrak 1987: 105) the town would be neatly in the northwest corner of the kingdom, a bit further north than in our schematic reconstruction. A location this far north might explain why Aššur and its neighbor Kulišhinaš were treated separately from the other *birtus* during the Liptānu crisis. Aššur was far enough north that it was possible to send supplies overland north directly to the Tigris river system and avoid using the Habur, on which travel seems to have been quite difficult at the time.

provincial archives known to me.⁶⁷ Thus, there is no available provincial data which contradicts the theory. Furthermore, as we have seen, the texts from the M 4 archive fit much better with an Aššur in the northwest of the kingdom than with one that was near or part of the capital.

One final question remains though. Do the references to Aššur in other archives from the capital also fit with it being in northwest? As we will see, by and large, they do.

The easiest starting point is the few tablets which mention a large number of provinces and include Aššur. Clearly the Aššur here must be the same as the Aššur province in the Agency's archive. In MARV 10 61, a list of field areas associated with various provinces, we find the provinces listed in the same order used by the *gināu* tables. Fittingly, Aššur is listed between Kulišhinaš and the Upper Province, supporting a location in the northwest.

The other two tablets of this sort to mention Aššur, MARV 4 61 + MARV 4 134 and MARV 4 127, present a more complicated picture. As discussed above, these tablets appear to give the balance of grain funds across the kingdom. This financial information by itself is not especially helpful in pinning down the location of Aššur province. However, the provinces also group the provinces into larger multi-province groupings which are referred to as *ešartus* "tens." Both texts are damaged, but we can combine information from the two of them to arrive at a composite list of the provinces in each group. These are summarized in the following table. The provinces are not presented in an especially consistent order on the two tablets, so the composite groups are here simply ordered alphabetically.

⁶⁷ For simplicity I treat the Urad-Šerua archive, which was found in the capital, as a provincial archive since it deals largely with the affairs of Nahur province.

<i>ešertu</i> of Ušur-namkūr-šarre	<i>ešertu</i> of Libūr-zānin-Aššur
Amasakku	Aššur
Husanānu	Halahhu
Kalhu	Idu
Katmuhhu [?]	Kilizu
Ninua	Kulišhinaš
Ša-šille	Libbi-āle
Šūdu	Nēmad-Ištar
Šumēla	Šīme
Taidu	Turšān
The Lower Province	
The Upper Province	

Figure I.1-28: Provinces in Each *Ešertu*

At first glance there does not seem to be any obvious pattern, but on closer examination we can break each “ten” into three geographic sub-groups:

Region	<i>ešertu</i> of Ušur-namkūr-šarre	<i>ešertu</i> of Libūr-zānin-Aššur
North	Katmuhhu [?]	Kilizu
	Šūdu	Halahhu
	Taidu	Idu
	Amasakku	
West	The Upper Province	Kulišhinaš
		Aššur
South	The Lower Province	Libbi-āle
	Ninua	Nēmad-Ištar
	Husanānu	Šīme
	Kalhu	Turšān
	Ša-šille	
	Šumēla	

Figure I.1-29: Provinces by *Ešertu* and Region

Each “ten” had contiguous groups of provinces on the northern border (“North”), on the southern Tigris (“South”), and in the Habur region (“West”). Our interest, then, is whether “Aššur” province was part of Libūr-zānin-Aššur’s south or west group.

Now, we know that this west group contained at least Kulišhinaš province, and so was non-empty. The matching west group of Ušur-namkūr-šarre contained only the Upper Province,

so it is possible that the west group consisted of a single isolate province, but the resulting geography is quite strange. The Upper Province was a large and important border province which could sometimes be decomposed into two major provinces, while Kulišhinaš was by far the smallest of the Habur provinces. What is more, the south and west groups of Libūr-zānin-Aššur's "ten" are both entirely on the Tigris river system. If "Aššur" was near the capital, this would leave the "ten" with only a single small province in the Euphrates systems, which seems rather strange. In contrast, if we assume Aššur was adjacent to Kulišhinaš, then the west group would have two provinces in it and their combined *gināu* contributions would be comparable to the Upper Province. Once again, an Aššur in the Habur region seems to make better sense of the data than one near the capital.

A few other texts from the capital mention Aššur by itself. Two texts from the archive of the Great Steward refer to actions undertaken in "Aššur." In MARV 10 33 (= KAJ 250) we learn that a *kakardinnu* received a leather pouch *ina Aššur* "in Aššur" (4). In MARV 10 44 (= KAJ 249) raw metal is cast into bronze axes *ina Aššur* "in Aššur" (13).

At first glance these references would seem to refer to the capital. After all, the Great Steward was stationed in the capital, so it would make sense that much of his activity was in that area. But on closer reflection problems arise. The Grand Steward's office oversaw a great many actions in the capital, but of the 150 or so texts from this archive that have been published, only these two state that a particular action took place "in Aššur." It seems that most of the time an action could simply be assumed to have happened in the capital if its location was not stated. In keeping with this idea, texts from the archive only describe two actions as explicitly taking place in Libbi-āle. One apparently involved an action undertaken by the king, but is too damaged to reconstruct with certainty (MARV 10 5), and the other referred to an individual who brought

garments to the palace in Libbi-āle. In both cases Libbi-āle seems to be mentioned explicitly because the text at least implicitly dealt with more than one location, and so the location of the action might be ambiguous.

In contrast, MARV 10 33 contains no obvious source of geographic confusion. Undoubtedly one could construct some scenario where the *kakardinnu* involved normally received items in a different location, but this is hardly obvious from the text. MARV 10 44 does contain other geographic information, but this seems to point in a different direction. That text refers to two consignments of metal, one brought from Ninua and the other from the land of Hatti, which were used to produce a single batch of axes. The text then notes that *ina ūme šarru Muṣriāyu ana šaṣbute ana Araziqe illiku-ni ana Muṣriāye tadnā[šunu]* “they were given to the men of Muṣru when the Muṣrayan king went to Araziqu to seize it” (cf. Postgate 2013a: 169).⁶⁸ Based on other sources we know that Araziqu was in Syria (Nashef 1982: 36).

Now, one could assume that the Assyrians shipped the metals to the capital to forge the axes and then re-shipped them to northwest where they could be issued to the men of Muṣru in time for their attack on Araziqu. However, we would have to wonder why the axes were not cast closer to where they would be used, and why no mention was made about how the axes were transported back to the western border for distribution. However, if the Aššur in the text was in the northwest of the kingdom, matters simplify considerably. Metal was obtained from the nearest available sources, Hatti and Ninua, and cast in a major town near where the expedition was to begin. Furthermore, we do not need to posit an additional shipment of finished axes not mentioned in our text. Rather, we can assume that the axes were picked up by the men of Muṣru in Aššur on their way to Araziqu.

⁶⁸ The copied signs indicate that there were twenty total axes. Faist emends this to 50 in her edition to make the weight of the finished axes at least roughly match the weight of the metal used to cast them (2001: 90-92).

The only potential objection is that the Great Steward and his associates in the capital would hardly be keeping track of small metal transactions on the other side of the kingdom. However, this is not as strange as it might seem. We find Bābu-aha-iddina giving excruciatingly detailed instructions about how a small amount of metal he is sending is to be used (KAV 205), and MARV 3 2 summarizes amounts of metal used to make purchases on the state's behalf. Furthermore, as we noted above, the state also seems to have had some idea of the balance of most of the provincial grain funds. Given metals were much more valuable and permanent it would make sense that the state kept an even closer eye on them. If it had a sudden need for metal (for instance to arm a body of soldiers), it would need a good idea of what metal reserves or expendable metal objects the state controlled in a given area. That the state kept a similarly watchful eye on leather pouches, as in MARV 10 33, is a bit more surprising but not entirely unexpected. Again, Bābu-aha-iddina's seemingly obsessive concern over particular textiles in his storehouses offers a nice parallel to such heightened levels of supervision.

Outside of the M 7 archive, we find Aššur and its inhabitants mentioned several times in the legal proceedings text KAV 217. The text is quite damaged and involves the resolution of a complicated legal matter. The precise details are beyond the scope of our discussion, but it may be summarized roughly as follows. In the first section, a man notes that someone was appointed as mayor, apparently illicitly, that some property had evidently changed hands irregularly, and that he had come to the capital (*Libbi-āle*). In the second section the governor of "Aššur" speaks to the king, discussing, among other things a sworn statement made by the men of Aššur, spelled URU.^d *a-šur-a-ia* and discussing the stolen property at greater length.

Once again we have a complicated text that becomes much simpler if "Aššur" is not the capital. If the Aššur in the text is in the capital, it is strange that the provincial governor of Aššur

is involved, but that the other great officials of the capital, like the *šakin māte* and the Great Steward, were not. Stranger still, although the case involves the inhabitants of the capital and is presumably being heard by the king in the capital, they do not present their case directly. Rather, the speech of the men of Aššur is presented by a third party. This is, of course, exactly what we would expect if “Aššur” was in the western provinces. Unable to resolve the matter, the chief litigants, including the governor, had to go to the capital. Needless to say, the majority of the population stayed in Aššur and so their views had to be presented as quoted speech during the litigation.

Three more texts from the capital mention Aššur, but in passages too damaged to say anything about where the province might have been (KAJ 891, MARV 5 80, MARV 5 82).⁶⁹ At least in KAJ 291 Libbi-āle also appears, and so the Aššur it describes must have been distinct from it.

This leaves us with one final reference, the loan contract Donbaz 2009 A 333. This loan specifies the conditions of repayment are to be met *ina libbi Aššur* “in Aššur” (6). Given that the loan was found in the capital, it is presumably the capital which is meant. Thus we do have one example of a day-to-day text referring to the capital as Aššur. However, several things about the text are odd. First, unlike the other texts we have looked at, it is a bilateral legal document with a seal and witnesses, not a unilateral administrative text. Now, in formal royal inscriptions the capital is routinely called Aššur, and it is not unreasonable to think one might use the capital’s full name in such a context. Second, while the text’s eponym, Marduk-nāšir, cannot currently be sequenced, the extensive use of Sumerograms and the term *kāte* both have strong parallels in some of the early loan documents edited by Saporetti and suggest that the document is from quite

⁶⁹ Freydank also restores the name Aššur in a damaged passage in MARV 10 12. The passage is too damaged to be certain this is correct, let alone to provide any useful information about the province’s location.

early in the Middle Assyrian period (M 9). Finally, the writing of the phrase here, *i-na ŠÀ-bi URU^da-šur*, actually has the phrase Libbi-āle nested in it. Putting these three strands together, we can posit that in the early days of the kingdom it was still the custom to refer to the capital by its full name in some legal contexts. It does not seem a great stretch to think that the phrase Libbi-āle arose as an abbreviation form the phrase *ina libbi āl Aššur* used in such contexts, which we see written out in full here.

Thus, apart from a single unusually early and formal text, every last attestation of the name Aššur in the published Middle Assyrian administrative corpus can be easily understood as referring to a city in the Habur region. Moreover, the interpretation of most of the pertinent texts is considerably simplified by this interpretation, and none become appreciably more complicated. To sum up, we might note a close modern parallel. In the modern United States the name Washington is shared by both the eastern capital city and a state, which as it happens, is in the country's extreme northwest. In day-to-day speech one generally uses "Washington" for the state and "D.C." for the capital. One can, of course, refer to the capital as "Washington" in more formal contexts, but ambiguity is rare. The two Washingtons are several thousand miles apart and very different geographic entities, the one being a relatively minor state and the other the capital city. If one is describing something like a political "march on Washington" or an organization headquartered in Seattle, it is fairly clear which one is meant. So too for an Assyrian scribe there would be few occasions when it would not be obvious whether the "Aššur" in a particular text referred to Center City or the province centered around Šuru.

I.2: Shipping the *Gināu* Supplies

They call themselves the abbreviation of distance.

-James Richardson, “The Encyclopedia of the Stones: A Pastoral”¹

In the previous chapter (I.1) we looked at how the supplies for the *gināu* were pulled from resources in the provinces through a system of liabilities imposed on provincial governors. We also looked at how the governors obtained the supplies to meet those liabilities. But, in administrative terms that was the easy part. As we will discuss in the conclusions chapter, the *gināu* assessments do not seem to have been a very large part of state revenues. The governors managed large funds of state property, and allotting a small portion of this for ritual expenses was, of itself, not especially taxing on their time and finances. What is more impressive is that the governors arranged to have these supplies shipped to the capital from all over the kingdom. Arranging this massive web of commodity movements was, we may say, the hard part.

Happily for all parties involved in the *gināu*, the Middle Assyrian Kingdom had a rather well-developed shipping network. As we will see, most of the *gināu* supplies were carried as small supernumerary cargoes added to ships that were already carrying cargoes in this network. On those occasions where the regular shipping network was unable to transport the required amounts of supplies, government officials could commission shipments or in extreme cases simply bring the shipments themselves. We will look at these three methods in detail before turning our attention to a few of the management devices used to coordinate this great web of *gināu* shipments.

1 The Middle Assyrian shipping network

¹ (Richardson 2004: 16)

Since we will look at the Agency's shipping practices as part of a broader shipping network operating in the Middle Assyrian kingdom, we must begin our discussion with that network. In particular, we must look at what evidence we have that there was such a system in place, and what general properties of that system we can uncover.

1.1 The basic pool of boatmen

1.1.1 There were not several disjoint pools of boatmen

Perhaps the easiest way to approach such a system would be to look at its associated administrative staff. Unfortunately, titles like *rab malāhē* "supervisor of the boatmen" are not attested in Middle Assyrian (see Jakob 2003). This could be simple bad luck on our part, but we do not have many compelling reasons to think there ever was a well-organized administrative hierarchy tasked with managing shipping. As we will see shortly, the largest boats in service do not seem to have had a capacity larger than about 10,000 liters of grain, that is, about 6500 kg. Furthermore, the distances covered by boats within a single river system were not especially great. On the Tigris system virtually no Assyrian possessions were more than 100 miles from the capital, and most were rather closer. In a situation where small ships covered short distances there would likely be few economies of scale that could be gained by centralized administration.² From the boatman's side, it would likely not be overly difficult to find enough cargo to keep his small boat loaded at near full capacity for most of his voyage. From the shipper's perspective, if there was no boat on hand to take a cargo, a ship could be counted on to come by in the near future. Given the small size of the Tigris system, a boatman could travel from one side of the kingdom to the other in a fairly short time. If the matter could not wait or the shipment was too

² One finds a rough analogy with contemporary trucking, where there are also few economies of scale and correspondingly a great number of small operators (cf. Chandler 1977: 469-470).

large for the normal system, one could conceivably send a messenger on foot to the capital in a week (and probably rather faster by horse or small boat) and arrange for ships to come to the needed location.

Since there was no shipping agency or comparable administrative structure that directly managed boatmen, we cannot begin our discussion there. Instead we will have to start with the boatmen themselves. It is conceivable that every organization that regularly shipped cargoes maintained its own fleet of boats to do so. To some extent this was true. For instance, we hear of a certain Bahu'u, described as the *malāhu ša bēt Aššur* “boatman of the Aššur temple” (MARV 5: 28). Similarly, in MARV 10 90, we hear about a *malāhu ša bēt Ilī-padda* “boatman of the house of Ilī-padda” (10-11). We even find three boatmen receiving grain rations directly from state funds at Dūr-Katlimmu (BATSH 18 27).

Yet, the context in which we find the “boatman of the house Ilī-padda” indicates that matters were somewhat messier. We only hear about the boatman of the house of Ilī-padda because he was being given a consignment of goods—apparently for the *Gināu* Agency since it appears in a letter to the *gināu* supervisor. We could posit he was carrying the *gināu* of a province governed by the house of Ilī-padda, but then we would have to explain why the sender put another consignment on a boat not so described. If the sender worked for the house of Ilī-padda, then at least one of these boatmen did not work for him. If he did not, then the boatman of Ilī-padda did not directly work for him. No matter how we reconstruct the context, the sender is putting supplies on ships he does not directly control.

We can find similar evidence for Bahu'u. We find a man of this name participating in one of the great grain shipments from Tillê arranged by Tukulti-Ninurta I (MARV 2 20; Llop 2013). The time span between that and his last appearance in the archive is several decades, so that we

would have him at the very beginning and very end of his career. However the name is unusual enough that we are probably dealing with members of the same family if not the same person. Thus we have a temple boatman, or at least his relative, working for the “secular” authorities. A final example is Mār-Ištar, son of Ahī-lāmur. We find him and his two sons all working for the Agency in MARV 9 95, but a man of this same name and patronymic also made a delivery of milling equipment in the M 7 archive (MARV 10 72). In sum then, individual boatmen need not exclusively serve one master, even if their titles imply a primary affiliation with one. This suggests that we can speak of an at least partially integrated Middle Assyrian shipping network rather than a set of disjoint shipping networks serving particular institutions.³

1.1.2 Boating is a hereditary profession

If there was a general network of boatmen operating in the kingdom, it is natural to wonder who were these boatmen and how were they paid? In MARV 2 21 we learn of 110 men from the king’s writing board being assigned to an expedition to Tillê (18-20), and it would not be unreasonable to think that boat crews were largely drawn from unskilled men on state service, not unlike the Agency’s milling staff (II.1). We cannot rule this out for the regular crewmen, though it seems more likely that the Tillê expedition was a special case because it involved not only river transport, but also a substantial overland journey to transfer the grain to the Tigris river systems.⁴ What we can say, though, is that the captains of ships formed a hereditary profession.

³ Interestingly, in the Neo-Assyrian text SAA 12 69 we learn that a set of boatmen received the same exemption from *corvée* duties granted to the Agency’s bakers and brewers (r.26-30). This may imply that that Agency had developed a corps of dedicated boatmen in Neo-Assyrian times, but since the only passage describing what these boatmen actually did for the temple (r.23-25) is damaged, it is hard to be certain.

⁴ On the location of Tillê near the easternmost Habur head waters see Radner (2006: 53).

The texts do not explicitly refer to family shipping companies or the like, but they do often give patronymics of particular boatmen. In at least nine cases we can link an attested patronymic with a boatman of that name active a generation earlier in the archive. The results are summarized in the following table:

Father	Texts where he is active	Children	Texts where he is active
Himsāteya (son of Šîn-idnanni) (X.13 [?] .Ištu-Aššur-ašāmšu to Mudammeq-Bēl)	KAJ 302 MARV 1 21 MARV 5 34 MARV 6 28 MARV 6 52 MARV 6 88 MARV 8 3 MARV 8 74 MARV 8 96 MARV 9 14 MARV 9 16	Hattayê Šūzub-Marduk (x.26.Šamaš-apla-ēreš to IV.12.Mudammeq-Bēl)	MARV 6 26 MARV 10 88
Līšeru (son of Ninuaya) (Reign of Tiglath-pileser I)	MARV 6 34 MARV 9 95	Aššur-nādin-šumē (III.25.Sakipšunu)	MARV 8 46
Mardukiya (VII.9.Marduk-aha-ēreš to II.4.Da'iq-dēn-Aššur)	MARV 6 10 MARV 7 58 MARV 8 50	Aššur-aha-iddina Aššur-iqīša (III.25.Sakipšunu)	MARV 8 46 MARV 8 74
Mār-Ištar (patronym only)	MARV 9 95	Ailu Berê (VIII.5.Aššur-šallimšunu [?])	MARV 9 95
Šilli-Digla ^a (= Šilliya [?]) (reign of Ninurta-apil-Ekur to II.11.Aššur-dān I [?])	MARV 5 3 MARV 8 94 MARV 9 98	Qištānu (IV.24.Bēr-nāšir)	MARV 6 29
Sināni (reign of Aššur-dān I)	MARV 7 19	Ninurtaya (Ištu-Aššur-ašāmšu)	MARV 6 88

Figure I.2-1: Attested Families of Boatmen

Urad-Ištar (reign of Ninurta-apil-Ekur)	MARV 6 63	. . .-ēreš (VIII.5.Aššur-šallimšunu ³)	MARV 9 95
Urdî (reign of Aššur-dān I)	MARV 7 19	Šamaš-aha-ēreš (VIII.5.Aššur-šallimšunu ³)	MARV 9 95

^a The boatman Šilli-Digla, who appears in BATSH 18 27 some seventy years earlier, may well be his grandfather. The name is unusual, and it would make sense that both the unusual name and the profession of boatman were both passed down in the same family. The time interval of 70 years and the tendency for Middle Assyrians to not name children after their fathers would suggest that the older Šilli-Digla was his grandfather or perhaps great-grandfather. This would give us a chain of at least four generations of boatmen from the same family. However, this is largely speculative.

Figure I.2-1 (cont.): Attested Families of Boatmen

In light of this evidence, there can be little doubt that the position of boatman was often transferred from father to son. Indeed, the trend is more remarkable if one considers that much of our data on boatmen comes from an interval of about a dozen years at the start of Tiglath-pileser I's reign, an interval too short for more than one generation of most families to be active. It does not seem a great stretch to assume that the profession of boatman was, in general, hereditary.

If the profession could stay in a family for several generations, it is reasonable to think it was not a largely unskilled task like milling (see III.3). That is to say, we can speak of running a boat as a true profession or trade, rather than a simple economic task. This is hardly surprising given the considerable technical skills required to build, maintain, and operate a boat. Whether this was the boatmen's primary or only source of livelihood is less clear, and so we cannot rule out that these boatmen also farmed or did some other task in the less busy parts of the year.

1.2 The geography of the shipping system

1.2.1 Regional distribution

As it turns out, not only was boating often confined to particular families, but individual boating families tended to confine their activities to shipments between the capital and a single

region of the kingdom. The following table summarizes those instances where a boatman or boating family can be associated with a particular province on more than one occasion:

Boatman	Provinces where active ⁵	Province groups where active
Aššur-malāh	Idu, Talmuššu	Northeast
Bahu'ū	Apku, Aššur	<i>Birtu, Halšu</i>
Gabbubu ⁶ (son of Salmānu-rabi, son of Aššur-malāh son of Tapuru ⁷)	Idu, Šibanibe, Talmuššu, the Lower Province	<i>Halšu</i> , Northeast, Lower Tigris
Himsāteya (and sons)	Halahhu, Idu, Katmuhhu	Northeast
Ištu-šuma-ēreš	Hiššutu, Kurda	<i>Halšu</i>
Ištu-ile-ašāmšu	Idu	Northeast
Kapšaru	Idu	Northeast
Kareya	Idu, Talmuššu	Northeast
Kibie	Idu, Talmuššu	Northeast
Mardukiya (and sons)	Halahhu	Northeast
Mār-Šilliya	Amasakku, Taidu	<i>Birtu</i>
Mārat-Anim-ēreš	Karāna, Šibanibe	<i>Halšu</i>
Šilli-Digla (and sons)	Idu, Talmuššu	Northeast
Sîn-uballiṭ	Idu, Karāna	<i>Halšu</i> , Northeast

Figure I.2-2: Regional Distribution of the Boatmen

As we can see, only four boatmen families received cargoes in more than one region.⁷

We can explain most of these as picking up additional shipments on the way to the capital.

Towns like Karāna and Šibanibe were also near enough to the to the kingdom's core that most

⁵ Sometimes it is not possible to be certain about the province in which a boatman is active in a given text. Since the argument is that the diversity of provinces is limited I have decided to err on the side of inclusion and included possible but not certain attestations in the table.

⁶ Three boatmen of this name were active at the same time and it is not possible to sort out which references go with which in most texts. However, at least two were both active in Idu province (MARV 5 3), and the third in the nearby province of Šibanibe. Hence, their areas of activity at least partially overlapped, and so if the hypothesis that boatmen's activities are limited to particular regions is true, then the total area served by at least one of them should still be limited to a particular region, perhaps slightly larger than any one served individually.

⁷ Note that the regional groupings here further support the argument made in the previous chapter that the core of Idu province was adjacent to Talmuššu and Halahhu province in the northeast and not in the far southeast as Rosa (2010) and earlier literature had held. No fewer than four boating families are attested working just in the two provinces Idu and Talmuššu, and another worked in that pair plus the nearby town of Šibanibe. Still another family combined work in Idu with work in the northeaster provinces of Halahhu and Katmuhhu.

boatmen active in the Tigris might pick up cargoes there without too great a detour from their normal routes. Perhaps the most challenging issue is why Bahu'u received shipments from both Apku and Aššur province. As he bears the title “boatman of the house of Aššur,” one might expect him to operate mainly around the capital and not far upstream. Here it is simplest to posit that the Aššur temple in the capital kept a boatman on retainer for odd jobs that the normal shipping patterns could not cope with, and that he had one such job in Apku and another in Aššur province.⁸

What is clear is that most boatmen—and, for that matter, families of boatmen—operated in a relatively restricted geographic area. Indeed, we even find one boatman explicitly tied to a particular place with the title *malāhu ša Šamayē* “the boatman of the people of Šama” (MARV 3 27: 9-10). We can model this quite simply by assuming that boatmen made a regular route through their particular region to the capital, picking up cargoes along the way. This model also explains one final curious problem with the shipping system: it was possible to lose track of a shipment's source. MARV 1 56 ends with the note 1000 *qa u'u Našhiriya bēlšu lā uddu* “1000 *qa* grain, Našhiriya—its owner is not known” (69). The same boatman makes a delivery on behalf of Apku province in the same text (46). As Apku is on the periphery of the Tigris system, it is likely the furthest extent of Našhiriya's circuit, and evidently was a more memorable part of his route. Since Apku does not normally pay grain, the boatman likely did not pick up the grain there, and—at any rate—it would be unlikely for the Agency to remember that one of his shipments came from Apku but forget that the other one came from there as well. In contrast, there were a number of different places where he could have picked up a grain cargo on his way

⁸ Interestingly, the Tille expedition in which he seems to have taken part would have taken him past Apku and onto the Euphrates system from where the *gināu* contributions of Aššur province were supplied (MARV 2 20).

to the capital, and hence it would not be so easy for the Agency to work out where it came from if they had forgotten to write it down.

1.2.2 Traversing difficult routes

But there is more we would like to know about the geography of the Middle Assyrian shipping system than where particular families of boatmen operated. In particular, we would like to know something about the routes they used. In general the easiest way to transport a cargo by river between two places is to send it downstream. Most of the *gināu* cargoes could be readily shipped in this way for much of their journey, and we gain little for our purposes from speculating about which particular waterways the boatmen used for this. Barring obstructions like rapids and the like, the administrative challenge of shipping supplies downstream is not greatly affected by the particular path chosen. What is of more interest is where the boatmen were forced to transport supplies upstream or overland.

We can isolate at least three instances where this must have happened in shipping the *gināu*. One is when cargoes were moved to a river from cities not on any major waterway. We have virtually no documentation bearing on the question. Gaspa's suggestion that they used animal drawn carts for this purpose is quite reasonable, though for the moment it is only speculation (2011a: 240). In any event, the distance between most Assyrian provincial centers and a decent-sized stream seems never to have been so large as to pose a serious administrative problem.

Another challenge was taking shipments upstream. Most of the Agency's shipping involved taking supplies downstream all the way to the capital, but supplies from Turšan and the Lower Province could only reach the capital by going upstream for a stretch on the Tigris. As Gaspa has noted, there is Neo-Assyrian evidence that this was possible (Gaspa 2011a: 241). The

exact mechanics of how ships were propelled upstream on the Tigris do not seem to be recoverable from published Middle Assyrian texts or archaeological results. Based on evidence from other periods the boatmen probably used some combination of towing, punting, paddling, or rowing to get the job done (de Graeve 1981: 149-171). As we will see shortly, the Agency also seems to have taken supplies upstream in parts of the Habur and its headwaters, but again our sources are silent on how exactly this was done.

But short stretches upstream are a relatively minor problem. The biggest problem faced by the shipping network was how to transfer supplies between the Euphrates and Tigris river systems. Without travelling deep into Babylonian territory, this could only be done by transporting the commodities a considerable distance overland.⁹ It would be very helpful to know where this overland trip was normally made.

Now, in an unpublished work cited by Cancik-Kirschbaum, Pfälzner has argued from archaeological evidence that there were regularly spaced Assyrian settlements between the region of Dūr-Katlimmu on the lower Habur and the capital, and hence a viable steppe route between the two cities (1996: 43). Cancik-Kirschbaum endorsed this idea in her map of the region, along with another tentative route about 50 km north leading to Nineveh (1996: 34). In her study of travel in the Middle Assyrian period Faist includes Cancik-Kirschbaum's southern steppe route and another going south from the eastern Habur to the capital some 50 km west of the Tigris (2006: 149). All of these routes would seem quite workable for sending messengers and individuals between the two centers. However, they are more problematic as routes for moving bulk commodities like those used for the *gināu*, since each involves on the order of 200

⁹ For a likely example of an Assyrian shipment taking the all water route through Babylonia during Tukulti-Ninurta's occupation of the region see Bloch (2012c: 229-232).

km of continuous overland travel. One would like to see if there is evidence for a more efficient route for transporting goods between the river systems.

Here we are fortunate that Tukulti-Ninurta I's ambitious building projects seem to have greatly taxed the financial resources of the Middle Assyrian Kingdom. More than once he seems to have been forced to import grain from Tillê on the Euphrates system at considerable expense (see Llop 2013). Since the Middle Assyrian Kingdom does not seem to have been in the habit of shipping grain between the two systems, there was no default way to do this per se. However, it would be natural to follow the routes used for transporting other bulk commodities between the river systems, which could likely be adapted for grain transport. The state could then minimize transportation costs by finding the closest city on one of these routes that had surplus grain.

Following this line of reasoning, we must ask what route for transporting bulk commodities would have had Tillê as its nearest hub to the Tigris river system. If the goods were being taken downstream to the general environs of Dūr-Katlimmu and then across the steppe, then Tillê on the north eastern Habur headwaters would be one of the single most remote centers in the kingdom. Moreover, we know that the supplies arrived at the capital on a fleet of boats, so they cannot have reached the Tigris system at the capital (see MARV 2 20). A better solution is to assume that the supplies were being brought directly overland from Tille to the Tigris system. In the best case this might only involve 10 km of overland travel and certainly no more than 100 km or so. After that, the supplies could be floated downstream with relative ease all the way to the capital.

Of course the reasoning above by itself is somewhat speculative. What confirms that we are on the right path is that this same route from the eastern Habur headwaters to the northern Tigris was followed by the well-known *harrān šarre* "road of the king" in Neo-Assyrian times

(Fales 1995: 207). It does not take a great leap to assume that this route, like so much else in Neo-Assyrian Empire, built on top of a Middle Assyrian precedent.

In Neo-Assyrian times the first major city this route hit along the Tigris was Nineveh (Fales 1995: 207). It is not surprising, then, that we find numerous examples of interactions between Nineveh and the western provinces in the published Middle Assyrian corpus. From the provincial side, we find it as the destination of a sesame shipment sent from Harbe (Jakob 2009 83) and sheep from around Nahur province, both in the extreme northwest of the kingdom (KAJ 92). We also find the king of Hanigalbat, Aššur-iddin, asking an agent of his in the east to investigate a matter in that city for him (BATSH 4 12). A curious contract document from the archive of the governors of Nahur, presumably dealing with affairs in the west, includes a stipulation that a certain grain amount is to be repaid in Nineveh (KAJ 91). Our own Agency also grouped Nineveh together with the *halzu* provinces in the steppe in the partial table MARV 7 8, suggesting that it was viewed as closely tied to the Assyrian centers in the steppe.

In the same vein, we hear of livestock (MARV 1 71), grain (MARV 4 172), military equipment (MARV 9 85), and other supplies (MARV 10 49) being brought from Nineveh to the capital.¹⁰ Putting this together, it is not difficult to see Nineveh as the major communications hub between the two river systems. It is quite possible, as Gaspa has suggested, that the *gināu* supplies first reached the Tigris system at Nineveh (2011a: 241). However, we cannot entirely rule out that they took a shorter but rockier path overland and reached the Tigris further north. In either case, the supplies seem to have jumped between the two river systems in the north of the kingdom.

¹⁰ A damages passage in the livestock expenditures text MARV 2 19 referring to Nineveh presumably also reflects its role as a livestock transshipment center.

This reconstruction nicely fits with the roster of provinces on the Euphrates system attested paying the *gināu*. All of them are on the Habur or its tributaries, and only the Šadikannu sub-unit of the Upper Province was any distance south of the vertex of the Habur triangle. These are precisely those provinces from which it would be easy to get supplies to the general vicinity of Tillê by water, and hence those “closest” to the capital when using that particular supply route.

1.3 Numerical properties of the system

1.3.1 Seasonality

If we have a plausible answer to where the *gināu* supplies came from, it would be nice to know when they arrived. Here, the shadow of the Ur III scholarship looms large in the Middle Assyrian literature. As conventionally reconstructed, the Ur III state financed a series of offerings at Nippur by assigning a particular province or pair of small provinces to supply the offerings for a given month (e.g. Sharlach 2008). Since Hallo first proposed the idea (1960), it has been generally assumed that these provinces were assigned months on some sort of regular rotation. Cancik-Kirschbaum and Johnson have explicitly argued for this sort of arrangement for the *gināu* offering (2011-2012).

Despite the pervasive influence of this reconstructed schema, it should give us pause that the Ur III provinces do not follow any obvious repeating pattern in Ur III administrative texts, and can only be made into a fixed rota scheme with great difficulty (Sharlach 2008). If we step outside of Ur III, one is hard pressed to find any unambiguous evidence for such a system being used elsewhere in Mesopotamian history. Thus, there is little *a priori* reason to think that the Agency ever used such a rota scheme.

Fittingly, the texts from the Agency give us little reason to think there was a rota. A number of texts in our archive give us at least rough dates for when the supplies arrived. The data from these texts are summarized in the following table:

Text	Assyrian Month	Year	Conversion Factor	Babylonian Month
MARV 1 21	X	87.2	+5	III
MARV 1 62	IX	87.5	+4	I
MARV 1 73	XII	87.1	+5	V
MARV 2 24	XII	87.6	+4	IV
MARV 3 14	V	82.10	+7	XII
MARV 3 36+	XI	87.6	+4	III
MARV 3 38	XII	82.11	+7	VII
MARV 3 85+	XI	87.5	+4	III
MARV 5 3	II	83.1	+5	VII
MARV 5 27	IX	87.7	+4	VI
MARV 5 42	XI	87.5	+4	III
MARV 5 57	I	87.2	+5	VI
MARV 6 29	IV	82.5	+9	III
MARV 6 36	II	82.8	+8	X
MARV 6 52	XI	87.2	+5	IV
MARV 6 57	IV	82.5	+9	IX
MARV 6 67	I	87.6	+4	V
MARV 6 77	VIII	87.32	+7	II
MARV 6 78	XII	87.17	+0	IV
MARV 6 86	V	87.4	+5	X
MARV 6 89	X	87.8	+3	II
MARV 6 90+	XI	87.19	+11	III
MARV 7 22	I	87.2	+5	VI
MARV 7 46	I	87.2	+5	VI
MARV 7 51	V	87.17	+0	IX
MARV 7 83	IV	87.13	+1	VIII
MARV 8 22	II	87.14	+1	III
MARV 9 14	XI	87.6	+4	III
MARV 9 16	XI	87.5	+4	IV
MARV 9 95	VIII	87.4	+5	XIII
MARV 9 97	XI	87.15	+1	III
MARV 9 112	XI	87.23	+10	III
MARV 10 88	IV	87.14	+1	VIII

Figure I.2-3: Attested Shipments by Month Received

If we graph the number of texts associated with each Babylonian month we can then arrive at the following graph:

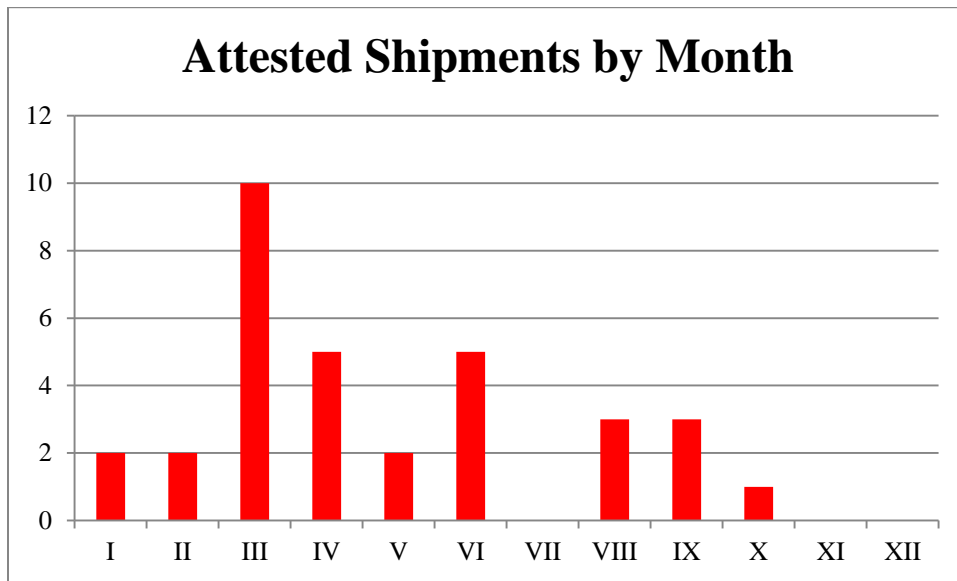


Figure I.2-4: Shipments Attested in Each Babylonian Month

There are too few texts to directly conduct a chi-squared test, but binning into groups of three months, we arrive a p value of 0.0053. Therefore, there is a statistically significant link between the Babylonian month and the number of shipments attested. In particular, it seems that deliveries peaked in Babylonian Month III and continued at high levels through the end of Babylonian Month VI.

We can also find support for this pattern in the pair of shipping logs MARV 1 56 and MARV 5 55, which appear to record all incoming shipments received in a period of about one year. Strikingly, the shipments recorded in MARV 5 55: 7-67'' all appear to have arrived in Babylonian Month III. Thus, about 37% of the 165 preserved lines in the tablet pair appear to be devoted to deliveries from this one month. In contrast, it seems that Babylonian Months X-II were covered entirely in the last 28 lines of MARV 1 56 and the first 6 lines of the following

tablet. This means that these five off-season months were covered by a total of only 34 lines. That works out to an average of only 4.1% of total lines devoted to shipments from each of these months. Of course, lines required to describe shipments need not correlate more than very roughly with the actual number of shipments or their combined volume. Despite this, the general pattern is exactly what we would expect if deliveries peaked in Month III and were at a low in the months leading up to it. For convenience, in the rest of the work we will refer to the period from Month III through the end of Month VI as “delivery season.” This is not to say that shipments could not be made outside of this season, for we do have several examples of that. Rather, it means that the provincial authorities preferred to make shipments in these months. Likely this was because of some combination of the availability of supplies and ease of shipping.

In fact, we can suggest a couple likely reasons why the shipments have this distribution. One is that the Tigris and its tributaries are often difficult to navigate when they are in flood between February and May i.e. Babylonian months XI-II (Morandi-Bonacossi 2014: 449). This accounts for the remarkably small number of shipments attested in those months. Another reason is that the Mesopotamian grain harvest seems to have generally begun in Babylonian Month II (Potts 1997: 74). It would make sense that governors would dispatch shipments to the capital shortly after the new harvest had refilled their granaries and the rivers had become navigable.

1.3.2 Boat size

Before we turn our attention to the mechanics of moving *gināu* supplies through the Middle Assyrian shipping network, it would be useful to know something about the vessels used to transport it. Ideally one would like to know the particular types of boats or rafts used, but such details are woefully lacking in our documentation. To make sense of what little data there is would require an extended digression on watercraft in Assyria in other periods, unnecessarily

adding to an already lengthy work. In any event, what most concerned the Agency was the size of the cargo the various craft could carry, and on this point our documents are quite forthcoming. Hence we will confine our discussion to working out the capacity of the vessels in use and leave open the question of what particular types of craft were in use in this period. As it turns out, the largest boats in regular use among private boatmen had a capacity of roughly 10000 *qa* of grain, or roughly 6500 kg of cargo.

Our first indication that this was the size of Assyrian boats comes from the great Tillê expeditions. MARV 2 20 records eight boatmen involved in shipping 82,960 *qa* of grain from Tillê. The text gives the amount each boatman transported as well as his remaining transport obligations. The data are summarized in the following table:

Boatman	Shipped	Unshipped	Total
Sîn-iqīša	8900 <i>qa</i>	1100 <i>qa</i>	10000 <i>qa</i>
Bahu'u	11605 <i>qa</i>	395 <i>qa</i>	12000 <i>qa</i>
Siqqi-Ilānī	6845 <i>qa</i>	155 <i>qa</i>	7000 <i>qa</i>
Sîn-šuma-iddina	10820 <i>qa</i>	180 <i>qa</i>	11000 <i>qa</i>
Kidin-Pilašqi	11790 <i>qa</i>	210 <i>qa</i>	12000 <i>qa</i>
Bēl-ittūra	11000 <i>qa</i>	0	11000 <i>qa</i>
Lab'i	11000 <i>qa</i>	0	11000 <i>qa</i>
Taklākia	11000 <i>qa</i>	0	11000 <i>qa</i>

Figure I.2-5: Shipment Data from MARV 2 20

In the remainder of the text we learn that the commander of the expedition had to borrow grain from four of the boatmen to feed his men and that the total amount shipped was received by a royal eunuch on arrival. All this gives the impression that the boatmen only made one trip. The unshipped amounts bear this out. If the intention was to take multiple trips, one would think each trip would involve a load of roughly the same size. In that case, we would have to postulate loads on the order of 200 *qa* to not have the remainders seem anomalously small, and so we would have to assume as many as fifty trips per boatman.

Thus, the shipped amounts seem to refer to an amount of grain actually loaded onto a ship for a single journey. I would suggest that the small remainders stem from a slight overestimate of the capacity of the boats. After all, one doubts the convenience of a load 200 *qa* smaller would balance out the inconvenience of having to make a second trip. What is more, given that the state had taken the trouble to transport grain from the Habur headwaters and to send a company of 110 men to assist, there was clearly a serious need for the grain back at Kār-Tukulti-Ninurta. Hence, there is good reason to think they were using the full capacity of the boats to get as much grain as possible back on the first shipment. Since the four boats with arrears are also the four from which grain was borrowed for the expedition's rations, it is tempting to think that the capacity estimates did not work because they had not taken into account the weight of the extra men on the boats, but one cannot prove this.

What is important for us is that we have a list of ships being loaded at or at least near their maximum capacity. Hence the boats in question must have had capacities of roughly 7000 to 12000 *qa*. Again, given the urgency of the expedition, it is likely they were using the largest boats available. Therefore, we have reason to think that the capacity of the largest Assyrian ships was in the range of 7000-12000 *qa*. For simplicity we will split the difference and use the round figure of 10000 *qa*.

We can arrive at this figure another way as well. The maximum size of a boat should be an upper bound on the size of any one shipment the Agency received from a boatman. The data generally fit this trend. Apart from one anomalous reference to 22000 *qa* brought by Himsateya (MARV 9 14), the largest shipments clearly received from a single boatman are 10000 *qa* (MARV 10 86), 9400 *qa* (MARV 7 22), 9000 *qa* (MARV 1 56), 8700 *qa* (MARV 10 88), and

8000 *qa* (MARV 9 16), with the rest all below 7000 *qa*. These figures fit quite nicely with the 10000 *qa* maximum capacity estimate from MARV 2 20.

There are a five possible attestations of larger shipments, with the largest being 46600 *qa* (MARV 6 86).¹¹ Four of these involve provincial governors or *qēpus*. It is possible important men were able to commandeer or build extremely large boats for their purposes, but one would have to explain why such large craft were not used more regularly. It seems simpler to argue that the governors brought their shipment on a fleet of several boats, as was done on the Tillê expedition.¹²

The only remaining candidate for a single boat greatly above 10000 *qa* is the 22000 *qa* brought from Halahhu by Himsateya in MARV 9 14. There is not sufficient evidence to decide whether he was using an anomalously large boat or several vessels. Since several of his sons were active boatmen at that time, it does not seem impossible that he would have been able to gather the two or three normal sized vessels needed to make a shipment of that size. Overall, then, it seems most boatman operated craft with a capacity no larger than about 10000 *qa*, and while it is possible, there is no compelling evidence that larger vessels were in regular use.

2 Particular shipping methods

2.1 Supernumerary cargoes

2.1.1 Existence of the supernumerary cargo system

Now that we have traced the outlines of the Middle Assyrian shipping network, we can look at how it was used to bring supplies to the *Gināu* Agency. Here we face a problem with our

¹¹ MARV 5 42, MARV 6 86, MARV 6 90, MARV 9 14, MARV 9 17

¹² As Walter Farber has suggested to me, it may be that the boatmen tied together a number of craft to form a sort of boat train when going downstream.

sources. While we have a reasonable number of documents dealing with shipping practice, many of them occur in crisis periods when shipping practice may have diverged considerably from typical practice. What is more, as we will discuss at greater length in I.3 and II.3, the Agency tended to draw up considerably more documentation when its administrative system ran into problems than when it functioned normally. Therefore, the best documented practices may not be the normal ones.

As we will discuss in the next section, it seems that the Agency kept most of its primary records about incoming shipments on writing boards, and used tablets as primary documents only under special circumstances. However, there is a small corpus of texts which appear to contain information that was either transcribed directly from these writing boards or was intended to be entered on them (I.3). The two largest texts of this sort, MARV 1 56 and MARV 5 55, deal with the same year and contain several dozen shipments each. This gives us a reasonable corpus of information. Admittedly, the transcriptions were probably necessitated by administrative irregularities as well, but it is possible to explain these as irregularities in book-keeping rather than shipping. It is not hard to think that they were made necessary because the writing boards were inaccessible for a few days, or needed to be cleared for some other purpose. At any rate, they present us with a fairly coherent picture.

It is best to begin our investigation with grain since this comprised the vast majority of supplies shipped to the Agency when taken by volume. Our writing board excerpts offer 48 instances where the leftmost digit and thus the general size of a grain shipment can be established with reasonable certainty. Based on this data, we find that the median size of a shipment is 1510 *qa*, while individual shipments range from as small as 60 *qa* to as large as 12560 *qa*. Based on the maximum boat capacity worked out above, the five shipments of 9000

qa or more probably represent a ship filled almost entirely with *gināu* supplies. On the other hand, it is hard to see the seventeen shipments of 1000 *qa* or less as full cargoes, since they would have a volume of less than a single cubic meter and a weight of less than 650 kg. Indeed, the smallest, 60 *qa*, could be comfortably carried by a single man.

We could explain the intermediate values by postulating a great variety of boats of various sizes. However, we can model these data more simply. As we just noted, the smallest cargoes recorded can hardly reflect any sort of workable boat loaded to full capacity, and so must represent only part of the capacity of a boat. We can generalize this observation to explain most of the intermediate values. Let us assume that boats generally had a capacity in the range attested in MARV 2 20, that is, between 7000 and 12000 *qa*, and that volumes smaller than that represent only part of the boat's cargo capacity being used for the Agency's supplies. To explain the small shipments we must explain what was done with the remaining capacity. It is difficult to believe it was left empty, for it would seem to be rather easier for all parties involved to send a single full boat rather than several partially filled ones. It is easier to think that each boat's remaining space was filled with cargo other than *gināu* supplies, which would not show up in the Agency's records. In the case of the smaller shipments, this other cargo would represent the majority of what each boat carried.

This suggests that many of the *gināu* supplies were being sent via a shipping network that was not just used by the Agency. I would suggest that through some mechanism, perhaps resembling the *iškāru* arrangements made with craftsmen, boatmen could be obligated to carry cargoes on behalf of the central government without compensation in addition to their normal cargoes as a sort of labor tax.¹³ Indeed, in MARV 9 95 we find about two dozen boatmen all

¹³ On *iškāru* arrangements see Postgate (2010: 21-23).

assigned a quota of grain to transport. For convenience we will refer to the cargoes shipped in this way as “supernumerary cargoes.”

A major advantage of this system is that it would allow boatmen to make a livelihood elsewhere, and so the state would not need to pay them a living wage—or perhaps any wage—for their services. As is amply attested in the Middle Assyrian corpus, simply providing subsistence rations to those on full-time service could be a massive drain on the state’s resources (e.g. MARV 1 1, MARV 2 17). In addition, assigning boatmen quotas of supplies to transport also greatly simplified the administrative duties of the *Gināu* Agency. First, it had the advantage of being quite easy for the *Gināu* Agency to check. It had only to keep track of the total quantity of goods it received from each boatman to know who had met his quota and who had not. It also kicked two unpleasant complications about arranging deliveries up the supply chain. The first was knowing what locations had cargoes ready for transport. With the boatmen obligated to transport a certain quota of goods, the burden of finding out where there were available cargoes to transport fell on them.

The other complication was preventing fraud. A boatman could conceivably accept cargoes in excess of his quota and embezzle the difference. In this setup, the defrauded party would be the provincial governor, since the stolen supplies would not be credited against his obligations for that year. This means that the burden of preventing fraud fell squarely on the governors.

A supernumerary cargo system would also explain the considerable variability in shipment sizes. The non-government cargo a boatman might be transporting would likely vary considerably, and hence there would also be variation in the space remaining for government cargo. Of course, if the need arose the government could arrange to have a ship entirely loaded

with government cargo. This is almost certainly the case for the largest attested shipments. As we will see, this could be done either with a boatman in control of the voyage or with a provincial or Agency official at the helm. We will refer to the former as “commissioned” shipments and the latter as “controlled” shipments.

At least in the controlled Tillê expedition, the government had to provide men and rations for the journey, though it may have not paid the boatman (MARV 2 20). Certainly, if this were done too often without some kind of reasonable compensation it would be impossible for the boatmen to make a living. Even the most dedicated and patriotic boat crew would eventually be forced to stop when its supplies ran out and the whole system would collapse. One imagines a less dedicated crew would probably have abandoned their trade or used their mobility to keep out of reach of state authorities.

This system of supernumerary, commissioned, and controlled cargoes is not idle speculation. We find considerable traces of the three systems in the Agency’s documentation.

2.1.2 Mechanics of the supernumerary cargo system

Given the bulk of *gināu* payments were transported as supernumerary cargoes, one would like to know about the mechanics of this process. The process is not especially well documented in the archive. This is understandable since the process of assigning supernumerary cargoes to ships happened in the provinces, and information about it beyond the size of the incoming cargoes was not particularly useful for the day-to-day operations of the Agency. Yet, we get enough passing references in the documents to construct a plausible model for how this system worked.

The best starting point for this investigation is the summary text MARV 9 112. This text comes from the Ninuaya crisis. Running desperately low on grain, the Agency had to seek out a

number of irregular sources and composed a text summarizing all the grain it had scrounged up. One of the items mentioned in the text reads as follows: 700 *ina sūte ša Mār-āpie ana* 880 *ina sūte ša kurummat ili ittūar ina qāt malāhē ša endāte lā našū* “700 *qa* by the *sūtu* of Mār-Āpie—it comes to 880 *qa* by the *sūtu* of the god’s rations—it was not received from the boatmen of the *emittus* (imposts)” (4-7). The phrase “boatmen of the imposts” is quite suggestive: this would be a reasonable way to describe boatmen carrying supernumerary cargoes. Two bits of circumstantial evidence fit nicely with such a reading. First, no particular boatmen are named as responsible for the lack of delivery. One might posit Mār-Āpie was the boatman, but he is but one person, and the text clearly uses the plural LÚ.MÁ.LAH₅.MEŠ *malāhē* “boatmen.” This phrase fits much better with a supernumerary cargo. If no boatman with sufficient free space came by, the grain would not be shipped, but there would be no particular boatman to blame for it, only “boatmen” in the abstract.

The second piece of information is that the grain’s volume was given in a unit different from the Agency standard. If the conversion had been worked out, why give the original amount? Again the matter can be quite cleanly explained by the supernumerary cargo system. If the grain had not yet been delivered but was still waiting for boatmen to come by, then the Agency would not have had a chance to re-measure it into the Agency standard. Rather, it would only know the volume of the grain as measured in the port, a process evidently done with the large boatman’s *sūtu* by Mār-Āpie (Appendix B). For the purpose of the summary a rough conversion was worked out, but the exact measured volume with its different base unit was retained as well. This would be a prudent action since actually re-measuring the grain could yield a different volume figure than this rough estimate. We find the same practice in MARV 6 52,

where an unusual base *sūtu* and the manner of measurement were recorded for the one shipment in the tablet that had not yet been delivered.

The other uses of the term *emittu* involving the *gināu* also fit this pattern. In MARV 8 59 we read about a few small quantities of grain measured *ina sūte ša endāte* “by the *sūtu* of the *emittus*” (6). The quantities in question are then described as the *endātu ša līme Ninurta-aha-iddina* “*emittus* of the year Ninurta-aha-iddina” (7-8). The two preserved values are quite small, 220 *qa* each. This would fit quite nicely with supernumerary cargoes. In addition, as with the example in MARV 9 112, the amounts were measured according to a different standard than that used by the Agency. Evidently something was unusual with these particular shipments since they were received via Aššur-baissunu, acting as an agent for the *šakin māte*. In addition, the shipments were also at least two months late since they were received in Month II of the year Adad-apla-iddina. It is probably because of these irregularities that the text had to take the unusual step of explicitly talking about the supernumerary cargo process.

We also hear about *emittus* once from the provincial side. In a text from Harbe, an official is instructed to reduce his sesame reserves by a certain amount and then do something involving the *emdāte ana gināe ša bēt Aššur* “*emittus* for the *gināu* of the Aššur temple ” (Jakob 2009: 29 9-11).¹⁴ The logical connection would seem to be that the *emittus* were being made from the previously discussed sesame. This fits nicely with the picture from the other two texts. We can understand the passage to refer to measuring and securing the sesame so that it could be placed on the first ships to come by with available space. Taking all three examples together then, we could posit that the term *emittu* referred to quantities of commodities made ready for

¹⁴ Incidentally, this attestation before the start of the M 4 archive would seem to strongly contradict Freydank’s suggestion that *emdātu* was a synonym for *gināu* in the last phase of the archive (2011: 359).

transport as supernumerary cargoes and that the boatmen of the *emittus* were those obligated to accept the supernumerary cargoes.

The term *tarkubtu* used in MARV 5 5 seems to have had a similar nuance, and gives us more insight into the details of the shipping process. As a *taprust* nominal formation of *rakābu* “to embark,” it would be reasonable to think the term meant something like “embarked thing” and hence “cargo.” In the text a number of these *tarkubtus* are received from various local officials. Most of the cargoes are described simply as received, but in at least two cases we are given further details about the shipping process. In one entry we find the note *tarkubta lā iddin Gabbubu malāhu* “he did not give the *tarkubtu*—(that is) Gabbubu the boatman” (21). In another section we read simply that *malāhu tarkubta lā mahir* “a boatman did not receive the *tarkubtu*” (18). We can see these as two intermediate stages in the delivery process. In the first case the cargo was picked up by Gabbubu, but had not been delivered yet. In the second case the cargo had not been picked up by a boatman. As in MARV 9 112, it seems that a cargo not yet embarked could not be associated with a particular boatman. Since the largest preserved quantity on the tablet is only 800 *qa*, it is not unreasonable to view the *tarkubtus* as genuine supernumerary cargoes. However, matters may have been a bit more complicated since the text deals with payments toward arrears now a half decade old, but we can say little more about this.

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We can fit the other data we have about small deliveries into this same framework. The simplest is the note in one badly damaged partial table, *Aššur-malāh[?] u’a lā iddin Šūdu* “Aššur-malāh did not give the grain—Šūdu,” which is almost identical to the passage about Gabbubu

¹⁵ Postgate has argued in passing that *tarkubtu* “refers to loading and is a charge associated with the boat transport” (2013: 102). The notion of a shipping fee is attractive, but is without any clear parallel in the archive. In the interest of parsimony I have taken the term as referring to the entire cargo.

except that it does not use the term *tarkubtu* (MARV 5 31: 5'). It seems that, like Gabbubu, Aššur-malāh had received the shipment but had not yet delivered it. The quantity of sesame referred to as *ina pitti* PN “in the custody of PN” in one of the late *gināu* tables is perhaps still another way of referring to grain in transit (MARV 8 35: 7).

In addition, in two letters we find officials in the provinces describing small cargoes they have sent to the Agency by particular named boatmen (MARV 2 8; MARV 10 90). In a third letter an official notes . . . *ša kunukku ša Nabium-Šadûni kamku-ni ina qaqqadāte ša' malāhē ana muhhi bēliya ultēbila* “. . . which were impressed with the seal of Nabium-šadûni I have sent to my lord on the heads⁷ of the boatmen” (MARV 5 19: 4'-10'). We can see these passages as describing the actual placement of supernumerary cargoes onto boats. More obliquely, a series of small shipments all apparently measured with an unusual *sūtu* of about 11.7 *qa* suggest one provincial authority with a strangely-sized measure had imposed cargoes on a number of different boats (MARV 8 46).

Similarly, MARV 8 87 refers to a quantity of honey *ana qaqqad Sîn-aha-iddina* “for the head of Sîn-aha-iddina,” who is likely that boatman of that name known to have been active at that time (9'-10'). The text is quite damaged, so we cannot be entirely sure of what is going on, but what is readable of the text also refers to the honey remaining at the disposal of Šūzub-Aššur the *kakardinnu*. It is attractive to see the text as dealing with honey and oil currently in the possession of outsiders which the Agency could expect to receive in the near future. Honey loaned to a *kakardinnu* and honey in transit would both fit nicely into this category, but this remains somewhat speculative given how damaged the text is.¹⁶

¹⁶ The phrase *ana qaqqidišu* in MARV 5 5:6 can also be understood as a reference to a supernumerary cargo, but this is much less certain.

Certainly imposing shipments on boatmen would not be beyond the power of provincial officials. In MARV 7 14, an official from a provincial temple intercepted and redirected a shipment of 4000 *qa* of grain to cover arrears he knew were owed to the Agency. Showing a similar level of authority over boatmen, the text MARV 9 95 summarizes the transportation obligations owed by 23 boatmen to the Agency. As it turns out, all but one of the boatmen were responsible for transporting a total of 2000 *qa* by the large boatman *sūtu*, or 2500 *qa* when converted to the Agency standard. But the numbers tell us more. In terms of the large boatman's *sūtu*, eight boatmen have remaining obligations of 500 *qa*, and one each of 70 *qa*, 600 *qa*, 1000 *qa*, 1400 *qa*, and 1500⁷ *qa*. This sort of arrears pattern suggests that the boatmen were generally taking shipments of around 500-700 *qa* per trip, with some boatmen still having a one, two, or three shipments left to make. Loads of this size would be quite appropriate for a supernumerary cargo.

This is not to say that the supernumerary shipments were normally organized exactly along the lines of the system in MARV 9 95. Indeed, the very fact the text was drawn up would suggest that the shipping procedures it describes were out of the ordinary. That it uses the small *sūtu*, a unit otherwise completely unattested in the archive, points in the same direction. What the text does tell us, though, is that the Middle Assyrians state could assign boatmen quotas of material to transport, and that the boatmen could meet these quotas with a series of loads small enough to be supernumerary cargos. Whether the boatmen had such well-defined quotas under normal operations is less clear.

The closest we can perhaps get to what “normal” shipping duties looked like is MARV 6 29. That text opens by noting that one boatman carried 560⁷ *qa* of the “*iškārus* of Idu.” The subsequent entries do not explicitly use the word *iškāru*, but this is probably scribal shorthand,

since later in the text the scribe simply wrote “*iškāru* of Karāna” to avoid having to write out the various commodities supplied by that province. The volumes of these shipments are given below:

1500+x <i>qa</i>	grain
60 <i>qa</i>	grain
350 <i>qa</i>	sesame
160 <i>qa</i>	sesame
800 <i>qa</i>	barley
930 <i>qa</i> (sesame and fruit) and 66 <i>qa</i> honey.	

There is a bit more variation than the figures reconstructed in MARV 9 95, but none would be larger than the total shipping duties calculated there. That the work assignments are linked to places rather than boatmen is odd, but can still be explained without too much trouble as shipping duties allotted for boatmen active in those areas.

Taken together, though, the evidence is still too weak to presuppose that boatmen regularly had to meet exact quotas rather than a more nebulously defined “reasonable amount.” In fact, one could even posit that under normal circumstances the state simply retained the right to fill any unused space on a boat with its goods as a form of labor taxation on the shipping system. There is simply not enough evidence to decide the matter.

2.2 Commissioned shipments

By making extensive use of supernumerary cargoes the Agency and its provincial associates would have greatly reduced the expense and administrative burden of transporting the *gināu* assessments. But there was a downside to this practice. It made the Agency dependent on an external system over which it had limited control. As noted above, we find boatmen carrying cargoes for multiple agencies, and it may well have been that the *Gināu* Agency was only one of

several agencies drawing on a common pool of supernumerary cargo transport duties. Even if there were boatmen dedicated exclusively to *gināu* transport, one suspects that sufficiently dire circumstances would cause officials to commandeer other available boat space anyway. Indeed, something like this might be why we find the Agency's own dedicated boatman, Bahu'u, enlisted for an expedition to Tillê (MARV 2 20).

To add further complications, if provinces fell into arrears, the Agency would have to somehow find extra shipping space to carry both the current year's payments and back payments. There could be still further problems if cargoes needed to be shipped in off-season periods when shipments were infrequent or stopped entirely.

Given all these potential failures, we would expect that this shipping system often was inadequate to transport everything the Agency needed shipped in a timely fashion. Now, if supplies could not be impressed onto a passing vessel, a next logical step would be to arrange for a vessel to go and get them. The Agency's documents are again quite coy on this point, but we do find traces of such commissioned shipments. As noted above, some of the shipments attested in the writing board extracts are so large that they must have been most, if not the entirety of a ship's cargo. This fits poorly with a supernumerary cargo, but it is exactly what we would expect if these vessels were actively commissioned to go and get a particular *gināu* cargo.

2.2.1 The commissioned boatmen summary MARV 6 3

We get the clearest picture of this practice during the *maddattu* crisis. It seems that in the year Ištu-Aššur-ašāmšu the Agency reacted to the ongoing supply crisis by arranging for a number of boatmen to concentrate on moving cargoes from the ailing northeastern provinces (MARV 1 21, MARV 6 3, MARV 6 88). In a summary table for this arrangement, MARV 6 3, we find one boatman each working for Halahhu, Talmuššu, Idu, and Šīme, and two working for

Katmuhhu. The tablet records as many as six shipments per boatmen, and many are in the range of 2000 *qa*. These are not impossibly large for supernumerary cargoes, but would be on the high end.

Yet something was clearly special about these shipments. This small collection of large shipments from provinces is very different from the innumerable small shipments found in the writing board excerpts. What is more, this table clearly does not cover all the income for the year Ištu-Aššur-ašāmšu. We learn from MARV 7 58 that Katmuhhu province paid at least 27860 *qa* in that year, yet the total for the province given here is only 13740 *qa*. The same text also records 3000 *qa* brought by a certain Mardukiya on behalf of Šīme province while here we find 3300 *qa* brought by Huppute for that province. One might postulate the tablet only deals with six months of income since these figures are both roughly half the expected value (with perhaps one of the table's six columns allotted for each month) but this raises problems. First, we have reason to believe that in addition to the listed provinces, Kalhu, Kilizu, Šūdu, and the Lower Province were paying grain around this time (MARV 6 70). However, there is only space to restore at most one of them in the table (likely Kilizu in the second row). In this interpretation, then, the text can only have dealt with a portion of the provinces that paid that year.

Furthermore, as argued above, incoming shipments were normally concentrated in a window of about four months, corresponding to Babylonian Months III through VI. MARV 1 21 indicates that the last column of our text mainly covers entries made after X.13.Ištu-Aššur-ašāmšu. That implies that the last column of the text deals with shipments made from the middle of Babylonian Month III onward. Thus, MARV 6 3 must have included information about the start of the delivery season when one would expect shipments to be the most abundant.

We cannot categorically exclude that that Agency picked a subset of delivering provinces with unusually high shipment sizes and kept an account of them for the first part of the delivery season. However, I would suggest a different explanation. We can understand the tablet as a summary of special shipments arranged by the Agency in reaction to a partial breakdown in the normal delivery system. For one, this would explain the missing provinces. At least two of them, Kalhu and Šūdu, seem to have been abnormally solvent at this time, and the Lower Province may have been solvent as well (III.1). In these provinces the system was not yet broken, and so the Agency did not attempt to fix it. In contrast, the provinces that are attested in the table were about a year out of phase with the current tax cycle and so in crisis.

In addition, this explanation would account for the missing grain. The normal shipping system was not completely broken, and so the special shipments in MARV 6 3 did not have to replace the supernumerary cargo system but only take some of the strain off of it. We might also note that the various small loans and other abnormally sourced grain in the text would be quite at home in a summary of specially arranged shipments. Finally, this idea would explain why we find only one or two boatman per province, when our other evidence points to as many as a dozen active in a single province (e.g. MARV 5 3). While it would be convenient to impose small extra cargoes on whatever ship happened to be moving by and hence use a large number of boatmen, when commissioning boatmen matters would be reversed. It is rather easier to commission one boatman to make six trips than six boatmen to each make one.

2.2.2 The family of Himsāteya

Happily for us, two of the commissioned boatmen in MARV 6 3, Himsatēya and his son Šūzub-Marduk, are reasonably well attested in the archive, and so we can get a better picture of their activities and hence of the mechanics of commissioned boatmen.

Let us begin with Himsateya. In MARV 6 3 he personally brought at least half of the *gināu* payment of Halahhu province. He seems to have continued in this role for half a decade as we find him bringing an enormous load of 22,000 *qa* from Halahhu in the year Ina-iliya-allak (MARV 9 14). It is reasonable to see the load of 8000 *qa* from an unnamed province he delivered in the year Hiyašayu as another shipment from Halahhu (MARV 9 16). It would seem that he was involved with making deliveries from Halahhu province for most of the *maddattu* crisis.

His work for Halahhu province included some unusual shipments. He transported a consignment of flour (MARV 9 16), and was involved in a complicated delivery of grain from Rēš-nāre on behalf of Halahhu province (MARV 6 52). Some of his other activities were recorded in a note that is unfortunately quite damaged (MARV 8 3).

We get a hint about the mechanics of his commissioning in the letter KAJ 302. There, a man who identifies himself as an inferior of Ezbu-līšer recounts that he has sent 5000 *qa u'a* 100 *qa dišpa* 150 *qa šamaššammē ša ana eleppe ša Himsateya akruran-ni* “5000 *qa* grain, 100 *qa* honey, and 150 *qa* sesame which I put on the boat of Himsateya” (6-11). The terminology is curious, for the verb *karāru* is not otherwise used with shipping in Middle Assyrian. Letter writers usually use the verb *šūbulu* to describe having items shipped, and, in fact, the writer of KAJ 302 used *šūbulu* with the other shipment he discussed in the text. In addition, the load carried is much larger than those usually described in the extant letters. We neatly can explain all these aspects by assuming *karāru* has the sense of loading a largely empty boat with its primary cargo, not unlike filling a jar, for which the verb was also used in this period (see Ebeling 1950: pl. 1-4). This is not to say the verb had a well-defined technical sense used in shipping, but only

that it would not be the first verb someone would choose to describe adding a few parcels to a boat already on the move.

Putting this together we can generate the following model. Since the delivery system in Halahhu had broken down by the year Tiglath-pileser I, Ezbu-līšer arranged for Himsāteya to deliver the bulk of the province's assessment until the system recovered. Meanwhile, to ensure that there would be something for Himsāteya to receive when he arrived, he dispatched an agent to the troubled province to organize the *gināu* collection. It is attractive to see him as a personal retainer of Ezbu-līšer rather than Agency staff. This would explain why we find him organizing a wine and sheep delivery in the same letter although the Agency handled neither commodity.

While the data is sparser, we get outlines of a similar arrangement involving Himsateya's son Šūzub-Marduk and the province of Katmuhhu. He delivered at least 7200 *qa* of grain for the province in the year Ištu-Aššur-ašāmšu (MARV 6 3), and continued to make deliveries for that province in the years Šamaš-apla-ēreš (MARV 6 26) and Mudammeq-Bēl (MARV 10 88). In the latter case he brought a simple shipment of 8700 *qa* of grain, but his shipment in the year Šamaš-apla-ēreš is rather more interesting. He worked along with his brother Hattaye and transported honey and sesame rather than grain. What is more, the same tablet records a large amount of fruit from Katmuhhu province received from a *rab karāne* "vineyard supervisor" on the same day. As we will discuss in greater detail below, Katmuhhu seems to have had an official specifically tasked with delivering its fruit. It can hardly be a coincidence that he showed up with over a year's worth of fruit on the same day that Šūzub-Marduk arrived with comparable quantities of the other minor commodities. Rather, it would seem the *rab karāne* had coordinated the shipment of all the province's minor commodities, using the aid of the commissioned boatman currently working in the province.

Generalizing from these two examples, it would seem a commissioned boatman could work for the same province for years at a stretch. Whether this was a deliberate choice of the Agency, or came about because there was only one suitable boatman operating in the area is unclear. For our purposes what matters is that the details of the shipments were coordinated by officials in the provinces rather than the *Gināu* Agency. There would hardly be need to tell the *gināu* supervisor how much had been loaded on a ship if he was the one who decided the amount. From an administrative standpoint this makes a great deal of sense. The central authorities would have at best a limited understanding of what supplies were actually available for pickup in the provinces at any given time and place. It would be far easier for an official on the spot to coordinate this, perhaps working off more general standing orders from the Agency.

2.3 Controlled shipments

We can take the principle of commissioned shipments one step further. If the Agency and its provincial associates could appoint regular boatmen to carry specific cargoes, might they not also send their own agents to transport supplies? While not common, this does seem to have happened from time to time.

2.3.1 The governor

Perhaps the safest way for a governor to make sure his *gināu* payment reached the capital was to actually go to the capital in person and bring the supplies with him. Certainly, coming in person every year with shipment would be rather inconvenient for the governor, and it does not seem to have been a regular practice. All the same, clear references to the practice appear sporadically from the later years of Aššur-rēša-iši I onward. For earlier periods we have debt notes drawn up for governors while they were in the capital. These do not prove governors were

making deliveries then, but it is reasonable to think governors who were going to the capital and had *gināu* arrears to deal with might bring some of the commodities they owed with them.

We are best informed about Kiditê, the governor of Šūdu, who brought a shipment in the year Šamaš-apla-ēreš (MARV 7 50). He seems to have had great difficulty getting shipments brought from his province. Thus, his delivery included considerable arrears, although the tablet is too damaged to work out their details. We get hints that this may have been the first shipment to make it through in some time. Two years before the text, he had made a small payment via an agent of his household (MARV 1 21:17-20). Two years after it, we find grain being taken directly from his house (MARV 6 24, MARV 9 14:1-14). Šūdu province may have paid its *gināu* from the year Tiglath-pileser I, but even here we cannot be certain it was not taken from the governor's estate (MARV 6 70). Given his province's poor payment history it would make sense for Kiditê to come and deal with his arrears in person. It is also possible that without the governor's personal intervention (and perhaps some accompanying soldiers) a shipment from his province was unlikely to get through to the capital.

A similar backstory might explain why Sîn-šuma-iddina, governor of Talmuššu, brought exactly one year's complete payment in the year Hiyāšāyu (MARV 5 42)¹⁷ and why a commodity was received via an unnamed governor of Halahhu in a summary text (MARV 8 66: r.3'). It might also explain the slightly late payment made by Taidu's governor in MARV 6 67. Unfortunately, we lack the evidence to reconstruct the circumstances around these events with any detail. It is attractive, though, to see the governors' journeys as a consequence of the *maddattu* crisis going on at that time.

¹⁷ There are a few very damaged fragments of another sealed delivery text involving him (MARV 3 85 + MARV 3 86). Its date, XI.23'.x is close enough to the XI.25.Hiyāšāyu in MARV 5 42 that it could have been written a few days earlier on the same trip, or, with a less likely restoration, could be essentially a duplicate written on the same day.

In the case of more extreme arrears we find shipments being brought by a *qēpu* assigned to the province. The two *qēpus* attested seem to be related to an ongoing administrative crisis in the greater Arbela region, whose precise details were discussed in I.1. Here it suffices to note that the *qēpu* of Kilizu brought exactly two full years' of grain (MARV 6 90), and the *qēpu* of Arbela—assisted by the governors of Arbela's two sub-provinces—brought enough grain to cover about 166% of the province's assessment,. This fits the picture that emerged from Šūdu province. When top provincial officials are called upon to bring shipments directly, it is because their province has major payment irregularities.

Interestingly, in contrast to the grave circumstances required to bring most governors to the capital, the governors of the Upper Province, one of the most distant locations in the kingdom, seem to have made a habit of making their deliveries in person. We find a certain Samnuha-ašarēd made a delivery in the year ša urki Berê and again almost a decade later in the year Šadânāyu. The governor of Uššukannu seems to have made a similar delivery sometime between the years Tiglath-pileser I and Šamaš-apla-ēreš.

As we might expect in documents involving high level state officials, the texts involving governors and *qēpus* show unusual sealing practice. The texts from Šūdu, Talmuššu, Taidu and Arbela are sealed by the men bringing the shipments. The text from Kilizu seems to have been sealed by Ezbu-lišer, although in an unusual arrangement that did not involve his normal seal. In contrast, Ezbu-lišer sealed the text involving Uššukannu's governor with his own seal. Even more strikingly, Samnuha-ašarēd's texts were not sealed at all. This suggests that the governors of the Upper Province, or at least Samnuha-ašarēd, were on good enough terms with the Agency that formal sealing protocol could be dispensed with. It is tempting to think that there was a

connection between governors of the Upper Province making deliveries in person and that province's stellar payment record, but this is largely speculative.

2.3.2 Other titled provincial officials

In MARV 3 32 we find the governor of Kilizu conducting business in the capital via his son, the *haziānu* of Kilizu. As discussed above (I.1), we also find several occasions where *haziānus* in the capital were held liable for their province's arrears. One wonders if a governor could intentionally delegate his *gināu* responsibilities to other men in his province, like the *haziānu*. As with the governors making their own deliveries, the evidence is not especially plentiful, but we see the outlines of a pattern.

The largest problem we face is that the Agency frequently omitted titles. In texts where titles are given they fall into two clear groups. One group consists of various local officials who managed individual towns, including *haziānus* (MARV 5 5, MARV 6 67), *rab alānēs* (MARV 75 5, MARV 7 8), and one *ša muhhi ālānē* (MARV 6 63).¹⁸ They could work alone or in conjunction with boatmen. Most of the attestations of this practice come from two texts dealing with the collection of arrears (MARV 5 5, MARV 7 8), and none can be convincingly linked to the collection of *gināu* for the current year. This contrasts sharply with the boatmen, who abound in the archive. While the sample is too small to be conclusive, it is likely that town officials only became involved delivering *gināu* payments when the normal channels broke down.

There is one major exception to this. As mentioned above, it seems the Katmuhhu's fruit deliveries were regularly made by a "vineyard supervisor," rendered in Akkadian as *rab karāne* and *ša muhhi karāne* (MARV 6 26, MARV 7 51). In both texts where he appears he is among

¹⁸ The *rab kašrāte*, who is involved in a delivery in MARV 7 8 seems to have played a role similar to these officials, but as the office appears only once in the archive in a damaged context we can say little more about it.

regular boatmen, and delivers only fruit. The two texts are dated more than a decade apart, and in MARV 6 26 the vineyard supervisor is making a payment for his province on time, so it is difficult to write off the office as an administrative improvisation to handle a crisis. Rather it seems to have been a fairly permanent arrangement. A likely cause for this special arrangement is not hard to find. Katmuhhu and Arbela paid nearly twice as much fruit as any other province in the kingdom, and our vineyard inspector transports over 1000 *qa* of fruit in each text. It is not a stretch to think that a dedicated official was needed to coordinate such an abnormally large fruit delivery. That is not to say that the vineyard inspector was occupied with the task full-time. We need posit only that when delivery season came around, it became his task to make sure that province's fruit delivery was made.

2.3.3 Generic "Provincials"

In other texts we find deliveries made by men who are given a geographic affiliation but no title. It does not seem a great leap to think that when men from a province showed up in the capital with a *gināu* payment, the provincial authorities had a hand in it. Indeed, as we noted above (I.1), there is little evidence that governors had especially large or formalized administrative staffs. It is, therefore, attractive to see these untitled men as informal associates of the governor whom he could call upon for the occasional odd job like delivering a *gināu* payment.

Sometimes these officials are recorded as cooperating with named boatmen. In MARV 7 83 a shipment from Talmuššu province is described as *ša qāt Kibie malāhe u PN ša GN* "under the management of Kibiu the boatman and PN of GN (7'-10')". In MARV 5 5 two men from the Lower Province are involved in a delivery, part of which was picked up by Gabbubu son of

Tapure, evidently a boatman, while the remainder was still in the province since *malāhu tarkubta lā mahir* “no boatmen picked up the cargo” (18).

At least once the provincial men brought the shipment without the aid of a named boatman. In MARV 1 73 three named men from Kulišhinaš, led by a certain Ittabši, brought an on-time but incomplete payment from their province in the first year of the *maddattu* crisis. None of them were of sufficient rank to seal the document and so the *šakin māte* had to do this for them. MARV 6 39 refers to honey brought by the men of Parunaya, but this is described as *maddattu* “tribute” and seems to have come from outside the Assyrian provincial structure (see the edition of the text). The few other examples of untitled people involved in the *gināu* deliveries should probably be understood as referring to the same phenomenon (KAJ 105, MARV 1 62, MARV 5 5, MARV 7 8).

What is perhaps most interesting about these texts is that at least two involve on-time shipments (MARV 1 73, MARV 7 83). Thus we are not dealing only with the Agency’s reaction to non-payment. Rather it would seem that the governors sometimes called upon their associates to make sure the *gināu* assessment made it to the capital on time. Unfortunately, with so few clear attestations of the practice, we can say little more.

2.3.4 Officials from the *Gināu* Agency

If things became bad enough, the Agency might have to send its own agents to come and get supplies in the provinces. Perhaps the clearest examples of this are when Bahu’u the “boatman of the Aššur temple” was sent to obtain supplies from Aššur, Apku and Karāna (MARV 5 5, MARV 7 93). The Agency also dispatched Aššur-šuma-iddina, the *mašennu ša bēt ile* “steward of the temple” (and perhaps the future *alahhinu* of that name) to bring an irregular cargo of grain from Apku (MARV 6 89).

We also learn that the *gināu* supervisor Šîn-nādin-ape had taken a copy of a debt tablet involving Šīme province with him *ana hūle* “on a journey” (13). It is tempting to think that he was going in person to Šīme to arrange payment. This would not be so difficult since Šīme was no more than a few days’ travel from the capital. Unfortunately, Šîn-nādin-ape does not seem to have been successful since the debt remained unpaid a year into the tenure of his successor, Adad-iqīša. Indeed, MARV 5 12 seems to imply that the primary document was lost on Šîn-nādin-ape’s journey, and it is tempting, if perhaps excessively optimistic, to assume he never returned from his journey but lost his life along with the tablet in the chaos of the Liptānu crisis.

We have a few other, less clear examples that may also refer to *gināu* officials being active in the provinces. In MARV 5 5 we find the *gināu* supervisor Adad-iqīša coordinating shipments in a sub-province of Talmušu in the wake of the Liptānu crisis, but this may be him acting in the capacity of governor of the region (see below). The Šilliya, “servant of Ezbu-līšer” who arranges a shipment on Himsateya’s boat, apparently from Halahhu province, can also be seen as a special commissioner appointed by Ezbu-līšer to sort out the delivery problems in Halahhu province during the *maddattu* crisis (KAJ 302). However, this Šilliya does not seem to have been on the Agency executive staff and is perhaps best seen as personal retainer of Ezbu-līšer. And, of course, we cannot rule out that he was simply a generic low-ranking provincial official who took an overly deferential tone when addressing the *gināu* supervisor.

Stepping back for a moment, these examples all give the impression that when Agency officials and their associates went to the provinces, there was almost always a major crisis

involved. In the archive there is no clear evidence that officials were ever regularly sent from the capital to collect the *gināu* payments.¹⁹

Having outlined the three types of shipping used by the Agency we can make sense of one of the most deceptively simple shipping texts in the archive, MARV 9 17. This text divides the received *gināu* of Halahhu into three parts. One part is described as *ša Urad-Kūbe ina eleppēte ublan-ni* “that which Urad-Kūbe brought in boats” (3). The person involved is likely the major *alahhinu* of that name who was active in the Agency at the time. As he was not a boatman and *alahhinus* were not in the habit of going to the provinces to get shipments, the writer had to be very explicit about the operation. This was a controlled shipment. The second section of the text refers to a large quantity of 15000 *qa* of barley and 340 *qa* of fruit described as *ša Arik-dēn-ile ublan-ni* “that which Arik-dēn-ile brought” (5). We do not otherwise know this Arik-dēn-ile, but the quantity of supplies he was bringing is of comparable size to the amounts we find brought by commissioned shipments. It is quite attractive to see this as a commissioned shipment. Finally, the text refers to 8680 *qa* of grain and large amounts of the other commodities *ša Pa’uzu imdudu-ni* “which Pa’uzu measured” (9). This Pa’uzu was the minor *alahhinu* at the time. The text does not describe him as actually bringing these goods, but rather as “measuring” (*madādu*) them. I would suggest that this refers to receiving supernumerary cargoes. While the Agency might trust the measuring skills of its own members, like Urad-Kūbe, or a specially appointed agent like Arik-dēn-ile, it would have rather less reason to trust the myriad boatmen carrying supernumerary cargoes, and it would make sense to re-measure these cargoes on arrival.

¹⁹ Bloch uses such an interpretation to explain the role of the royal *qēpu* Da’ānī-bēl-Ekur in BATSH 4 12 (2010a: 46-47). However, as we have shown in I.1, it is simpler to see this as another instance of a high government official being enlisted to help confiscate *gināu* arrears from a governor’s estate.

Thus this text seems to neatly describe the three different modes of shipping used by the Agency: controlled shipments, commissioned shipments, and supernumerary cargoes. As we noted above, commissioned and controlled shipments tend to be linked to crises, and here our text does not disappoint. It is dated to the year Haburrāru, the year Ninurta-apil-Ekur overthrew the reigning monarch with the aid of Babylonian army and so precipitated the accession crisis (III.1).

3 Management and control methods

Before delving into our final excursus and closing this chapter, it will be useful to look more closely at two technical issues surrounding the shipping process.

3.1 Interest

One problem of relying heavily on boatmen not under the Agency's direct control was that these boatmen could have a perverse incentive to delay their shipments. If they held onto their cargoes long enough, they could lend them out at interest in the months before the harvest when demand was high. When the harvest came they could then pay the Agency the original sum, pocketing the interest. The Agency could try to stop this by making sure all arriving shipments had been made in a reasonable time frame, but the administrative cost of this would be very high. Not only would the Agency have to keep track of the departure times and routes of dozens of shipments, it would also have to have some idea about local conditions to know if particular regions were impassable. In addition, in the case of supernumerary cargoes the Agency would need some way of allowing time for the ship to transport its primary cargo.

The Agency settled on a simple solution. It seems that rather than force boatmen to be prompt with their shipments, it just charged interest on the late payments. This would remove the

incentive for the boatmen to delay and generate additional revenue while at the same time requiring only minimal administrative expense.

Perhaps the clearest example of this practice occurs in MARV 3 14, where a boatman is obligated to pay 400 *qa* of grain within forty days or the amount will *ana šibte illak* “accrue interest” (14-15). Given the small size of the shipment and the fact that grain was measured by the 50 *qa sūtu*, i.e. already in pre-measured sacks, it would seem that it was a supernumerary cargo he was supposed to pick up. Evidently he either had not delivered it or, given the troubles in Katmuhhu province at that time, he had not been able to pick it up (III.1). Whatever the exact circumstances, he had not paid at the time the contract was drawn up, and as we learn from a later loan summary, he had still not paid more than nine months later (MARV 5 7). Thus, the interest did in fact accrue. In this particular case the terminology for interest is the standard boilerplate used in Middle Assyrian loan contracts. Strangely, such terminology is rather infrequent in the archive. The Agency’s preferred term for this arrangement seems to have been *rubbāu*, literally “increase.”

Although the term *rubbāu* is not well attested outside the Agency in Middle Assyrian documents, it is well attested in Neo-Assyrian times with the meaning “interest” (CAD s.v. *rubû* B). It is hardly a stretch to think that it had that meaning in the Agency’s documents as well.

Several documents give us an idea of how this interest was reckoned. In general, the interest figures tend to be around 10% of the original sum. In one text we find 8480 *qa* of grain delivered on behalf of Šūdu province, which is described as *adi rubbêšu* “including its *rubbāu*” (MARV 3 29: 8). Šūdu’s annual assessment was only 7710 *qa*, but 10% interest on the full assessment would yield a payment of 8481 *qa*, or rounded to an even ten *qa*, exactly the 8480 *qa* figure found in the text. Similarly, in MARV 6 87 we find that Šīme had paid 40 *qa* honey but

that 4 *qa dišpu ana rēšāte mahrū* 4 *qa rubbāšu lā mahrū* “4 *qa* of honey was received as first fruits, and 4 *qa* of honey, its *rubbāu*, was not received” (5-6). If this interest was charged on the entire assessment of Šīme, it would amount to 9.1%, or one *qa* per 11-*qa sūtu*, but it seems better to assume that the 4 *qa* received as “first fruits” was paid early enough that it did not accrue interest with the remaining 40 *qa*. That would once again make the rate exactly 10%. Although it does not feature the word *rubbāu*, MARV 8 59 may show the same arrangement. There two *emittus* of 220 *qa* each were delivered a year late. We can explain the attested numbers as *emittus* of an even 200 *qa* which accrued 10% interest because they were delivered late.

We do find traces of a 5% rate as well. In MARV 7 83 this rate would have been paid by a boatman, if the text is understood correctly. More interestingly, in MARV 5 6 the Agency assessed 5% interest on the large sums of grain it had deposited with the major *alahhinus*.

The next question is who owed this interest? In MARV 3 14, the clearest extant document, it is a boatman. But that document does not use the term *rubbāu* and so one might posit that *rubbāu* was used for interest charged to the province. This does not hold up to scrutiny. In MARV 2 24 we read that 411[?] *qa u’u rubbāu ina muhhi Aššur-malāh* “411[?] *qa* of grain, the *rubbāu*, is owed by Aššur-malāh” (MARV 2 24: 18-19). That is to say, the *rubbāu* is explicitly owed by a boatman, not a province. Similarly, the damaged footer from a list of boatmen’s work assignments (MARV 9 95) refers to x+550 *qa rubbāu* (27). It is tempting to see this as interest on the at least 7000 *qa* of grain that remained undelivered when the tablet was written.

Unfortunately the numbers are damaged and the text uses at least two different base *sūtus*, so reconstructing the exact interest rate is difficult. MARV 5 39 evidently had a similar arrangement for we find a reference to *rubbāu* and a note that a boatman, rather than a province,

was indebted to the Agency. However, the exact administrative arrangement in this text remains rather opaque.

But we can say a bit more about the mechanics of the interest. *A priori* we would expect that the prime time for making loans would be the last few months before the harvest, when grain stores had run low. We would also expect that most of these loans, if they ever were repaid, were repaid shortly after the harvest when grain stores were abundant. Supporting this reasoning some 18 of the 94 Middle Assyrian loan documents listed by Abraham explicitly state that they are to be repaid at harvest time (Abraham 2001: 201-207). This arrangement likely underlies many of the other loans as well, but most of the documents come from periods when it is difficult to correlate Assyrian dates with the seasons.

We can model the interest charged by the *Gināu* Agency using similar principles. It is best to start with the shipping log, MARV 5 55. This text opens with a number of shipments received in Babylonian Month III. The first of these is a shipment from Libbi-āle province which is said to have included a *rubbāu* (1-4). We can posit that this shipment was sent out before the harvest but delayed. Given that the shipment came from the capital province, the delay was apparently inexcusable, and so the boatman was fined.

It would be nice if the Agency regularly assessed interest at the start of each new delivery season, but the matter is a bit more complicated. In general, it seems that interest was assessed, not at the start of delivery season in Babylonian Month III, but a bit before in Month I. In MARV 3 14 we are told that interest will begin to accrue in 40 days on Assyrian VI.27, which works out to around I.27 on the Babylonian calendar, about a month before the new harvest. Similarly, the table MARV 9 95, which seems to have included a note about interest charged to boatmen, was composed in Babylonian Month I. The two other texts possibly involving interest which can be

dated come from Babylonian month VI (MARV 8 59) and Babylonian month VII (MARV 3 29). However, both of these are records of deliveries rather than obligations, and so the dates are *termini ante quos* for when the interest was assessed. In the interests of parsimony, it seems better to assume that the interest in these texts was also assessed around Babylonian Month I and that the boatmen put off making the already delayed shipments until the end of the delivery season.

We do find one other interesting appearance of the term *rubbāu* which fits with our interpretation. During the year Šadânāyu the Agency had come into a very large amount of grain and was able to make several unusually massive disbursements to the executive staff (III.1). In MARV 5 6 the major *alahhinus* received 10600 *qa* of grain each. The text contains a damaged and cryptic note mentioning *rubbāu* and the figure of 530 *qa*. As noted in the edition of this text, it seems that the *alahhinus* are being charged 5% interest on their grain funds. This is about half the usual rate, but the date offers an attractive solution. The text was composed on V(=Babylonian IX).11.Šadânāyu, but involved enough grain to last through at least I.26 on the Babylonian calendar. Moreover, based on MARV 7 2, it seems likely that the *alahhinus* had additional grain resources on top of these payments. Therefore, we can explain the appearance of interest by assuming that the Agency expected the *alahhinus* to lend out part or all of the sum at interest and so generate some badly needed supplemental income.

MARV 5 6 does not explicitly tell us when the *alahhinus* were supposed to provide this interest. However, MARV 7 2, if understood correctly, mentions the interest actually received, and is dated to VIII.14.Šadânāyu, equivalent to Babylonian II.14. This fits nicely with the suggestion that interest was assessed at the end of Babylonian Month I. Interestingly, the returns

actually listed in MARV 7 2 are 18-24% of the grain each *alahhinu* received. Hence, the 5-10% interest figures the Agency used in its calculations were on the conservative side.

One final question is in order. If boatmen could be charged interest to discourage late payments, why was this not also done with provincial governors? Given how frequent underpayments and defaults are in our documentation, if there had been some arrangement for charging governors interest, we would expect traces of it to show up with some frequency. Hence, it really seems like there was no mechanism to do so.

I would suggest that, since governors managed the large provincial fund, there was presumably already some mechanism in place to deal with the profits made from loaning it out. Whether all or part of the profit went back into the fund or was understood as part of the governor's remuneration remains an open question. Moreover, unlike boatmen, governors had substantial assets in the capital from which *gināu* payments could be, and were, confiscated. Thus, by delaying a shipment to make loans in the provinces, a governor skipped the opportunity to make loans with his funds in the capital where one suspects that going rates were as good or better.

3.2 The province of the *gināu* supervisor

Before we bring the chapter to a close, it will be useful to provide a short excursus to deal with a final thorny matter that shows up in the shipping documentation. Among our texts are a number of letters in which individuals speak deferentially to the *rab gināe* and organize the delivery of shipments to the capital (MARV 2 8, MARV 5 19, MARV 10 90). These at first might seem like evidence that Agency had an extensive delivery network in place all over the provinces. However, this does not stand up to close scrutiny. First, this makes little sense on purely administrative grounds. Given the relatively small size of the assessments, arranging

deliveries from even the largest provinces would likely be too little work to justify the expense of supporting a full-time employee in a given region, and it would be hard to keep part-time officials independent from the local administrative hierarchy. What is more, in the clearest text about the transfer of commodities from the provinces to boatmen, MARV 5 5, the transfer is generally made by a local or provincial official.

In fact, we do not need to postulate a nearly invisible network of *gināu* agents in the provinces to understand this deference. We can explain it as a product of the relationships between the particular letter writers and the *gināu* supervisor. First, as an important official in the capital it would not be unreasonable to think that most provincial officials showed him deference. There is, in fact, considerable evidence that most *gināu* supervisors had a rank that made them of roughly equivalent rank to a provincial governor or even a royal *qēpu*, and that at least some of them actually managed a “province” of some sort in addition to coordinating the *gināu*.

The clearest evidence of the *gināu* supervisor’s high rank is the use of the title *urad šarre* “servant of the king.” Aba-lā-īde is given this title in a virement grant (MARV 3 41: 5), and Ezbu-līšer received it on two of the inscribed jars in which the archive was found (Postgate 2013a: 91n.5, n.6). Here we need not assume this title referred to a well-defined position or rank, but only that it is generally used with high ranking individuals. Indeed, in MARV 4 27 we read about a quantity of grain issued as rations by *Šamaš-bēl-kēnāte ša rēše . . . Šūzub-Aššur urad šarre . . . u qēpūte ša iltēšunu* “Šamaš-bēl-kēnāte the eunuch . . . Šūzub-Aššur the servant of the king . . . and the *qēpus* with them” (7-9).²⁰ This seems to imply that holders of the title “servant of the king” operated in the same high echelons as royal eunuchs and *qēpus*. In fact, in

²⁰ m.d UTU-EN-ke-na-te ša SAG ‘x x’ [. . .] m^r KAR² -^d a-šur (ras.) ARAD LUGAL ‘x’ ù qe-pu-te ša il-te-šu-nu.

MARV 5 37 Ezbu-līšer appears to have been listed in a group of *qēpus*. Thus, we have reason to think the *gināu* supervisor was reasonably high up in the administration, so to speak. Even so, the *gināu* supervisor was not at the top of the Assyrian hierarchy. The sender of MARV 8 49 used a formal greeting that implied Ezbu-līšer was an inferior, and the sender of MARV 7 14 did the same to a *gināu* supervisor whose name is lost. The eunuch Mudammeq-Bēl simply dispensed with a greeting formula for Ezbu-līšer altogether and moved directly into the contents of his letter (MARV 7 29). This is certainly not something an inferior would do, and it seems unlikely an equal would do so either, which favors that Mudammeq-Bēl was his superior.

In fact, if we look more closely, it seems the *gināu* supervisors held a rank at least roughly equivalent to that of a governor. A certain Aššur-baissunu, who was likely the governor of Kalhu or a similarly sized province, substituted for both Ezbu-līšer and the *šakin māte* (II.1). This suggests that the three offices were of the same general rank. Similarly, a certain Aššur-nāšir shows up as governor of Āh-hurre sub-province in the early years of Tiglath-pileser I (I.1), and it is tempting to identify him with Ezbu-līšer's son of the same name who acts as a substitute for his elderly father about two decades later.

Yet we can take this one step further. There is some evidence that the *gināu* supervisors may actually have served as provincial governors while heading the Agency. Perhaps the most striking is a letter that greets Aba-lā-īde with the lines *ana kâša bētika pāhitika lū šulmu* “let it be well for you, your house, and your *province/office*” (MARV 10 90: 4-5). Admittedly, the term *pāhutu* can have a more general sense of “office” in greeting formulae, as noted by Postgate (2013a: 271n.26). But the phrasing remains suggestive. That Aba-lā-īde controlled a province would explain how he was able to lend the Agency some 27050 *qa* of his own grain (MARV 3

34). We know enough about the Agency's finances to be certain Aba-lā-īde's mysterious wealth did not come from *gināu* payments.

Aba-lā-īde does not seem to have been alone. In MARV 5 5 we find that a shipment is to be sent out from the Šarhullu sub-province of Talmuššu via Adad-iqīša the *gināu* supervisor (11-13). We cannot rule out that he was simply visiting the province, for the *gināu* supervisor Sîn-nādin-āple seems to have made such a trip to Šīme in MARV 5 12. But, it would not be unreasonable to think Adad-iqīša was in the province because he managed state assets in the region. Finally, we might note that, if Ezbu-līšer's son was a sub-governor, it is not a stretch to think his father was a governor as well. In fact, one might speculate that he delegated the governorship to his son upon becoming *gināu* supervisor. In that case both Ezbu-līšer and Adad-iqīša would have been sub-governors in larger provinces in the northeast, which has the feel of a deliberate pattern. MARV 10 90 can be fitted into the same pattern. The man who sent that letter to Aba-lā-īde, Rēmāni-Marduk, shares his name with an individual who coordinated shipments for Hiššutu province at that time (MARV 5 5). It is tempting to assume that he wrote to Aba-lā-īde because his province was one province over from the *gināu* supervisor's, again putting that province in the northeast.

But this takes us much too far into the realm of speculation. It is possible that the office of *gināu* supervisor simply came with some land attached. Indeed, this might be what a Neo-Assyrian text referred to as the *pāhutu ša bēt Aššur* "province of the Aššur temple" (SAA 12 71), and what the writer of MARV 10 90 meant by the "province" of Aba-lā-īde. Certainly we need nothing stronger than this to explain the deferential letters.

If the *gināu* supervisor held the rank of governor it would make sense that local officials in the provinces would treat him with deference. Other governors and high provincial officials

might not, like the sender of MARV 7 14. But, we know from texts like MARV 5 5 that the *gināu* Agency did interact directly with lower officials like the *haziānu* and *rab ālānī*, and it is reasonable to think some governors delegated the task of ensuring proper deliveries to their stewards or other agents. In fact, the letter Jakob 2009 29 seems to refer to exactly this sort of delegation from the provincial side. We could see these low-ranking agents as the senders of the letters.

If we accept the stronger but more speculative hypothesis that the *gināu* supervisor actually governed a province or sub-province, then we could posit that the correspondents worked in that province either as local officials, or perhaps as personal agents of the *gināu* supervisor. They would have addressed him as a superior because he was their superior in a very real sense. However, for our purposes we can get by with the weaker but much more secure postulate that the office *gināu* supervisor simply had a rank comparable to a provincial governor but did not necessarily involve managing state land holdings or the like. It is this weaker assumption which we will use in the rest of the work.

4 Conclusions

When we began this chapter, the supplies for the *gināu* were still in their provinces where they were made. As we have seen, it was no mean feat to transport them to the capital. To do this the Agency drew heavily upon a preexisting shipping network active in the kingdom. The boatmen who ran it were a largely hereditary profession, with each family tending to operate in a relatively circumscribed region. The overland transport necessary to connect the Tigris and Euphrates provinces seems to have taken place in the north of the kingdom, along the route that would later come to be known as the royal road. The boatmen tended to make their shipments in

Babylonian months III-VI, that is, late spring and summer. They also used craft with a maximum capacity of around 10000 *qa*.

When it came to actually transporting the *gināu* supplies, the Agency favored a system where supplies were impressed onto passing vessels as supernumerary cargoes. Where this proved inadequate, a boatman could be commissioned to go and get a particular cargo or provincial officials could take a shipment directly to the capital. In the direst of circumstances a member of the Agency's own staff might go and personally organize a delivery.

Impressively, the Agency coordinated these shipments with extremely limited communications and a very light managerial touch. Perhaps the strongest medicine it used was to charge interest on late payments to discourage delays.

Should this light touch surprise us? One of the main goals of the *gināu* was to be the "abbreviation of distance," to borrow from this chapter's epigraph. It would be natural to think that such an important part of the Agency's operations would be subject to considerable oversight. But it did not need to be. And it seems that administrative necessity was a far more powerful factor than ideological importance in how the Agency allotted its scarce personnel resources.

As we mentioned in the previous chapter, supplies were pulled from the provinces into the Agency by assessments imposed on provincial governors. This placed much of the administrative burden on the state's broader system of financial management. The same governors who provisioned deportees and supported garrisons supplied the *gināu*. The supernumerary cargo system follows the same general pattern. Rather than establish a separate supply system, *gināu* cargoes were impressed onto a pre-existing shipping network. Sometimes cargoes were pulled through the system with work quotas imposed on boatmen. At other times

they may have been pushed through by provincial authorities eager to be acquitted of their obligation for the year. In either case, the administrative difficulties were kicked upstream to other pre-existing administrative systems. Thus we have the paradox of a system that brought supplies to the kingdom's center but was not centrally administered. The seven men on the *Gināu* Agency's executive staff simply did not have the resources to manage their supply system with a heavy hand.

I.3: Sources Relating to Income

*Fossils: monuments
to their tolerance. Eons
upon eons of surrender
bring a flower to bed with stone.*

*There is another theory: one stone
remembers one thing—
vividly.*

-James Richardson, “The Encyclopedia of the Stones: A Pastoral”¹

We have a great deal of documentation about the Agency’s income. This documentation covers a wide variety of activities and includes many different types of second order documents. At first glance the whole thing appears to be red tape gone mad. Yet, we can model this documentation without appealing to bureaucratic pathologies. We will make the assumption that the Agency tried to keep track of its income with the minimum amount of documentation, and that most of the more colorful and unusual documents were drawn up to deal with irregularities that the normal system could not handle. As the particular problems—and the methods used to cope with them—varied considerably from year to year, it is not surprising that the documents they generated varied as well.

1 First order documents

1.1 Basic income reporting

1.1.1 Writing boards, the *éminence grise* of income accounting

If most of our documents deal with irregularities, as we have proposed, then we must explain how the Agency handled matters that were not irregular. As the *gināu* tables indicate, the

¹ (Richardson 2004: 12)

Agency was able to keep track of what every province had paid and what it still owed in a given calendar year. But the question remains, how exactly did it do this? It could have drawn up tablets for every received shipment (as assumed, for instance, by Gaspa) but this would have required a minimum of 27 tablets per year, assuming every province paid with a single shipment (2011a: 237). Since most provinces paid with several shipments and oftentimes a dozen or more, the number of tablets would be several times this, and could easily have run to more than 100 per year. This should make individual shipment receipts one of the most frequent documents in the archive, but they are in fact quite rare. We have only 38 texts that could plausibly be classified as shipment receipts in the archive, less than 10% of the published tablets.

What is more, the extant receipt documents, especially those which are not sealed, vary considerably in their format and the particular information recorded. If the Agency was drawing up a hundred or more of these tablets per year, we would expect the genre to become fairly standardized over time simply by force of habit. Indeed, the Agency does seem to have drawn up debt notes at a fairly high rate in the reign of Ninurta-apil-Ekur with exactly this sort of consistency. One might write that off to the generally conservative and formalized nature of debt documentation in the Middle Assyrian kingdom as a whole (see, for instance, Saporetti 2012), but we find a similar level of consistency in the full *gināu* tables. As we will discuss below, the Agency would never have occasion to draw up more than a handful of these in any given year, and yet they show a remarkable level of consistency as a corpus. Unlike the loans, there are only loose parallels for these particular tables in the rest of the Middle Assyrian corpus.² Indeed, it is perhaps the single most distinctive and unique document type created by the Agency. Hence, it

² The table as a general method of arranging data is reasonably well attested in Middle Assyrian times (see Gaspa 2011b: 166). However, the listing of the four canonical commodities and a large swath of provinces, both in a relatively fixed order, is unique to the *Gināu* Agency.

would seem that even the limited rate at which these were composed was enough for the genre to significantly, though not completely, standardize over time. This lack of standardization makes it all the more difficult to believe there were hundreds upon hundreds of now lost shipment receipts.

We must look for a different solution. I would suggest a minimalist approach. If a shipment arrived, the essential information would seem to be how much of each commodity it contained, and on behalf of which province it was made. It might be nice to know who made the delivery, but if the boatman brought everything he was supposed to bring and this was confirmed on arrival, there would be no need to record the boatman's name. The boatman would have no further obligation to the Agency, and hence the Agency would not necessarily need to keep tabs on him. This explains why the extant texts concerning deliveries do not consistently record the names of the boatmen involved. The essential information about the Agency's income could be recorded by keeping a simple list of incoming shipments, noting the amount of each commodity and the province of origin. One might streamline this procedure by keeping a separate list or a running tab for each province.

Here we run into an intrinsic problem with writing on clay. One can only easily write on a tablet while it is wet. It is possible to scratch a note into dry clay, but one has to be quite dedicated to the task and the resulting writing is generally quite hard to read. Certainly, it would be quite cumbersome to regularly scratch information into a dry tablet. Hence, to record the minimum necessary information for the arriving shipments the Agency would have to compose a new tablet every day shipments arrived, and we are once again forced to posit that an enormous amount of documentation was produced.

A much easier way to keep track of this information would be to use a wax writing board. These do not quickly dry out like tablets and so can be updated for long periods of time. They are thus a perfect medium for keeping a running tally or list, like those needed to keep track of arriving shipments. Thus, while we do not have an explicit reference to writing boards used for this purpose, I would suggest that the Agency directly recorded the shipments it had received on a writing board.³ For most shipments this was likely the only first order documentation kept. As a corollary of this, I will argue that receipt tablets were generally drawn up only for transactions where some additional information had to be recorded. Only a fraction of the total transactions would require such special documentation, and presumably the exact information needed would vary too. Hence, the Agency would only produce a small set of heterogeneous receipt tablets every year. As a result, there would be only weak pressure to develop standardized formats. As we will see, the extant receipt tablets fit fairly well with this model.

Here we must be careful, for we are positing an entire lost genre of documents that is not directly referred to in our archive, and inventing entirely vanished corpora is rarely the way to arrive at a parsimonious model. It will be useful to briefly examine the evidence we have for the use of writing boards in the Middle Assyrian period (see Postgate 2003:133-136). The writing boards that show up most frequently are lists of personnel under the nominal control of the king and a few other named individuals.⁴ These references are not to writing boards per se, but rather the administrative structures used to manage and supply the personnel on the boards (Postgate 2003: 134-135). Hence, they are no more explicit references to particular writing boards than

³ Already Gaspa has noted the bewildering difficulty of compiling individual receipts and notes into a table, and suggests the process was sped up by composing a first draft on a writing board (2011b: 214). Interestingly, the Hittites seem to have used a similar approach to compose inventory texts, with original records often being kept on writing boards (Symington 1991: 118).

⁴ BATSH 9 92, KAJ 245, KAJ 247, MARV 1 1, MARV 1 5, MARV 1 9, MARV 2 17, MARV 4 27. KAJ 91 may also fall in this category, though it refers to the writing board of Lab'u, which was not one of the normal writing boards attested in this group.

phrases like *bēt Ilī-paddâ* “the house of Ilī-paddâ” are references to particular buildings. Still, the references do suggest that the Assyrian state used writing boards to manage these large administrative structures.

However, we do have more concrete references to actual writing boards. In texts from the Urad-Šerua archive (M 10) we read about grain *ša pī 5 lē’anē* “which is in the wording of 5 writing boards” (KAJ 113: 32) and *ša pī 13 lē’anē* “which is in the wording of 13 writing boards” (KAJ 109: 4). Postgate has argued that these writing boards contained detailed reports of how the grain was to be disbursed (2013a: 247). This is reasonable, though it creates the curious situation where arrangements to disburse 36000 *qa* of grain filled up a full thirteen writing boards, while disbursements of 92694 *qa* made in two different years could apparently fit on only five.⁵ While it cannot be proven, it seems easier to assume that the boards contained more information than just one planned disbursement. Indeed, given that KAJ 113 refers to disbursements made in two different years, it is attractive to think that these writing boards contained running grain accounts.

In the same vein, KAJ 260 records that a smith had received an amount of grain and then adds the note *ina lē’e ša u’e mahre pānie u urkie ēmurū* “they saw it on the writing board of grain received earlier and later” (7-10). A writing board is also involved in settling accounts with a herdsman (KAJ 120), and another tablet summarizes a number of milling stones that had been issued as those *ša libbe erē ša ina muhhe lē’e ša bēt nuhatimme šaknū-ni* “which were among the

⁵ Consider that the single tablet BATSH 18 76, despite listing amounts as small as 15 *qa*, involved a total of 5332.5 *qa* of grain. This is nearly twice the average of 2769 *qa* per writing board implied by KAJ 109. While not impossible, this is quite strange given writing boards generally contained much more writing than an individual tablet.

mill stones that were put on the writing board of the house of the cook” (MARV 1 30: 17-19). All of these can be explained quite nicely as references to running tabs kept on writing boards.

The most explicit running account, though, is MARV 2 19, a large table summarizing sheep expenditures used for offerings over a two year period. After the table we find a footer explaining *ša 2 šanāte ša pī lē’ānī ša niqiāte ša ša-kurultie ša imtahhuru-ni* “(they are those) of two years which were in the wording of the writing boards of the offerings of the animal fattener, which he had received (on multiple occasions)” (11’-12’). The lines use an iterative for *mahāru* “to receive,” which indicates that this does not refer to a single immense transfer of animals, but a number of separate transactions. This sounds very much like a running tally of incoming animals was kept on a writing board. Thus, we have a tabular tablet drawn up to summarize information kept on a writing board, evidently as a running account of some sort. This is exactly the arrangement we have posited for the *Gināu* Agency.

But these references tell us more. They do not only show that Assyrian officials could use writing boards to record basic information which would later be summarized on tablets. They also show that Assyrian officials made only minimal references to these writing boards in ordinary contexts. Thus, while we have a large archive dealing with the administration of Nahur province (M 10), its use of writing boards to keep track of grain expenditures appears in only two texts, and even then the writing boards were only mentioned because royal officials were authorizing large and irregular inter-provincial transfers. If those two transfers had not been made, we would have no knowledge about these writing boards at all.

With the livestock table MARV 2 19, things are even more striking. We have an extremely informative archive (M 6) containing information on royal livestock receipts. Here it is clear that individual transactions were being logged on tablets. A quick analysis might

conclude that the livestock was handled entirely without writing boards. Yet, MARV 2 19 clearly states that writing boards were used for recording livestock expenditures. What is more, MARV 2 19 fits into a nice gap in the documentation. M 6 contains extensive information on arriving animals, but records only a small number of clear expenditures. The majority of the animals are simply given to a certain Šamaš-nūrī for safekeeping and never heard of again. The information in MARV 2 19 neatly fills in this gap. We can hardly be sure the animal fattener in MARV 2 19 was Šamaš-nūrī or held the same position, but it is reasonable to think that most expenditures made from Šamaš-nūrī's herd were also recorded on a writing board and so are invisible in the tablets which comprise the M 6 archive.

1.1.2 Transcriptions from the boards

Yet there is more support for this writing board hypothesis than these abstract considerations of necessary documentation and genre standardization. We have a number of texts which appear to be actual transcriptions of sections information on the boards. The two clearest examples are the enormous summary tablets MARV 1 56 and MARV 5 55. The extant sections of each text record dozens of shipments received by the Agency. Clearly these documents were not drawn up exclusively from memory after all these shipments arrived, and so must have relied on some other source, at least for the precise numerical information. The entries are not organized by province. At least one section is introduced with the line *ša ištu Ša-sarrāte adi Muhur-ilānī illikan-ni* “which came here from Month VIII to Month X” (MARV 1 56: 41). This suggests that at least one of the ordering principles was when the shipments arrived. It is not a stretch to think that this was in fact the main or only ordering principle. This is exactly the pattern one would get if shipments were entered as they arrived on a writing board.

The legible portions of the heavily damaged text MARV 8 66 suggest that it had similar contents, as did MARV 5 35. Strikingly, the latter text organized the shipments by province, and seems to have listed those provinces in the same canonical order used by the full *gināu* tables. One might posit that that Agency has switched from entering information in an undifferentiated list to keeping separate journal sections for each province. This would also allow the attractive possibility that the canonical order in the full *gināu* tables is a reflection of the order in which the provinces were listed on that writing board. One could then posit that the province names were generally left on the writing board when its numerical data was erased, thus ensuring that their order stayed relatively constant over the years. But this cannot be proven. It is possible MARV 5 35 was supposed to be used in place of a full table for that year and so the entries were reordered to match the order of the full tables.

We have at least three more texts from the archive which contain sizable numbers of shipments listed one after the other (MARV 8 74, MARV 1 21, MARV 6 88). These do not contain enough shipments to account for a full year's worth of income, but seem to reflect a smaller amount of information excerpted from a writing board. MARV 6 88 appears to explicitly refer to this fact with the note *ša pī ṭuppe rabīte ša MA.HAR .MA.HAR ša ištu Muhur-ilānī ūm 13' līme Ištu-Aššur-ašāmšu* "which is in the wording of the 'big tablet' of receipts", which was (received) from X.13'.Ištu-Aššur-ašāmšu" (22-23). That the entries all come from after a certain date suggests that the source material was arranged chronologically and that the present excerpt was made by starting at some arbitrary point and going to the end of the text.

Admittedly, the text literally refers to a tablet rather than a writing board. There are two options. One is that this refers to an actual tablet, presumably transcribing an original writing board. We do actually have such a document, MARV 6 3, which overlaps with much of the

information in our text. But there are shipments in the sum of our text that do not show up in MARV 6 3, which make this interpretation more complicated. We have to suppose that either additional information not in the source document was added without comment, or that the text relied on a different summary document. However, since the Agency had just gone to the trouble of drafting the large summary tablet MARV 6 3, it seems unlikely it composed another summary text so soon afterwards. More radically one could posit that the “big tablet” was in fact a particular writing board, or a technical term for part of one, and that MARV 6 3 and MARV 6 88 were both independently excerpted from it for different purposes.⁶ Even if the tablet here really is just a tablet, we see clearly that the Agency was storing a large amount of shipping information in a single large-format document and extracting portions of it onto new tablets as needed.

Finally, on a smaller scale, we find at least two texts which list shipments received from only one province (MARV 8 94, MARV 9 17). It is unclear whether this reflects several shipments from a province arriving at the same time or shipments from one particular province being excerpted for some particular purpose.

The question then becomes, if the basic entries were being kept on writing boards, why were these tablets composed? The extant tablets are too few and too varied to assume it was a regular part of the accounting process. For some of them, like the pair MARV 1 56 and MARV 5 55, the answer may be very prosaic. The writing board was needed for some other purpose but

⁶ As suggested to me by Walter Farber, it is possible that *tuppu* here is actually the technical term for one “leaf” in a multi-panel writing board, perhaps arrived at by analogy with how literary and scientific series were divided into individual “tablets.” Similar reasoning might also explain why the term *tuppu* could be used to mean a one year period within which events happened (see Baker 2010). If one conceptualizes time as a literary series made of years or a writing board of many one-year panels, then events occurring in the same year would be on the same tablet/panel.

the Agency still needed access to the information they contained, so it was transferred onto a pair of large tablets.

For smaller texts one might posit that the Agency needed access to only a few particular entries, for instance all those dealing with a single province, and so these were excerpted into a small tablet. Another possible reason would be that the Agency did not have access to a writing board at the moment the shipments arrived. For the large summary tablets this is, of course, impossible. However, there are a small number of tablets which may have been written for just that reason. Two tablets from the year Bēr-nāšir list several shipments in a journal style (MARV 6 29, MARV 6 57), and two more texts without surviving dates which are stylistically and prosopographically similar and should likely be added to the group (MARV 6 63, MARV 9 98). While the texts contain multiple shipments, the two dated texts are dated to one particular day each, and all four deal with a small enough number of shipments that they could indeed just cover shipments received on one day.

The text MARV 7 51, from the year Bēl-libūr, is more explicit that all the shipments it describes were received on the same day. That text also bears the note *ana lā mašāe šaṭir* “written down to not forget,” a stereotyped phrase indicating it an informal note rather than a regular part of the accounting process. I would suggest that the literal meaning of this phrase was indeed the reason this and the other small “excerpts” were composed. For some reason the information was not able to be entered on the writing board when the shipments arrived, and so the receipts for the day were quickly jotted down on a tablet in journal format so that they would not be forgotten before they could be entered on the writing boards. One doubts this situation was especially frequent, which explains why we have so few texts in this genre. Indeed, the two

dated Bēr-nāšir texts come from two consecutive days, IV.25 and IV.25, and it is not hard to see them as part of a single incident where writing board access was lost for a few days.

Strictly speaking, of course, once the information was transferred to the writing board there would be no reason to hang onto the original tablet, and so it is at first odd they made their way into long-term storage with the rest of the M 4 archive. One possible explanation is that the information was not directly transferred but that the tablet was simply kept with the writing board. If this were so, though, we might still expect the tablets to be discarded when the board was cleared. It seems better to assume that the Agency was simply not very prompt in disposing of tablets. Indeed, as we will discuss in III.3, the Agency seems to have cleaned out its records on a largely or entirely ad hoc basis. It does not seem a stretch to think that, once the information was transferred, the document was put in a pile with other short term documents no longer needed for day-to-day operations and then forgotten about. When time came to clear out the archives it was easier to simply move the pile en masse than sort out which documents really needed to be retained.

1.2 Unusual income reporting

The remaining first order documents can be divided into two basic categories, those which are sealed, and those which are not. We can think of these groups in functional terms. With a formal, sealed document, the Agency could potentially take legal action against nearly anyone in the Assyrian Kingdom. In particular, it could use them to deal with high ranking officials over whom it had little direct power or authority. The *gināu* supervisor alone might have difficulty forcing the governor of a remote province to pay his back dues, but with a formal tablet he could enlist the help of the top officials in the central government and perhaps even the king himself. Those great men could be rather more persuasive.

On the other hand, composing formalized tablets was likely cumbersome and time consuming. It is not a stretch to think that those tablets which were not sealed or otherwise formalized were not formalized because they did not need to be. They were for situations when the Agency did not need the ability to call upon the central government's support, but needed more information than was normally recorded on the writing boards.

1.2.1 Formal receipts

Following the reasoning given above, we would expect to find two basic features in most of the sealed receipts. First, there should be an important person from outside the Agency, against whom the Agency might have to pursue formal legal action with the central government. Second, there should be some matter about which the Agency might need to take legal action. After all, under normal circumstances one would not expect the receiving party to need a formal receipt at all.

On the first point the evidence is quite clear. Eight of the fourteen sealed receipt texts involve either provincial governors or *qēpus* who were administering provinces.⁷ These are obviously quite important people. Among the remaining texts one gets a similar impression. Three involve the *šakin māte* in some fashion.⁸ Of these one is almost unreadably damaged (MARV 9 75), one involves men from Kulišhinaš province (MARV 1 73), and a third involves an irregular payment to the *gināu* supervisor's son coordinated by the *šakin māte* (MARV 8 59). Another text involves a *mašennu ša bēt ile* "steward of the temple" handing over a very large sum of grain (MARV 6 89). In MARV 2 24 a certain Haballānu appears, who seems to have

⁷ Governor: MARV 3 36 + MARV 3 84 + MARV 9 25, MARV 3 85 + MARV 3 86, MARV 5 42, MARV 6 67, MARV 6 86, MARV 8 22

qēpu: MARV 6 86, MARV 6 90

⁸ MARV 1 73, MARV 8 59, MARV 9 75.

been an agent of the future *līmu* Ippitte. MARV 6 28 and MARV 1 62 can be understood as involving high ranking officials as well, although the first is too damaged and the second too laconic to be certain.⁹ Thus, it seems quite clear that sealing was normally done only when fairly important outsiders were involved.¹⁰

These documents reveal one interesting complication. What if the Agency wanted a formal sealed document for possible use against a high official, but that official was not on hand to seal it? The solution seems to have been to enable someone else of suitable rank to seal on their behalf, a practice usually described with the verb *kašāru*. MARV 1 73, after recording that three untitled men arrived with the *gināu* payment of Kulišhinaš, notes that *Aššur-kēttī-šēši šakin māte iктаsar* “Aššur-kēttī-šēši the *šakin māte* has formalized it” (14-15) and bears that official’s seal, suggesting that the verb *kašāru* here involved sealing the document. In favor of this interpretation, we find Aššur-kēttī-šēši performing a similar procedure in MARV 7 3, only now the text he is sealing is a disbursement of *maddattu* grain to a *rab zammārē*. More unusually, in MARV 6 90 we read that *Ezbu-līšer rab gināe mahir iктаsar* “Ezbu-līšer the *gināu* supervisor received it and formalized it” (11-12). Evidently, the *qēpu* making the delivery, despite his fairly high rank, was not authorized to seal the document himself. This is not an anomaly. The *qēpu* involved in the delivery in MARV 6 86 also did not seal, in contrast to the two governors who accompanied him. What is odd, though, is that Ezbu-līšer did not use his own seal in MARV 6 90, but rather a captured Kassite seal otherwise unattested in the archive. One suspects that the *qēpu* had brought along a seal for him to use, but this cannot be proven.¹¹

⁹ MARV 1 61 is sealed but too damaged to recover any other information about it.

¹⁰ Here we should mention a number of hopelessly damaged fragments that are likely to have been parts of sealed receipts or their envelopes: MARV 1 16, MARV 1 52, MARV 1 70, MARV 2 2, MARV 2 3, MARV 9 42, MARV 9 49, MARV 9 76, MARV 9 90, MARV 9 115.

¹¹ We find something like this in KAV 99, where the high official Bābu-aha-iddina sent one of his seals (in a package sealed with a different seal) for his subordinates to seal on his behalf in the capital.

A yet more complicated arrangement occurred in MARV 5 42. The preserved tablet was formalized by Sîn-šuma-iddina, the governor of Talmuššu, but, if restored correctly, the text also refers to *kiširtu ša pī ša tuppe ša kunuk Ezbu-līšer ina pittu Sîn-šuma-iddina* “a formal document with the wording of the (present) tablet, with the sealing of Ezbu-līšer is in the custody of Sîn-šuma-iddina” (14-16). Two possible explanations for this come to mind. One is that two tablets were drafted and then each official sealed one. Since the governor was effectively paying his taxes a year early (III.1), it would make sense that he wanted a sealed receipt to prove this. On a more pragmatic level, it could be that the governor had misplaced his seal when he brought the delivery, and so had to use Ezbu-līšer’s. At a later date he returned to the capital with his seal and drew up a proper document, taking the original ersatz document with him. The former seems somewhat more likely, but the evidence is insufficient to decide between the two possibilities.

But the presence of a high official is not the only thing we should expect to find in the sealed receipts. There should also be some potential reason the Agency might have to take legal action against these high officials. The texts are less forthcoming on this, but we do get some clues. Four texts explicitly mention that grain received was measured by the 50 *qa sūtu* (MARV 2 24, MARV 6 86, MARV 6 89, MARV 6 90). As discussed in Appendix B this phrasing refers to commodities that had already been measured into 50 *qa* units, and which were thus counted rather than measured on arrival. Since the grain was not actually re-measured, there remained the possibility that its actual amount differed from the nominal volume. In that case the Agency would need to take legal action against the governor to recover the deficit, as it seems to have done in MARV 1 25. Similarly, MARV 2 24 refers to a large amount of grain *ša ina sūte ša pirik ritte ina bēt Ippitte maddu-ni* “which was measured in the house of Ippitte by the ‘across the hand’ *sūtu*” (envelope ob.1’-2’). The reference to the “across the hand” *sūtu* indicates that this

grain was actually measured (Appendix B), but the measurement seems to have occurred offsite, and potentially without the Agency's supervision.

These particular texts are probably explicit about measuring details because they involve large sums of grain of at least 10,000 *qa*. The other texts are less explicit, but it does not seem a stretch to assume they reflect similar arrangements. After all, we hear about things like jars of honey of a standard size in other texts (II.1). But, with the evidence at hand, we can do little more than speculate about the exact arrangements.

If one compiles the information above, what is striking is that the people from outside the Agency who seal receipts are almost always provincial governors (including the *šakin māte*). Neither of the two *qēpus* who appear in the formal texts sealed. Similarly, there is a pair of documents MARV 5 27 and MARV 8 78 where supplies are brought by Salmānu-ašarēd, apparently the son of a current governor. Despite the strong similarities to the other formal documents, neither tablet is sealed.

We can explain in two ways why only governors seal. A strong interpretation is that these were the only officials so powerful and loosely connected to the Agency that it would need to take formal legal action against them rather than simply asking them for the supplies. But, we can also explain the distribution with a weaker Agency, by using liability. As noted in (I.1) the governor was ultimately liable for his province's *gināu* assessment. One could argue that only a governor needed to seal because most legal action about his province's *gināu* payments would involve him eventually.

Suppose a shipment was discovered to be below its nominal volume. The Agency would first go to the boatman involved. It was in the interest of the boatman to have some way of proving that the grain he had given to the Agency was the entire amount he had received. If he

did not or could not, the issue could be dealt with there. Further action would only be required if the shortage was not the fault of the boatman, for this would indicate a failure at the provincial level, and hence require litigation against the governor.

1.2.2 Informal receipts

But all this talk of sealed receipts raises another question. Why did the Agency go to the trouble of drawing up unsealed receipts rather than simply using its writing boards? Related to this, we might ask why the Agency retained the receipts rather than the boatmen, as we would normally expect. After all, if there was legal action, it was the boatmen, not the Agency, who would need a receipt to prove that they had delivered their entire consignments.

We can explain most of these receipts as documents drawn up for internal reference. Several of the documents can be linked to shipments made in pre-measured units, normally the 50 *qa sūtu* (MARV 6 10, MARV 6 77, MARV 7 46). Receiving unopened sacks of grain is a tricky business, since there is always the possibility that they will turn out to be under volume when opened, as indeed happened in MARV 1 25. It would make sense to have a receipt document explaining the origin of any pre-measured items, and one might go so far as to posit that the receipts were stored with the sacks so the Agency would know which boatman to take action against if they turned out to be under volume.

Other texts contain tally marks for every 50 or 100 *qa* (Appendix B).¹² Some of these may refer to counting out arriving sacks but others (e.g. MARV 9 16) clearly refer to measuring grain on the spot. These might have been intended to protect the Agency from any claims about foul play in the measuring process. However, the documents are in general quite hastily and

¹² Llop 2009 167, MARV 5 57, MARV 6 69, MARV 7 22, MARV 7 46, MARV 7 61, MARV 7 83, MARV 8 13, MARV 8 27, MARV 8 30, MARV 9 16, MARV 10 86, MARV 10 88.

sloppily written, and we could also explain them as a way of temporarily recording the amount of the received supplies until it could be entered on the writing boards. We can take this idea one step further. Not only do the tally mark texts show impressively sloppy handwriting, they are not infrequently composed on round tablets or small oblong tablets with an aspect ratio of around 2:1. These precise formats and even the same system of tally marks were regularly used for Middle Babylonian school texts (Bartelmus Forthcoming; see also Veldhuis 2001: 67). While we do not have clear evidence for the school text formats used in Assyrian in this period, it seems rather likely they did not differ too much from their neighbors. Hence, while one can hardly prove it, I would suggest that the executive staff occasionally sent their sons to process an incoming shipment as a sort of apprenticeship (see III.3). These apprentice *alahhinus* drew up tablets as best they were able, drawing heavily on school models they had learned. They then handed the tablet to their fathers who added the information to the Agency's writing boards. Since some of the tablets made their way into long-term storage, it would seem that, once again, the Agency was not particularly prompt in disposing of them once the information was transferred.

Another large coherent group is those texts drawn up to keep track of the affairs of Arbela province during and after the *maddattu* crisis.¹³ The crisis seems to have left the province's administration in disarray, with the result that a bewildering variety of individuals and subunits from the province took to interacting directly with the Agency (I.1). The remaining texts are more varied, but most betray the hand of administrative irregularities. In MARV 5 39 we find that a boatman had not quite delivered all the supplies he was responsible for, and still owed a small amount. In MARV 7 9 we find part of a shipment paid as wages and another part given for

¹³ MARV 5 20, MARV 5 38, MARV 6 54, MARV 6 58, MARV 6 78, MARV 9 97.

testing. We cannot reconstruct the details, but neither action is otherwise attested in the archive, so it hardly reflects business as usual. In MARV 6 52 the grain was deposited in the *bēt abulle* “gate house,” and the transaction apparently involved a woman as well, both startlingly unusual occurrences (17). To top it off, the arriving shipment was measured by the boatman rather than the Agency. MARV 6 26 includes several lines of text, unfortunately now unreadable, describing the circumstances of the shipments it contains. MARV 7 35 refers to a large shipment that irregularly involved wheat as well as the canonical commodities. Likewise, the laconic MARV 7 35 seems to record an arrears payment from one of the larger provinces and makes an unusual reference to wheat as well as barley, but the details of the payment were evidently recorded on the lost bottom half of the tablet.

MARV 10 83 appears to refer to two shipments which were inspected and extracted (*nasāhu*) by outsiders. MARV 9 15 though very damaged, seems to have recorded an interest payment assessed on a late shipment. Most curiously of all, MARV 6 39 refers to irregular honey payments from Paruna, which did not normally contribute to the *gināu*, for a period of four years. Given the irregular and complicated details in these transactions, it is not surprising that the Agency felt the need to draw up receipts for them to supplement the journal entry on the writing board. The only text that appears to record business as usual is MARV 6 13, which refers to a simple receipt of sesame from Kilizu. Perhaps it was written on a date when the writing board was inaccessible as seems to have been the case with a few other texts, but we cannot be certain. Llop 2009 128, MARV 9 4, and MARV 9 15 are also probably informal receipts, but both are too damaged to say anything about why they might have been composed.

While we cannot fully recover the circumstances of all the varied documents in this last group, they can all be fairly easily explained as notes recording the details of irregular operations.

2 Second order documents

Coordinating shipments from all over the empire was perhaps the single greatest administrative challenge faced by the *gināu* agency, and was probably one of the more challenging administrative activities undertaken anywhere in the Middle Assyrian kingdom. Not surprisingly, this was one of the few activities for which the Agency seems to have frequently produced second order documents. We can divide these into two groups. The larger group of these recorded the obligations provinces had and had not met, and were normally kept using a very distinctive tabular format. A smaller group of texts, which were composed less frequently, work out what supplies the Agency currently had on hand so that it could plan its expenditures.

2.1 Amounts that can still be collected

For summarizing information on met and unmet obligations the Agency used two approaches. One was to draw up full tables with information for every province in the kingdom. The other was to draw up smaller tables with only the information pertinent for some particular purpose.¹⁴

¹⁴ This grouping corresponds roughly to Gaspa's categorization (2011a: 234). He divides the tablets into those which give information only at the province level and those which itemize by individual personal name (MARV 5 5, MARV 5 10, MARV 5 64). The latter group is a proper subset of what I have categorized as partial tables, while the former includes all the full tables and the remainder of the partial tables.

2.1.1 Full tables

2.1.1.1 Overview

The full tables are perhaps the single most distinctive group of tablets in the entire M 4 archive. While they are not as stereotyped as formal debt notes, they form a fairly standardized genre. Happily for the modern editor trying to restore damaged tablets, they list the provinces in a largely fixed order, a point already discussed in more detail above (I.1).

Perhaps the most striking aspect of the tables is that they are arranged in a neat tabular format, normally with the aid of vertical and horizontal lines. The presence or absence of vertical rulings does not obey an obvious pattern.¹⁵ However, a careful study of the horizontal lines yields a considerable amount of information. Oftentimes scribes wrote the lines so that natural geographic or administrative groups were grouped together, as we have discussed above (I.1). There is also a tendency to use horizontal lines very sparingly in texts from Ninurta-apil-Ekur's reign,¹⁶ whereas before (MARV 7 27) and after his reign (*passim*) a ruling after every one or two provinces was the norm.

The large majority of the full tables seem to have had totals, with only five clearly lacking them (cf. Gaspa 2011b: 170).¹⁷ The three tables without totals that can be dated are from the tenure of Sîn-uballit, and so it is possible the practice of omitting totals is to be linked with his tenure as *gināu* supervisor, though totals do show up in his last two years in office. In fact, in

¹⁵ Gaspa has cataloged a number of different variants in the placement of the vertical rulings, mostly involving a line between the fruit column and the province column (2011b: 164-165). Using these he applies Robson's distinction between formal and informal tables (Robson 2003: 20). This may be useful for comparative work, but it is unclear to me how this distinction is useful for the study of the archive. It would seem to split a natural text group into two separate categories based on superficial characteristics. In principle, the absence of some or all vertical lines might follow a chronological pattern, but since only one of the texts missing vertical lines can be linked to a sequenced eponym, it seems unlikely that such a pattern can be recovered from the extant tablets.

¹⁶ MARV 5 1, MARV 5 67, MARV 6 5, MARV 6 32, MARV 6 82, MARV 8 24, MARV 9 12

¹⁷ With totals: MARV 2 21, MARV 5 4, MARV 5 14, MARV 5 67, MARV 6 5, MARV 6 9, MARV 6 50, MARV 6 82, MARV 7 6, MARV 7 31, MARV 8 24, MARV 9 1, MARV 9 2, MARV 9 6, MARV 9 9, MARV 9 12

Without totals: MARV 5 1, MARV 5 2, MARV 6 32, MARV 6 46, MARV 7 55.

his penultimate year, Salmānu-zēra-iqīša, we find two tables covering the same period with ostensibly identical information. One, MARV 6 32, lacks totals, while the other, MARV 9 12, has totals added. Evidently the administrative troubles that began to manifest in the year Salmānu-zēra-iqīša (III.1) had caused the Agency to resume compiling the totals. It is possible that MARV 9 12 was composed solely to add these totals, but is more likely it was drawn to deal with some accounting irregularities we know to have occurred that year (see III.1). Since the scribe had to redraft the tablet anyway, he took the opportunity to add a total.

The Agency used two different methods to record numerical data on the full tables. One approach was to record the amount each province had actually paid. The other was to record the amount it had not paid (Freydank 1997c: 48-49; Gaspa 2011b: 171). In principle one such table would suffice, since one could calculate the amount owed by subtracting the amount paid from a province's nominal assessment. Yet, on at least three occasions the Agency drew up a complementary pair of tables with one recording received payments, and the other unpaid arrears.¹⁸ It is tempting to extrapolate from this evidence that the Agency normally composed full tables in complementary pairs (Freydank 1997c: 48-49).

However, there is reason to doubt that this schema was ever quite that neat. First of all, all three pairs come from crisis years where the Agency had to cope with serious underpayment. It is easy to see just how bad those three years were from the following table of the percentage of total revenue received in each pair:

¹⁸ For the year Liptānu: MARV 5 67, MARV 8 24.
For the year Salmānu-zēra-iqīša: MARV 6 32 (and MARV 9 12), MARV 6 5
For the year Pa'uzu: MARV 2 21, MARV 9 1.

	Salmānu-zēra-iqīša	Liptānu	Pa'uzu
Grain	80.9%	39.3%	65.4%
Honey	71.8%	45.8%	50.8%
Sesame	59.6%	33.9%	46.3%
Fruit	65.4%	38.4%	33.8%
Average	69.4%	39.4%	49.1%

Figure I.3-1: Percent of Income Received in Select Years

One suspects that the Agency did not go through the hassle of drawing up a large summary table for arrears if the amount owed was sufficiently small. Indeed, given the conspicuous lack of “good years” in the tables, it may be that the Agency dispensed with tables entirely when its income level was sufficiently high and simply kept track of individual outstanding obligations (cf. MARV 5 12). We could also explain the lack of tables during Sîn-nādin-āplē’s tenure as the converse. When the Agency’s actual income fell below a certain point it was easier to simply list what had been received than to draft a formal table. Of course, it could also be that there were no years so good or bad as to not warrant composing a table. As our evidence for the existence of good and bad years comes from the tables, it is impossible to settle the matter.

Where tables would certainly warrant the considerable labor required in drawing them up is when a large portion of the provinces provided partial payments or completely defaulted and hence matters became, to put it delicately, “complicated.” In fact, the simple list of unpaid arrears was not the most complicated type of table composed. We find six examples of tables dealing with the obligations of one year but drawn up in another. MARV 5 2, MARV 6 1, and MARV 7 6 are the most straightforward, each referring to arrears from one year paid in another. MARV 6 16 appears to describe arrears from an unknown year received in the year Rīš-Aššur, but not recorded in a summary table until the year Sarniqu. If it is understood correctly, MARV 9 2 contains figures accrued over more than one year for some provinces, perhaps as the result of the Assyrian calendar lapping the seasonal year. The most striking text, though, comes from the

end of Ninurta-apil-Ekur’s reign. As noted below (III.1), the Agency seems to have stopped drawing up tables during these hectic years. When the new management decided to fix this, it drafted a tablet with two full tables on it, apparently dealing with arrears from the consecutive years Pišqīya and Aššur-dān I (MARV 6 82).

At this point it will be useful to give a summary of the preserved tables arranged in rough chronological order. These break into four large groups. The tablets from Ninurta-Apil-Ekur’s reign and the early years of Aššur-dān I tend to group provinces into blocks with several provinces occurring between a single set of rulings. Texts from before Ninurta-apil-Ekur’s accession and from the bulk of Aššur-dān I’s reign tend to have a ruling after nearly every line. The earlier tables can be distinguished because they distinctively break the Upper Province into its two major components, Uššukannu and Šadikannu. Finally, the few tablets from Tiglath-pileser I’s reign can be distinguished by their use of large blocks with frequent interlinear notes and their practice of decomposing Arbela province into various sub-units.

Early Texts			
Regnal Year	Year	Paid	Arrears
?	Adad-rība	MARV 7 27	
?	x-Aššur		MARV 9 2 ⁷
Era of Ninurta-apil-Ekur			
Regnal Year	Year	Paid	Arrears
82.1	Ninurta-apil-Ekur		
82.2	Lab’u		
82.3	Aššur-šuma-iddina		MARV 5 2
82.4	Saggiu	MARV 5 1	
82.5 ⁷	Bēr-nāšir		
82.6 ⁷	Uzibu		
82.7 ⁷	Marduk-šumu-līšer		
82.8 ⁷	Salmānu-zēra-iqīša	MARV 6 32, MARV 7 31 ⁷ , MARV 9 12	MARV 6 5

Figure I.3-2: Summary of extant Full *Gināu* Tables

82.9 [?]	Liptānu	MARV 5 67 (MARV 5 64)	MARV 6 9 + MARV 8 24
82.10	Salmānu-šumu-lišer		
82.11	Erīb-Aššur		
82.12	Marduk-aha-ēreš		
82.13	Pišqīya		MARV 6 82 [?]
83.1	Aššur-dān I		MARV 6 82 [?]
83.2	Ātamar-dēn-Aššur		
83.3	Aššur-bēl-l'ite		MARV 5 4 [?]
	Unknown Year	MARV 6 46 + MARV 7 30	MARV 6 62 [?] , MARV 7 37, MARV 7 55, MARV 7 64
	Unknown Year (Polarity unclear)	MARV 7 63, MARV 8 32	
Era of Aššur-dān I			
Regnal Year	Year	Paid	Arrears
83.22 [?]	PN [?]	MARV 9 6	
83.23 [?]	Sikildu	MARV 9 9	
83.24 [?]	Aššur-iddin	MARV 5 14	
83.25 [?]	x-Ninurta		
83.26 [?]	Pa'uzu	MARV 2 21	MARV 9 1
83.27 [?]	Sāmidu		
83.28 [?]	Da''ānī-Ninurta		
83.29 [?]	Da''ānī-Ninurta (2)		
83.30 [?]	Da''ānī-Ninurta (3)		
83.31 [?]	Da''ānī-Ninurta (4)		
83.32 [?]	Da''ānī-Ninurta (5)		
83.33 [?]	PN [?]		
83.34 [?]	Rīš-Aššur [?]		
83.35 [?]	Sarniqu		MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48
83.36 [?]	Habakar		MARV 6 49 + MARV 7 6
	Unknown Year	MARV 8 36	
Era of Tiglath-pileser I			
Regnal Year	Year	Paid	Arrears
87.4	Šamaš-apla-ēreš		MARV 6 1 + MARV 6 17
	Unknown Year	MARV 8 35 [?] , MARV 5 31 [?]	

Figure I.3-2 (cont.): Summary of extant Full *Gināu* Tables

2.1.1.2 Terminology

We can discover more about the composition process which produced the tables. Here we must turn to three terms often added at the end of the tables, and occasionally to other texts as well: (*tuppu*) *urkittu*, *tuppi* 2.KÁM.MA, and (*tuppu*) *zakkūtu*.¹⁹ The first two terms can be used alone or in combination with *zakkūtu*, but they can never be used with each other.

A priori we would expect that both *tuppu urkittu* and *tuppi* 2.KÁM.MA refer to documents which were “subsequent” to some other text, since the former translates literally as “subsequent tablet” and the latter something like “second tablet.” One might posit that they were technical terms describing either the full arrears or the full received table for a given year, but we find both terms used with tablets that are not full *gināu* tables (e.g. MARV 6 31, MARV 5 12; *pace* Freydanck 1997c: 49). We must look for their meaning elsewhere.

One might try and write them off as variant spellings of the same phrase, but one clearly involves the term *tuppu* in construct and the other does not. An approach invoking chronological variation hits similar problems. Both phrases are attested in the archive as early as the reign of Ninurta-apil-Ekur (MARV 6 42, MARV 5 1), with *tuppu urkittu* lasting until at least the middle of Aššur-dān I’s reign (MARV 9 9) and *tuppi* 2.KÁM lasting into the reign of Tiglath-pileser I (MARV 6 1+ MARV 6 17). Evidently they were distinct phrases, and so they probably conveyed different information when used in a header or footer. As we will see shortly, it seems that *tuppi* 2.KÁM refers to an update of original material primarily written on a tablet, while *tuppu urkittu* refers to information extracted from writing boards.

¹⁹ *urkittu*: MARV 5 1, MARV 5 2, MARV 5 12 (not a table), MARV 6 82, MARV 8 36, MARV 9 9, MARV 9 80
2.KÁM.MA: MARV 6 1, MARV 6 31(not a table), MARV 6 42 (not a table), MARV 7 8 (partial table)
zakkūtu: MARV 5 1, MARV 5 2, MARV 5 12 (not a table), MARV 6 31 (not a table), MARV 6 82, MARV 9 9

The most informative of the texts to use the phrase *tuppi 2.KÁM.MA* is MARV 6 42, a summary of loans drawn up on IX.25.Erība-Aššur. Its final lines include the note that *tuppi 2.KÁM.MA gammurat* “the subsequent tablet is completed” (44). A likely candidate for the implied “first” tablet is the loan summary MARV 7 5, which was drawn up some five months earlier on IV.3+x.Erība-Aššur and lists many of the same loans that appear still unpaid in MARV 6 42. Hence it seems that the phrase indicates that MARV 6 42 is an updated version of a previous summary document, although the Agency never quite got around to throwing out the original.

MARV 6 31 can be readily interpreted in the same way. It seems to have referred to two sets of oil offerings, one made over several days in Month IX of the year Šamaš-apla-ēreš, and the other made about five months later in Month II of the year Hiyašāyu. We can understand that the implied “first” tablet recorded the information about the first set of offerings, and that this was subsequently updated with additional information about the second set of offerings. In the same vein, we can note that the loan summary MARV 6 40 explicitly refers to some of its contents being drawn from a *tuppi 1.KÁM.MA* (r.13’), although the later tablet is not explicitly described as *tuppi 2.KÁM.MA*.

When we turn to the two tabular texts which use the phrase we can use the same explanation. MARV 6 1 + MARV 6 17 and MARV 7 8 both refer to complicated arrears repayment arrangements composed at least a year after the arrears were incurred. It is hardly a great leap to assume that summary tablets would need to be composed during this process and then subsequently updated. MARV 6 1 + MARV 6 17 deals with arrears from the year Šamaš-apla-ēreš paid in the following year, Hiyašāyu. The text is dated to XII.2.Hiyašāyu, equivalent to Babylonian Month IV in the middle of a delivery season. Here we can posit that the arrears

received as part of the previous delivery season had been summarized shortly after Assyrian Month II (= Babylonian Month IV) when the initial spike of deliveries would have started to taper off.

The context is less clear in MARV 7 8, but it seems that the original tablet on which it was based recorded the arrears of a half dozen provinces incurred between the years Ibašši-ilī and Adad-ašarēd-nišē. Thus, after noting the payments that had been received, the text gives a table of remaining arrears introduced with the line *ištu muṭṭāušunu šēliū-ni mūṭṭāū* “after their (paid) arrears were deducted, the arrears (were)” (15). That is to say, the following table is an updated version of the information in the original arrears tablet.

The contexts where we find the phrase *ṭuppu urkittu* are rather different. The phrase is used three times on tables recording simple received *gināu* (MARV 5 1, MARV 8 36, MARV 9 9). It occurs also on a table dealing with two years (MARV 6 82) and another describing arrears received one year late (MARV 5 2). MARV 9 80 is a partial table apparently dealing with only a small portion of the supplies delivered in the year Bēr-nāšir.

Now, as argued above, it is very likely that the Agency kept the basic records of incoming shipments on writing boards rather than tables. Therefore, if we want to find a “first tablet” made of clay which these were intended to update, we would have to posit that the Agency drew up a partial table of received goods in the middle of the year to find a forerunner for the simple received tables. This is not impossible, but it does seem excessively bureaucratic. Moreover, we have very little evidence that this was regularly done. The only example of two tables containing the same information for the same year are MARV 9 12 and MARV 6 32. The well preserved text MARV 9 12 does not use the phrase *ṭuppu urkittu* at all. MARV 6 32 is badly damaged, but its footer seems to have been a single line ending in the name for that year,

Salmānu-zēra-iqīša. In the two arrears tablets known to use the phrase *tuppu urkittu*, the addition of this phrase pushes the year name into the second or third line (MARV 5 2, MARV 6 82), which suggests that MARV 6 32 did not use the phrase. Finally, MARV 9 80 uses the phrase *tuppu urkittu*, but can be shown to deal with only a fraction of the supplies that arrived in the year Bēr-nāšir. Thus, we would still have to posit a summary tablet being composed quite early in the year. Again, it is not easy to see the value in doing so. And of course, there is the final problem that the Agency apparently used the phrase *tuppi 2.KÁM.MA* to express this same notion.

We can explain these attestations rather more parsimoniously by returning to the writing boards. If we assume that the source document was in fact information recorded on a writing board, then we have a rather natural distribution. It would make sense that the Agency would try to clear off its writing boards for reuse within a year or two of the assessments they dealt with. This could be done by drafting a summary tablet in tabular format, as in MARV 5 1, MARV 5 2, MARV 6 82, MARV 8 36, and MARV 9 9. We can likewise explain the partial table MARV 9 80 by assuming that the Agency needed to clear off its writing boards unusually early in the year, and so transferred all the information written on them at the time onto a tablet. That the Agency was unusually short of writing board space that year would also explain why it took the highly unusual step of recording arriving shipments on tablets (MARV 6 29, MARV 6 57).

We can tie this together by looking at the last text which uses the phrase, MARV 5 12. Unlike the other texts, this is not a table but a document composed in running text discussing three old obligations. The obligation of Šūdu province had been met with part of the grain from two itemized shipments. These were greater than the province's debt and so the remainder was credited toward its obligation for the current tax year. The obligation for Talmuššu was simply

forgiven. What is most interesting is the obligation for Šīme province. This is described as *meher tuppe ša ana hūle Sîn-nādin-ape ilqiu-ni* “copy of the tablet which Sîn-nādin-ape took on a journey” (13-14). One might take this as proof that the tablet was based on a previous tablet, but close reading does not bear this out. It is not a tablet, but a “copy of a tablet” which is cited. The original tablet was taken by Sîn-nādin-ape on his journey and evidently lost. Now, it is possible that the Agency drew up a second formal tablet recording the debt, but then, of course, the Agency would have a legally binding document and there would be no reason to record the curious fate of its predecessor. But, suppose the Agency had not drawn up another formal document, but simply jotted down the amounts on a writing board for planning purposes before Sîn-nādin-ape left. Then, when the original document was lost, the Agency would have found itself in a rather peculiar situation that would warrant a two-line aside to explain.

With workable explanations of these two phrases in hand we can turn to the third term, *zakkūtu*. This term is generally translated along the lines of “free from legal claims,” but this particular meaning does not fit very well in the present context. The only obvious candidate for such claims would be the Agency’s claims on the portions of their assessments that the provinces had not yet paid. Yet, even a quick perusal of the documentation shows that the Agency would go to almost comic lengths to avoid giving up such claims. If the term really meant this, among other things we would have to assume that the Agency abandoned claims to over half its revenue from the year Saggiu before the year itself was even over (MARV 5 1).²⁰

More troubling still is the appearance of the phrase *urkittu zakkūtu* in MARV 6 31, which is not a *gināu* table at all, but rather a summary of two groups of special oil offerings. It is hard

²⁰ One might argue, following Bloch’s reading of MARV 5 2, that the Agency was actually half a year ahead (2010a: 37). Yet, MARV 5 2 only contains half a year’s supplies and is also labeled as *zakkūtu*. This would seem to imply that Agency had written off its rights to half of the revenue of the coming year before it had even begun, which seems very unlikely.

to see what sort of legal claim the Agency would have had on used oil offerings which would need to be cleared.

Once again, the writing board hypothesis offers a simple solution. Rather than referring to a clearing of legal claims, we can understand the term as referring to the clearing of the writing board on which the tablet was based. As we are not well acquainted with the Assyrian terminology for the physical processes involved in using a writing board, it is unclear if the term should refer to the physical erasing of the board or rather the dissolution of its legal force which allowed it to be erased.²¹ In either case, adding the designation to a tablet would indicate that all useful information on the source documents had been transferred to the tablet, so that it was no longer necessary to keep those sources on hand.

Now, since we have posited that the phrase *tuppi 2.KÁM.MA* refers to an updating of a tablet and the phrase *tuppu urkittu* to information copied from writing board, we should expect the term *zakkūtu* to be used only with the latter phrase. Indeed, this is largely what we find. Of the six sufficiently well preserved texts which use the phrase *tuppu urkittu*, only one, MARV 9 80, does not use the term *zakkūtu*.²²

In contrast, of the four texts which use the phrase *tuppi 2.KÁM.MA*, only one, MARV 6 31, is also described as *zakkūtu*. Let us look at the two outliers more carefully. MARV 6 31 deals with two sets of oil offerings separated by a double ruling. The first set was conducted over several days, and the second set, although much more damaged, took at least nine lines to explain and was clearly a complicated affair. We can explain the text by positing the following

²¹ Gaspa's translation "successive and corrected," apparently derives from the notion that composing an updated document removes the validity of the predecessor, and so follows this same line of reasoning, though he does not postulate that writing boards were the original source (2011b 213n.164).

²² The seventh text to use the phrase *tuppu urkittu*, MARV 8 36, is too damaged to tell whether or not it also used the term *zakkūtu*.

scenario. To avoid writing out seven separate small offering tablets, the Agency summarized the offerings on a writing board as they happened. After the first set was complete and it was clear no more offerings of that type would be conducted in the foreseeable future, this information was then transferred to a tablet to free up writing board space. When the second set of offerings was conducted several months later, information about them was likewise temporarily recorded on a writing board. This was then combined onto a single summary tablet with the information about the previous set of offerings that had been transferred to the tablet. Thus the text would both be an update of an earlier tablet and allow information to be erased from a writing board.

In the case of MARV 9 80, we know that the document was composed well before the end of the year whose *gināu* receipts it describes. In this regard it is unique among the texts described as either *tuppu urkittu* or *tuppi 2.KÁM.MA*. Even if the original writing board information were erased, it would still be misleading to label it as *zakkūtu*. The term might mistakenly be thought to imply that all information on writing boards concerning *gināu* deliveries for the year Bēr-nāšir had been extracted onto the tablet, which was very clearly not the case.

Thus, these three terms describe the mechanics of extracting information for summary tablets from writing boards and earlier tablets. The only question which remains is why these terms were used only infrequently in the Agency's income documents. Here we have two viable options. One is that in most circumstances this information was considered obvious by the writer and so he did not go through the hassle of writing it out. The other is that when the Agency was sufficiently organized, this information would be unnecessary. One only needed to know a tablet was based on a previous tablet if there was a danger of taking the original and the update as referring to two separate events. If the original was appropriately filed away this would not be a

problem. Similarly, one need only note that all appropriate information had been extracted from the relevant writing boards if there was some serious chance it had not been. As the two are not mutually exclusive, it does not seem fruitful to speculate on the exact combination at work in particular texts.

2.1.2 Partial tables

In the extant corpus, the full tables are by far the most common type of income summary document. Indeed, they are perhaps the closest the Agency ever came to producing the sort of annual financial statements beloved of contemporary finance. It is not surprising, then, that the genre became fairly standardized. It is generally less work to check or at least think back on how one formatted a complicated summary tablet last year than to start from scratch every year. Moreover, we find a similar level of standardization in the field and livestock management summary documents from Dūr-Katlimmu (BATSH 9).

But, these full tables could not solve every administrative problem by themselves, despite their ubiquity. There were circumstances when the Agency needed ready access to a particular subset of the information, and in these cases it drew up smaller non-standard tables which intentionally dealt with only a portion of the Agency's income for a given time period.²³ For convenience we will refer to these as “partial” tables.

Like the full tables, much of the information on these seems to have come from writing boards, but they may have drawn on assorted tablets as well. The exact information needed varied with the particular events each text dealt with, so that no two texts are exactly the same.

²³ Gaspa showed that such supplementary tables existed as distinct entities from the full tables in the year Liptanu, but did not identify other partial tables (2011b: 200, 212).

We can put them roughly into two groups. The first includes detailed information on the shipping process. The second group is concerned only with the amounts paid or owed by provinces,

There are seven partial tables which give shipping information. Five are compilations of received goods and the boatman who brought them. Unsurprisingly, we can link nearly all of these to known crisis periods.

The earliest come from the last years of the Liptānu crisis. By the time of the accession of Aššur-dān I the crisis had begun to subside and the Agency could focus its attention on coordinating the shipment of arrears. During this process it gave an unusual amount of attention to shipping in general, and to Talmuššu and Idu provinces in particular. MARV 5 3, from the year Aššur-dān I, lists in tabular format a rather large number of shipments made on behalf of Talmuššu and Idu provinces. MARV 5 5, which is dated to the following year, is broader in scope. It lists arrears payments from a half dozen provinces, but unusually decomposes Talmuššu province into three subunits.

In the same vein, the damaged text MARV 7 93 appears to be a tabular list of shipments received on behalf of various provinces and the boatmen who delivered them. If the year name is correctly restored, the text dates to the year Pa'uzu and so can be linked with the events of the Da''ānī-Ninurta crisis. More involved is MARV 7 8, which catalogs payments made toward several years' worth of arrears. These come mainly from *halzu* provinces, and after noting the payments made, the text also lists the remaining arrears of each province. Sadly, it comes from a stretch of ill-documented years in Aššur-dān I's reign, so it is difficult to say much about the Agency's finances at the time.

The latest and most unique text is MARV 6 3. Each row of the text gives a different boatman or other grain source, while the columns record the size of several grain shipments

received from each of these. There is nothing else quite like it in the entire archive. What is even more curious is that two texts, MARV 1 21 and MARV 6 88, contain subsets of the information on it. As all three texts are from the year Ištu-Aššur-ašāmšu, they are undoubtedly connected to the *maddattu* crisis.

In addition to these texts, MARV 5 58 describes the non-grain payments made on behalf of Arbela province, itemized into eight subsections of unclear significance. They may refer to geographic sub-units from which the payments ultimately came, or individual shipments; the pertinent column is unfortunately too damaged to tell. MARV 7 44 provides similar information for both Arbela and Katmuhhu province, again itemized but with the description column completely destroyed.

But the finer details of shipping were not always the focus of the partial tables. Six of them do not give information on shipping details. The text MARV 6 2 was an attempt to sort out some of the arrears accrued by provinces at the start of the Liptānu crisis. It lists arrears from the two years Salmānu-zēra-iqīša and Liptānu, itemized by province and year. As discussed in III.1, the year Salmānu-zēra-iqīša involved some rather unusual accounting transactions where outside funds were temporarily credited to provincial accounts. It is attractive to see sorting that out as the main motivation behind the tablet. MARV 6 21 appears to have also been devoted to these same accounting irregularities, although it is now so damaged that it is only possible to make sense of its unusually long and chatty footer. The exact meaning of the information encoded in its tabular section remains something of a mystery.

MARV 5 10 comes from later in the same crisis. Shortly after the year Liptānu, communications with the provinces on the Euphrates river system broke down (III.1). When regular communications were restored around the accession of Aššur-dān I, some of the usually

stalwart western provinces were as far as four years in arrears. The table MARV 5 10 was drawn up to bring order to this chaotic situation, listing some of the western provinces and their arrears. These are generally presented as cumulative, but the text does occasionally add notes about the particular years in which debts were incurred. In the same vein, MARV 5 64 lists debts from the *birtu* provinces in the west in the year Liptānu shortly before communications completely broke down (and before the full tablets for those that year were composed).

Before we leave the topic there are two remaining texts. MARV 9 80 is a summary of shipments received at some point early in the year Bēr-nāšir. As we discussed above, this was probably composed for the rather prosaic purpose of freeing up writing board space, which was in unusually short supply that year. MARV 8 40 is a decently large table of arrears, but it was a very informal affair. It has no header or footer and abounds in sloppy and abbreviated writings. Without any context the text is exceedingly difficult to interpret, and we cannot rule out that it was a full arrears table for an unusually good year.

2.1.3 Other documents

Of course, tables with rows for each province are not the only way of compiling summary texts, though the Agency certainly favored this style. Sometimes a simple list was sufficient. Thus, we find two subsets of the information in the table MARV 6 3 recorded in lists (MARV 1 21, MARV 6 88). MARV 6 3 had listed subsequent shipments by the same boatman in a series of columns, but since MARV 1 21 and MARV 6 88 do not deal with more than one shipment per boatman, this was unnecessary. Unfortunately, we can only speculate on why the Agency needed these excerpts. In the same vein, MARV 5 12 summarizes information on some long overdue arrears. As only three provinces apparently still had active debts when it was composed, it was

simpler to list the information on each than compose a table with only three rows and a multitude of inserted notes.

Finally, there is the very interesting text MARV 9 95, which records how much of a fixed quota each of 23 boatmen had brought. The document, strictly speaking, is tabular, but it differs strongly from the other tables. The rows are for individual boatmen without any reference to province, and the columns record paid and unpaid grain amounts. Hence, it seems best to discuss it here. Gaspa has suggested that such documents were regularly drawn up, noting that much the same format was used (outside the Agency) in MARV 2 20 (2011a: 241). However, if we convert the amounts to the Agency *sūtu*, we find that the text only accounts for nominal delivery quotas of about 56,500 *qa*. That is roughly a quarter of the Agency's nominal grain income. We would have to postulate at least four such texts were drafted per year for Gaspa's theory to work. If these tablets were being generated at that rate, it would be very surprising that only one of the documents has survived.

Here, a closer look at MARV 2 20 offers a better explanation, for it does not describe an ordinary grain transfer. The text describes an expedition to obtain grain from Tillê on the Euphrates river system (Llop 2013). Since this involved transporting a large amount of bulk commodities a considerable distance overland to reach the Tigris river system, the regular boating system was apparently not up to the task, and so a special expedition of 110 men had to be dispatched to handle it (Llop 2013: 554). Given the rarity of such large-scale grain transfer expeditions in the Middle Assyrian corpus, it seems likely that MARV 2 20 describes an extraordinary grain shipment rather than normal operations. I would suggest we understand MARV 9 95 in the same way. Supporting this idea, the text's damaged colophon mentions the *maddattu*, uses the unusual boatman's *sūtu* and, uniquely in the archive, also reckons volumes in

the “small *sūtu*.” We can posit that the *maddattu* was being shipped in from granaries outside Aššur, and that this text was drawn up to keep track of these special shipments. Given the strong similarities to MARV 2 20, written nearly a century before it, it would seem there was a fairly standardized genre for documenting such irregular mass shipments in the broader Assyrian administration. Whether outside officials who were involved in collecting the *maddattu* introduced the format or the Agency simply borrowed it because it was convenient is harder to tell, though the use of the small *sūtu*, otherwise unknown in the archive, favors the involvement of outsiders. Before we leave the topic, we should mention one last text, the small table MARV 8 6, which has the same general format, but seems only to have involved a total of four boatmen.

2.2 Current inventory

If enough provinces became delinquent, then in addition to having to keep track of the arrears, the Agency would face the more serious problem of working out how to continue its operations with drastically diminished funds. Most of the documents used to do this will be discussed in the expenditures chapter since they are concerned with rationing expenditures and the like. However, one group requires mention here. There are a group of texts, all apparently drawn up in the early years of the *maddattu* crisis, which attempt to estimate the total amount of grain the Agency had received and now had on hand. Here not only was there a serious grain shortage, but also many of the provinces had become dramatically out of phase with the current tax year, making it difficult to use the traditional accounting methods.

These two motivations are clearest in MARV 6 70, which, after listing all the grain received in the year Tiglath-pileser I regardless of nominal tax year, works out a monthly usage

estimate for the Agency.²⁴ Similarly, MARV 7 58 lists arrears from the year Tiglath-pileser I received in the following year, Ištu-Aššur-ašāmšu. Two other texts are clearly related, although the exact meaning of their contents cannot be established as easily. MARV 8 25 records the grain arrears of a number of provinces. MARV 6 56 lists grain paid by the provinces on one side and arrears on the other. On both texts the information explaining how these amounts fit into the tax cycle are lost, though the general selection of solvent provinces fits with the *maddattu* crisis.

In addition to these more abstract summaries of grain, we have three related texts that involve the measuring of the grain. MARV 9 50 lists grain from a number of provinces, which was measured on I.2 of an unknown year. Two other texts mention the measuring of a quantity of grain and then give a summary of other amounts of grain on hand and their sources (MARV 8 13, MARV 7 22). The latter two texts can both be dated to the year Ištu-Aššur-ašāmšu, and it is likely MARV 9 50 was composed around the same time. We do not need to posit that these were an accounting genre in widespread use throughout the Agency's history like the full tables were. Rather, we can explain them quite nicely as a genre developed to deal with a specific set of problems and then used for a few years until circumstances had changed.

3 Letters

Finally, we must turn our attention to the little under a dozen letters in the archive. We will treat them separately because the notions of first and second order document do not apply well to letters. Those terms work reasonably well for administrative documents intended to record certain actions. However, the primary goal of letters is not to make a record of

²⁴ Gaspa holds that this text refers to just one month's deliveries, apparently deriving this interpretation from the monthly usage estimate at the end (2011a: 235). A close reading of the text's phrasing shows no indication the quantities involved were delivered in a one month interval as is discussed in the edition of that text. But aside from that, if we compare the amounts in the text with the assessments of the provinces mentioned, the figures are clearly much too large to be paid every month.

information, but to transfer it. This is why Middle Assyrian letters often include only a partial date or no date at all (Llop 2012b: 296). Once the information in the letter had been read, the parts that needed careful recording could be written in a dated administrative document, but most of the information was time-sensitive and would be of little value in a few weeks or months. Since full dates were generally only useful if one wanted to consult a tablet at a much later date, there was, therefore, not a pressing need to put them on most letters.

Within the *Gināu* Agency, all preserved letters seem to have been sent to the *gināu* supervisor. We can sort the supervisor's mail into two categories based on purpose. One type of letter came from high officials instructing him to perform a particular action desired by the sender. The clearest example of this is MARV 7 29, where a royal eunuch conveys a direct order from the king, instructing Ezbu-līšer to make a particular special payment. MARV 7 17 and MARV 8 49 also appear to have contained instructions that the *gināu* supervisor was to follow although both are now too damaged to reconstruct what the particular instructions were.

The letters in the second category are those sent by individuals to inform the *gināu* supervisor about complications in the shipping process. Two letters were sent by men who refer to the supervisor in clearly deferential terms. As argued in I.1, these men are perhaps best seen as officials active in a province over which the *gināu* supervisor served as governor. One of the subordinates wrote to explain that he had obtained *sūtu* jars of the wrong size, causing his shipment to be under volume (MARV 2 8). The other sender notes that he had sent wine and sheep in addition to a *gināu* shipment that had been loaded onto the ship of the boatman Himsateya (KAJ 302). MARV 10 90 does not use clearly deferential language but does note that one of the two shipments it describes had a sheep for the supervisor's *nāmurtu*. As we know quite well from the M 6 archive, *nāmurtu* payments were regularly sent in by provincial officials

to the capital as a sort of tax. It is attractive to see this letter as an agent or perhaps associate of the *gināu* supervisor arranging to have his tax payment sent on his behalf. Even if this reconstruction is not exactly correct, as we observed in I.1, the text ends with the note *ša ana dabābe-ni atta-ma tudda* “You yourself know what is involved with the matter,” giving us good reason to think there was an involved backstory between the sender and the *gināu* supervisor (19-21).

Other senders do not use clearly deferential language and can be assumed to be officials active in the provinces without any special ties to the Agency chief. As with the letters from subordinates, these letters all feature fairly complicated arrangements. In MARV 7 14 the sender intercepted a grain shipment from a province he knew to be in arrears and redirected it to the Agency. He also instructs the *gināu* supervisor to promptly send off a messenger to his next destination. The small portion of MARV 5 19 that is readable refers to a commodity already stored in one or more sealed containers being sent as supernumerary cargo.²⁵

One final consideration is in order. It is conceivable that provincial officials regularly sent letters with their shipments. There are several problems with this. One is that the number of shipments the Agency received in a single year could easily approach 100 (cf. MARV 1 56 and MARV 5 55). If a letter was sent with all or at least most of these shipments, we would expect an enormous number of the letters to have made their way into the archive. Even so, one might argue that the letters were promptly disposed of when the shipment arrived.

The bigger problem is theoretical. If the main purpose of sending letters was to transfer information, then it is unclear why most shipments would need a letter. After unloading the boat, the Agency would know the boatman who made the delivery and it could measure the goods

²⁵ MARV 6 43 and MARV 7 17 are also clearly letters, but they are too damaged to even tentatively classify.

itself if it doubted the figures he gave. The only major piece of information that could be lost was where the shipment came from. It does not seem an especially great challenge for a boatman to remember the province where he picked up a shipment, particularly since most boatmen operated in relatively restricted geographic areas (I.2). Admittedly, this was not completely impossible; we have at least one clear example of shipment whose province of origin was not known even though a boatman who delivered it was (MARV 1 56: 69). We can say, though, that this sort of thing was not common. Moreover, if a boatman doubted his memory, a small piece of clay with the province name scratched into it by a literate acquaintance would do the job. Thus, from an information transfer standpoint there is little reason for every shipment to be accompanied by a formal letter.

One might argue that letters were not intended for information transfer, but rather as a security measure to prevent embezzlement. The problem is that letters would be an unnecessarily cumbersome and ineffective way of doing this. This system would require that the letter be brought by the same boatman who would embezzle the supplies. Especially with some of the smaller supernumerary cargoes, a boatman could quite easily embezzle the entire cargo and dispose of the letter. If the Agency wanted an ironclad way to stop embezzlement, it would need to use a different system.

These considerations fit quite nicely with those letters which are preserved. If the appropriate information about an ordinary shipment could be transferred without them and they did not serve as a security measure, then we would only expect the letters to be composed when there was additional information to transfer. That is to say, one need only write a letter if there was something unusual afoot that required explanation. As we have seen, such unusual matters are easy to find in nearly all the preserved letters. Even those letters which just give the contents

of a few shipments can be seen as conveying information about shipments in transit. In periods of hardship it would help the Agency to know what shipments it could expect in the near future, and as noted in I.2, there are at least a few occasions where the Agency clearly had information about shipments that had not yet arrived.

4 Final reflections on the use of the table

Before we end the chapter, we must pause for a minute to reflect on what it means to use a table. In a recent article Gaspa (2011b) has attributed considerable administrative importance to the use of tabular documents. In his words, “Tabulation was certainly adopted by Assyrian scribes of the state administration to manage sets of quantitative data from different sectors of the economy and of the redistributive system of the state” (2011b: 165). He further describes the adoption of the tables as “an innovative moment in the method of record-keeping” (2011b: 165). In his view the information in these tablets was being used to construct data series for individual provinces over several years (2011b: 170).

This approach is not especially helpful. As a first point, it is difficult to call what the Agency did to collect its annual assessments “managing.” It simply kept track of who had and had not paid a fixed sum. Moreover, there is no good evidence that the Agency ever tried to work out a “contributive trend” for individual provinces (2011b: 170). In principle the income from each province was fixed. When provinces failed to meet their assessments, what interested the Agency was the amount of arrears it might still collect from the province. There never seems to have been a serious effort to revise the assessment values to better reflect current economic conditions.

On a more general note, it is difficult to consider the utility of particular document formats for recording “quantitative data” in the abstract. It is more profitable to consider

particular data storage tasks for which the format might be well suited. We will return to this point when we discuss the functioning of the Agency's accounting system as a whole in III.3.

Here it suffices to note that we have strong *a priori* reasons to doubt that the Agency was awash in masses of bureaucratic planning data of unclear purpose. Such purposeless data piles tend to appear in modern administrative contexts because many in the twenty-first century are under the impression that large masses of numerical data can predict the future if manipulated in the correct way. We have little evidence that Mesopotamian administrators suffered from the same enthusiasm for numbers. After all, without computers or adding machines, let alone modern mathematical tools for finding neat analytical solutions, the skilled labor required for these computations would quickly become quite costly. Here it is useful to note that one Taylorist study from 1904—before the large-scale use of adding machines—found that factory accountants spent 95% of their time just adding numbers (Oldroyd and Kemmerer 2009: 122). Unsurprisingly, in those days managers tended to be rather reluctant to go to the trouble of drawing up financial statements without some external motivation (Oldroyd and Kemmerer 2009: 121). Since the Assyrians faced equal or even more severe constraints in computational power, we have reason to suspect that they had a similar aversion to unnecessary calculations. As we have seen, the Agency's income documentation fits with this hypothesis. In the remaining two source chapters we will see that the rest of the Agency's documentation fits with it as well (II.3, III.3).

5 Conclusions

It is interesting to reflect for a moment on how something as transient as the movements of small amounts of foodstuffs consumed long ago found their way into a fossilized immortality

in the Agency's tablets. The chapter's epigraph offers us two striking images with which to think about it. One is that over long stretches of time these transient movements forced themselves into the textual record. This idea has been implicit in much of the previous literature, particularly in the realist camp. There is no need to explain in great detail why particular pieces of information were recorded, because it is in the nature of bureaucracy to record things that are "administrative" in some sense. Indeed, if we go to an extreme we could entirely ignore the personal agency and bias of the administrators and get something approaching an unmediated, objective access to the phenomena that involved them.²⁶

This view is quite problematic. When faced with the bewildering variety of documents we actually find in archives, this line of thinking leads us to postulate ever more layers of mostly lost impersonal documentation until we can explain the variety entirely as accidents of preservation rather than acts of human agency. By the end what we get looks very much like our own popular perceptions of modern government and very little like those pre-modern governments about which we are well informed.

What we have done in this chapter is follow the other image. The transitory phenomena in our archive were preserved in the eternity of the written record because our administrators actively tried to remember them. By ascribing personal agency to administrators in this fashion we can produce a much more parsimonious model of this documentation. As we have reconstructed it, information on incoming shipments was recorded in running tallies kept on writing boards. Under the right circumstances this information might be transferred onto clay, but normally there would be little reason to do this aside from a pathological love of copying.

²⁶ For example, Cancik-Kirschbaum (2008) uses reference to artistic work in administrative texts to make conclusions about Assyrian art with only minimal consideration of why and how particular works of art were projected into the realm of administrative writing.

Formal receipts might be written up when dealing with shipments brought directly by governors or their agents. In certain complicated situations informal receipts might be drawn up to help keep straight the details of a newly received shipment. But there is no reason to think there was ever a regular practice of drawing up a tablet for each arriving shipment.

To bring order to this mass of data, the Agency normally drafted large summary tables after the year in question had ended. These made it easy to keep track of which provinces still owed supplies and permitted the writing boards to be erased and reused. In addition to these, partial tables and a few non tabular documents were also drawn up to deal with particular problems. As no two problems were quite the same, it is hardly surprising that virtually all of these texts are *sui generis*. Finally, to cope with the problems caused by distance, individuals occasionally sent letters to the *gināu* supervisor to give him instructions or provide him with information on shipping activities in the provinces.

This reconstruction nicely accounts for texts actually found in our archive and does not force us to postulate large numbers of nearly or completely lost document genres and excessive levels of bureaucracy. For most shipments we need only assume that the cargo, boatman, and relevant province were recorded on a writing board and that this information later incorporated into the sums on a summary table. In doing so, we can reduce the impersonal hand of Assyrian bureaucracy, taken as an abstract entity, to a simple and intuitive documentary superstructure and give our scribes enough personal agency to write their own documents as they saw fit.

PART II: EXPENDITURES

II.1: Food Processing

*I told them my favorite story:
One Day.*

*They liked it except for the
surprise ending.*

-James Richardson, “The Encyclopedia of the Stones: A Pastoral”¹

It is hard not to appreciate the enormous amount of energy the *Gināu* Agency invested in making sure each province paid its annual assessment. Yet, once the shipments arrived at Aššur, the process was far from finished. The offering regime of the temple required finished goods like bread and beer at particular times and in particular amounts, not sacks of grain and dried fruit whenever they happened to come in. Not surprisingly, much of the Agency’s activity revolved around transforming the raw commodities it received into finished goods appropriate for the cult of the gods.

The archive’s documentation is by far the fullest for grain, and so we will use the grain as an entry point into the internal workings of the Agency. The Agency had six executive officials who oversaw the conversion of raw grain into finished bread and beer, each with a team of as many as a dozen workmen under him. Three of the executives focused on converting raw grain into flour. They acted as relative equals and used the title *alahhinu*, a term which has the general sense of “milling and baking contractor” or “executive baker” in Middle Assyrian texts. Hence, it is difficult to find an elegant English equivalent that is not misleading.² I will refer to them simply by their Akkadian title. A fourth official, sometimes also referred to as an *alahhinu* but whose official title was probably *ša uppâte* “the one of the ovens”³ helped with any additional

¹ (Richardson 2004: 15)

² On the difficulty of translating this term see Postgate 2013: 110-111. On the office more generally see Jakob 2003: 386-394.

milling work and coordinated the actual baking of the bread. Since he normally received less barley than the other three *alahhinus*, I will refer to him as the minor *alahhinu* and the other three as the major *alahhinus*. Finally, the Agency had two men with the title *sīrāšû* “brewer,” who oversaw the making of beer. Although each of these six individuals had a team of workmen who worked under him, the six overseers dominate the documentation. For convenience I will use the term “grain officials” to refer to these six officials taken as a group, and I will use the term “executive staff” to refer to these officials and their superior, the *gināu* supervisor.

While the holders of these six core offices came and went, the offices themselves remained constant in the Agency throughout the duration of the M 4 archive. This chapter will largely be the story of their activities. We will look into the details of how these men received the grain they were to work with and then try to get an idea of what was involved in the milling, brewing, and baking processes. In particular, we will be looking for quantitative ways to speak about these various activities involving grain.

But grain was not the only commodity that the Agency handled. As stated in the last chapter, the Agency also dealt with substantial quantities of honey, sesame and fruit, and small amounts of several other commodities. The last portion of the chapter will look at these. We do not know precisely who handled the fruit. But, we do know that to convert sesame into oil the Agency had to employ the services of a *šāhītu* “oil presser,” and to handle its honey it often made use of an official with the title *kakardinnu*, conventionally translated “confectioner.” Since the Agency generally arranged for outside professionals to perform these services rather than supporting an in-house operation, oil-pressers and *kakardinnus* appear only rarely in the Agency’s documentation. As a result, they will be only bit players in our drama. Yet, with the framework provided by the grain distribution apparatus as a starting point, we will be able to get

some idea of what became of the sesame, honey, and the various other commodities that came into the Agency's custody.

1 Structure

1.1 Existence of the core offices

Before discussing how the six grain officials handled grain, we must prove that there really were six well-defined offices dealing with grain processing in the Agency. After all, it is conceivable the Agency had a varying number of core officials at any given time, and that their responsibilities were rather nebulous and changeable.³

We can use two lines of evidence for our proof. One is to look for texts that describe the duties of the grain officials in detail and that seem to take for granted there are only six of them. The other approach is to actually reconstruct the sequence of holders of each office and show that this neatly accounts for all the various combinations of officials that show up in the texts. We will look at the first here, while the second will be addressed in the prosopographical appendix.

Since the grain officials and other executive staff of the *Gināu* Agency worked with each other for years at a stretch, they were well acquainted with their colleagues' number, titles, and duties and felt little need to record them. Yet, officials working outside the Agency interacted less frequently with its executive staff, and so had more need to record who exactly these men were and what offices they held. It is not surprising then that our best evidence for the composition of the team of "grain officials" comes not from the *Gināu* Agency's own archive,

³ Finer raises exactly such an objection in his discussion of Neo-Assyrian government, noting succinctly that "It may be that the Assyrians did not use precise administrative terms because the duties of the administrators were imprecise"(Finer 1997: 231-232).

but rather from the M 6 archive. On two occasions in that archive, we find livestock distributed to the grain officials. In A 1750⁴ one finds the following sheep disbursement:

1 immeru Urad-Aššur atiu ša bāb Aššur
1 (immeru) Adad-šimanni alahhinu
1 (immeru) Sîn-mušallim alahhinu
1 (immeru) Zēru-kēnu alahhinu
1 (immeru) Aššur-mušēzib alahhinu.

naphar 5 immerū zikrūtu
ana bēt alahhinē
ša bēt ile
paqqudū (4-12)

1 sheep Urad-Aššur, doorkeeper of the gate of Aššur
1 sheep Adad-šimanni, the *alahhinu*
1 sheep Sîn-mušallim, the *alahhinu*
1 sheep Zēru-kēnu, the *alahhinu*
1 sheep Aššur-mušēzib, the *alahhinu*

Total 5 male sheep were entrusted to the house of the *alahhinus* of the temple.

The text does not give information to distinguish between the three major *alahhinus* and the minor *alahhinu*, but it does make it rather clear four of the officials worked for the temple.

In KAJ 283, another cattle disbursement text from the M 6 archive written a few months before A 1750, we find the same four *alahhinus* listed in the same order. However, now they are joined by two additional people, Aplaya and Šamaš-amranni “the brewer” (5-7), making a total of six officials. The text sums up the transaction by noting *naphar 6 kukkallū 1 immeru ana alahhinē u sīrāšē paqqudū* “a total of 6 fat-tailed sheep and 1 (regular) sheep were entrusted to the *alahhinu(s)* and brewer(s)” (8-12).⁵ Obviously Šamaš-amranni “the brewer” is a brewer, and the four names listed as *alahhinus* in A 1750 are likely understood as *alahhinus* here as well,

⁴ Published in transliteration in Weidner 1935-1936 no. 88; copy in Donbaz (1976).

⁵ I have normalized the words as plural following my reading of the passage below. The underlying cuneiform is *ana LÚ.a-láh-hi-ni ù LÚ.LUNGA* (10-11), which makes the number of both nouns ambiguous.

since the texts were written only a few months apart. The only issue is the profession of Aplaya. At first glance one might assume he is another *alahhinu* since the other untitled individuals are known as *alahhinus*. However, among the four known *alahhinus* the full expression 1 UDU.GUKKAL “1 fat-tailed sheep” only precedes the first name. The remaining three names have only the number 1 and a blank space, with the animal type left implicit. When we reach Aplaya the full expression ‘1 UDU.GUKKAL’ is once again used, which suggests that we are starting a new section. A reasonable explanation for this new section is that the text is now dealing with the brewers.

We get more explicit information on the mechanics of this six-man team from MARV 3 6 and MARV 6 40, which were drawn up to help the Agency deal with the severe grain shortages brought on by the Liptānu crisis. What concerns us here is that MARV 3 6 refers to 200 *qa Pa’uzu* 200 *qa sīrāšū* 500 *qa alahhinū* “200 *qa Pa’uzu*, 200 *qa* the brewers, 200 *qa* the *alahhinus*” (4-5). Later on the text refers to grain products *ša Pa’isi* 3 *alahhinū mahrū* “of *Pa’uzu* [= *Pa’usu*⁶] which the three *alahhinus* received” (24-26). Assuming there are six total officials working for the archive, as the M 6 texts suggest, and that the three *alahhinus* are distinct from *Pa’uzu*, then there can be at most two brewers. As the word brewer is written with a plural determinative in lines 4-5 there must be more than one. Hence, there must be exactly two brewers. Thus, we arrive at a roster of six grain officials who worked for the Agency, consisting of 3 *alahhinus*, 2 brewers, and one person without a named profession.

MARV 6 40 lets us put names on all of these positions. One section of that text refers to the three men *Zēru-kēnu*, *Adad-šumu-līšer* and *Urad-Kūbe* jointly receiving an amount of grain (r.6), and another damaged section has two of their three names preserved (o.18-19). The end of

⁶ As discussed in the prosopographic appendix, *Pa’usu*’s name is spelled with both S- and Z- series signs, with both variants sometimes appearing in the same text (Appendix C).

this text refers to pending obligations on three groups, Pa’uzu, three *alahhinus* and Ṭābaya, and Aplaya⁷ (16-19). Just as it did in the M 6 tablets, the *Gināu* Agency seems to have six active core officials in this text. Since Zēru-kēnu was explicitly named as an *alahhinu* in the M 6 texts, it is reasonable to see him and his associates Adad-šūmu-līšer and Urad-Kūbe as the three *alahhinus* mentioned at the end. The text is summarized with the lines: *tuppu ša u’e ša bēl pāhāte ša sīrāšū^{MEŠ} u alahhinū^{MEŠ} imhurū-ni* “tablet of the grain of the governors which the brewers and *alahhinus* received” (20-22), so there must be at least two brewers among the names. Assuming Pa’uzu was not included in either category, as in MARV 3 6, then the only remaining names are Ṭābaya and Aplaya. Indeed, Aplaya’s obligation is expressed with the verb *šaqû* “to provide with liquid” rather than *šākulu* “to provide with food,” indicating that he is a brewer.

In summary, the *Gināu* Agency’s own texts present its core officials as three *alahhinus* acting as a group, two brewers, and one man of unclear profession. This raises a slight contradiction with the M 6 texts that refer to four *alahhinus* and two brewers. However, the solution is simple enough. The official writing the M 6 texts counted the major and minor *alahhinus* together, while members of the *Gināu* Agency itself treated the two positions separately. Thus, we have our full complement of three major *alahhinus*, one minor *alahhinu*, and two brewers.

1.2 Holders of the core offices

We can trace this arrangement across the entire span of the archive. Perhaps the earliest evidence is KAJ 105, which was composed in the year Bēr-nādin-ape (78.17) in the middle of Tukulti-Ninurta’s reign, making it one of the oldest texts of any kind to discuss the *Gināu*

⁷ As discussed in the prosopographical appendix, unless he had a career of more than half a century this Aplaya must be a different person from the Aplaya the brewer in the *Nāmurtu* Agency texts mentioned above.

Agency. Already at this time the Agency seems to have had exactly two brewers, for the text described grain given to two named individuals referred to as the *sīrāšē ša gināe* “brewers of the *gināu*” (9-10). This text is anomalously early, and merely shows that the offices existed.

However, when the textual record becomes denser in Ninurta-apil-Ekur’s reign it becomes possible to reconstruct a sequence of occupants for each office. We can follow these sequences all the way down to the end of the archive in the middle of Tiglath-pileser I’s reign, with a few possible gaps in the middle of the long and ill-attested reign of Aššur-dān I.

Since reconstructing the sequences of office holders is rather involved, it is treated in Appendix C. The following table summarizes the findings there:

Period	Major <i>Alahhinus</i>	Minor <i>alahhinu</i>	Brewers
Ninurta-apil-Ekur	Adad-šumu-līšer Urad-Kūbe Zēru-kēnu	Pa’uzu	Aplaya Ṭābiya
		Aššur-šumu-līšer	
Aššur-dān I	Aššur-bēlī [?] Adad-šimānni Urad-Gula	Zēru-kēnu	Aplaya (various others)
	Adad-šimānni Aššur-tūra-iddina Sîn-mušallim		
	Adad-šimānni Aššur-mušēzib Sîn-mušallim		
Aššur-rēša-iši I	Aššur-danninni Šūzub-Sîn Urad-Gula	Nathāu	Mutakkil-Aššur Sîn-ašarēd
Tiglath-pileser I (to year 12)		Kuttahhu	
Tiglath-pileser I (years 13-14)	(various transitional teams)		
Tiglath-pileser I (year 15 onward)	Ahī-lāmur Aššur-šuma-iddina Mār-šilliya	Aššur-taklāk	Ša-Aššur-līšer Tišpakiya

Figure II.1-1: Summary of Attested Agency Personnel

2 The grain transfer

Now that we have properly introduced the six grain officials, we can begin to look at the role these six men played in converting raw grain to finished offerings. At first glance, this might seem like a fairly straightforward affair, and in general outline it was. Officials received supplies and made them into finished food products that could be used for the offerings. But one might say the same of a fine Swiss watch; in general, its minute hand moves 6 degrees per minute.

Where matters become more interesting is when we look at how this simple end result was achieved. In the case of a watch, the simple motion of the hands on the dial is the product of an assembly of gears and springs that is anything but simple. Matters are much the same for the Agency. The simple task of producing offerings from raw materials involved the coordinated actions of at least seven administrative staff and about fifty millers. To add complexity, their activities involved two different storage locations in addition to the areas where arriving boats were unloaded. Since this process is by far the best documented for grain, we will start with grain before moving on to the three other standard commodities handled by the Agency.

2.1 Where do they get the grain?

The first part of the mechanism we must examine is how the supplies actually made their way to the grain officials. As we noted in I.2, most of the Agency's supplies arrived by boat. These goods eventually made their way into the control of the grain officials. The question, then, is how did they get from boat to official? We can posit two basic approaches. One would be for the grain officials to pull their supplies directly from arriving shipments. The other would be for incoming supplies to be transferred to a central location and then have the officials draw supplies from there. As we will see, at various times the Agency used both approaches.

2.1.1 They receive grain directly from boats

A number of texts refer to grain officials receiving texts directly from incoming shipments (Maul 2013: 568). Frequently all six officials are involved, but one also finds smaller groups and even individual officials.⁸ The most straightforward reading of these texts would seem to be that the officials are simply taking the supplies they need directly from the boat, and this seems the best way to interpret them. However, before doing that, it is necessary to deal with a few other possibilities.

First, it is conceivable these texts do not reflect true disbursements but rather describe the grain officials transporting grain from the harbor to the Agency storehouse where it was returned to the Agency's custody. Two texts make this idea unworkable. First, in MARV 1 25 a shipment was found to have been incorrectly measured. To rectify the situation, each of the grain officials received an amount of grain proportional to that which he originally received. If the grain had been centrally deposited, there would have been no need for this cumbersome arrangement. The shortfall could have been made good by a single direct payment to the Agency storehouse. But, if the grain had already been distributed, issuing small amounts to each official would be quite reasonable. The incorrect measurement had left each official short an amount proportional to what he received, and payments to each individual would be needed to make good the difference.

The second text is MARV 7 19. It lists grain from particular boatmen and provinces that had been received by each of five grain officials and gives a grand total received for each official. If the officials were merely transporting grain from quay to granary then it is hard to see

⁸ One member: MARV 5 54, MARV 6 44, MARV 8 46: 1-2, 3-4, 5-6, 17-18, 19-20, 21-22, 23-24, 25-26.
Three members: MARV 8 46: 7-11 (two major *alahhinus* and the minor *alahhinu*), 12-16 (all three major *alahhinus*).

Four members: MARV 3 29 (all four *alahhinus* and two outsiders)

Six members: MARV 1 25, MARV 6 69, MARV 7 19, MARV 7 21, MARV 7 61, MARV 9 14, MARV 9 96

why they would need a sum of the grain moved by each *alahhinu*. Once an individual shipment made it to the granary without loss, there would be no need to look into the matter further. Certainly there would be no need to work out how much grain had been transported by each official over an extended period of time. One might argue the text refers to a number of shipments received on the same day, but this is unlikely. The text involves fifteen shipments and almost a quarter of the Agency's annual grain income. It seems far simpler to assume that these refer to genuine disbursements.

However, Gaspa has proposed a more subtle variation on this idea, arguing that the supplies were transferred to the *bēt gināe* and then divided there (2011a: 242). This is harder to rule out categorically, but it still has serious problems. On a practical level, sacks of grain are heavy and difficult to transport and unmeasured grain coming directly out of a boat is even more unwieldy. If the grain did not need to be stored in a central location, then there would be little sense in taking the time and effort to transport the grain there. The only workable motivation would be that this was some sort of internal control to avoid embezzlement and the like. Now, at least in documentary records we find that the Agency was rather unconcerned with preventing malfeasance among the executive staff (II.3). When the same half-dozen people work together at the same task day after day for a decade it is not easy to steal without everyone being on the take. On the whole then, it seems simplest to not posit an unwritten transfer of the supplies to a central location, but rather to assume that the supplies really were divided up as they were unloaded from the incoming boat.

2.1.2 They received the grain from storage

If the grain officials had always received their grain directly from incoming shipments there would be little more to say about the grain transfer. The mechanics of the process would

have been largely dependent on the vagaries of when ships arrived. This procedure would also have had the advantage of not requiring the Agency to maintain centralized storage facilities. However, there are frequent references to exactly such storage facilities, and it seems that the grain officials often received disbursements from them.

Perhaps the clearest picture of how such a centralized storehouse could operate comes from MARV 7 7, a record of various additions and withdrawals made from a grain fund stored *ina bēt Aššur* “in the Aššur temple.” There we find that over the course of at least half a month the grain officials drew a minimum of three large quantities of grain from storage, while another official made a deposit of finished beer and several outsiders received small allotments. However, the text comes from the chaotic first year of the *maddattu* crisis and it is hard to sort out how much of the activity in the text was common practice for the Agency, and how much was brought about by the crisis. The general outlines probably reflect how the Agency used central storage facilities, but the details may not.

Even so, the Agency clearly did end up with grain in central storage facilities, as we will see below, and so it is natural to ask, how exactly did it get there? One explanation would be that when officials received an incoming shipment they pulled enough supplies for their current needs and then transferred the remainder to a storage location. Such split shipments do not show up often in the documentation, but one could posit that separate tablets were composed for the disbursed grain and for the stored grain. There is a simple elegance to this idea, but it does not hold up to scrutiny. On several occasions we find grain officials taking upwards of a month’s

supply of grain directly from an incoming shipment.⁹ It is hard to see this as covering immediate needs.

More strikingly, MARV 6 69 seems to refer to grain that was pulled from a shipment for two officials not present at the division and then was held in custody until they could pick it up. If the excess grain from a shipment went directly into storage, it would seem much simpler to just issue a disbursement from storage to the two absent officials rather than work out an ad hoc custody arrangement.

It seems better, then, to look for some other way in which grain could have filled the Agency's storehouses. Here it is useful to note that many of the *gināu*-receipt texts refer to shipments being received by the *gināu* supervisor. However, in the texts where grain officials receive their grain directly from the boats, the *gināu* supervisor is rarely present.¹⁰ It is not unreasonable to think that when the *gināu* supervisor received grain in person, he normally put it into storage so that he could decide how to divide it at a later time. If he was not present his subordinates went ahead and divided the shipment among themselves.

Unfortunately, it is not clear how exactly the *gināu* supervisor decided which shipments he should take and put into storage and which could be handled entirely by his subordinates. MARV 9 14, which lists a number of shipments directly divided among the grain officials, has a tantalizing passage at the end that refers to Ezbu-līšer, evidently explaining how he was involved in the receipt of the grain, but it is too damaged to be restored. It could be he that he was simply unavailable on some days and so the grain officials had to receive and store the grain

⁹ In MARV 9 14: 42-52 the grain officials divided up at least 21000 *qa* of grain they received directly from one boatman, enough to fully supply 38 days of offerings. Similarly, in MARV 7 19 we find several officials with quantities over 5000 *qa* from one source, that is, more than 50 days' worth.

¹⁰ He does appear in MARV 1 25, but the circumstances in that text are highly unusual, as discussed in the edition of it.

themselves—after all, we have some reason to think that he governed a province in addition to handling the offerings (I.2). But, there may well have been a greater amount of planning. One suspects he tried to keep a reasonable buffer in the Agency’s storehouses to be able react to unanticipated shortages and the like, but this cannot be more than speculation. It is entirely possible the decisions were often made ad hoc and were effectively random.

While we cannot say much about the precise motivation for using centralized storage for particular shipments, we can say quite a bit about the mechanics of the storage process. Two storage locations show up in the extant documentation: the *bēt gināe* and the *nakkamtu*. In general they seem to have handled distinct sets of commodities and so it was normally not necessary to specify in which location a particular item was to be stored.¹¹ We will discuss the two locations in turn.

2.1.2.1 The *bēt gināe*

The *bēt gināe* is by far the better attested of the two storage locations. The name suggests that this was the central office of the Agency, and moreover, that it was a particular place rather than a category of building. In our texts it is used mainly for value-dense commodities, likely because it had only limited space on site. In particular, it is commonly used for storing honey, normally kept in *šapputu* jars (MARV 7 28, MARV 7 34, MARV 10 68). It could also hold sesame and fruit (MARV 7 51, MARV 7 71).

References to grain being stored there are much rarer. As discussed below, it appears to have held the special grain variety referred to as *u’u pašiu* “white barley”—at least in year Bēlibūr from which all the pertinent texts come. Based on its timing, MARV 5 24 likely refers to

¹¹ The frequent silence on the specific storehouse used may also reflect Postgate’s suggestion that “from an accountant’s point of view it was normally only the arrival of the commodities into the institution of the Offerings House that was significant, whichever department they may physically have entered” (2013: 109).

white barley as well, though it is not explicit about this. The only text to convincingly show regular grain being stored in the *bēt gināe* is MARV 6 34. This comes from the crisis of the year Ninuaya. It would be very reasonable for the Agency, as it ran out of grain, to move what meager supplies remained to the *bēt gināe* for safekeeping. The amount in MARV 6 34 seems to be under 500 *qa*, which suggests their supplies were indeed quite limited.¹² Thus, it seems that barley was only rarely stored in the *bēt gināe*, and then only in small amounts under extraordinary circumstances.

A summary of outstanding loans, MARV 7 5, gives us more information. The text concludes with the line *mimma anniu ša nakkamte u ša bēt gināe ša ana pūhe laqqiū-ni* “all this is that which was taken as a loan from the *nakkamtu* and the *bēt gināe*” (r.13’-15’). The loans cover all four canonical commodities, but it is striking that those which are primarily grain come first, after which loans of other commodities come in no particular order. One could interpret this distribution as first listing all grain loans taken from the *nakkamtu* and then listing the loans in other commodities from the *bēt gināe*, but this must remain speculation without more examples.

Overall, there is only minimal evidence for regular grain being stored in the *bēt gināe*, and it would not be unreasonable to assume that under normal circumstances regular grain was not stored there. Our grain officials would have to go elsewhere to get most of their stored grain.

2.1.2.2 The *nakkamtu*

Where the grain officials normally went was something referred to as the *nakkamtu*, which appears as a distinct entity from the *bēt gināe* in our documentation.¹³ In MARV 7 53 an

¹² MARV 9 10, a very damaged text, refers to a quantity of 6000 *qa*, likely to be restored as sesame but which could conceivably be grain. Regardless of the restoration, the part qualified as *ša bēt gināe* is not part of the total but added on with an *adi*, and so need not be the same commodity.

¹³ E. g. MARV 7 5: 13-14. For an earlier treatment of the *nakkamtu* in the Agency see Postgate (2013: 109).

alahhinu receives a grain disbursement from it on two successive days. During the Ninuaya crisis Aššur-baissunu deposited 850 *qa* of flour there as well. They may have run into oil pressers there from time to time; in MARV 3 50 an oil presser owes sesame *ša bēt nakkamte ša qāt Sîn-nādin-ape rab gināe* “of the *bēt nakkamte* under the management of Sîn-nādin-ape the *gināu* supervisor” (5-7).¹⁴ The business these various officials had with the *nakkamtu* is consistent with it being a secondary storage location used for bulky items like grain, and occasionally the second bulkiest commodity, sesame.

It is not clear whether the term *nakkamtu* refers to a particular building, or simply is a generic term for a type of warehouse. In other contexts it could indeed be a generic term. For instance KAJ 178, from the private archive of Bābu-aha-iddina, refers to the *nakkamte ša kisalle* “the *nakkamtu* of the courtyard” (5-6). Were there only one in his household, there would be no need to specify its location. Furthermore, two unpublished texts from Šabi Abyad apparently refer to a *nakkamtu* there, so it apparently does not refer to a particular institution in the capital (Faist and Llop 2012: 27). For the *Gināu* Agency the matter seems unresolvable from the textual sources, though archaeological data from the Aššur temple may eventually shed light on the matter. It could have had a single storehouse, or have used several different spaces which could be described as *nakkamtus*.

Whatever exactly the term *nakkamtu* meant to the Agency, we have reason to think that at least one structure designated by this term was inside the Aššur temple complex. The argument for this is somewhat involved. In MARV 7 7 we read about 8000 *qa u’u ina 50 qa panu ina bēt*

¹⁴ The phrasing of this loan suggests that the *nakkamtu* is managed by the *rab gināe*, and this idea is borne out by several of the other documents mentioning it (e.g. MARV 7 5 where the Agency is making loans from its stores). This makes it difficult to argue that separate officials or groups of officials had their own *nakkamtus*, which would otherwise be a conceivable storage arrangement. However, as suggested to me by Walter Farber, it is quite possible that individual officials controlled particular areas within the structure.

Aššur madid “the previous 8000 *qa* of grain was measured in the Aššur temple by the 50 *qa sūtu*” (1-2). Strictly speaking, this line could refer to a location where the grain was measured as opposed to where it was stored, but that is problematic. It is difficult to explain why the location of the measurement process would be important enough to warrant recording in a summary document. If one was interested assigning liability for incorrect measurements, one would be much better served by recording the name of the individuals who did the measuring, and indeed the text does exactly that in the following three entries. On the other hand, while the text clearly refers to additions and subtractions from a common grain fund in storage somewhere, the phrase *ina bēt Aššur* “in the Aššur temple” is the only possible place where the text states where that fund was. Putting this together then, it seems best to understand the phrase *ina bēt Aššur* in the first entry as referring to the location in which the measured grain in that entry was stored, and more generally, the location of the stored grain fund with which the summary document is concerned.

Now, this text does not actually use the term *nakkamtu*, and so it is conceivable that the term “Aššur temple” refers to some other storage site distinct from the *nakkamtu*, and perhaps the *bēt gināe* as well. However, the “Aššur temple” is normally used in our texts to cover the entire institution, as for instance the jar inscription which refers to *Ezbu-līšer rab gināe ša bēt Aššur* “Ezbu-līšer *gināu* supervisor of the Aššur temple” (Postgate 2013a: 91). Hence, the term Aššur temple is likely shorthand for some particular storage site within the temple compound. Given they are storing large quantities of the Agency’s grain, that site would presumably be a *nakkamtu* (Postgate 2013a: 109). Of course, if the *nakkamtu* used for bulk commodities was in the temple precincts, it is very likely that the *bēt gināe* used for more valuable commodities was also in the temple. Putting this together, while the evidence is not strong enough to be entirely

certain, it seems quite likely all of the Agency's storage facilities were located within the Aššur temple precincts. Certainly, if the Agency's storage locations were all within the temple compound, this would nicely explain why the remote storage location that became the final resting place of the archive was also within the temple compound and not the backroom of some off-site storehouse (III.3).

Before finishing with the matter of storage, we must deal with two final issues. First there are several references to a *bēt hašīme* in the archive, from which Postgate has argued that it was another storage location used by the Agency (Postgate 2013a: 109). However, all of the texts which clearly mention the *bēt hašīme* are from a single year, Ninuaya. As we will see in III.1, these refer to storage locations outside the Agency's control from which it received extraordinary payments and loans to help it through the Ninuaya crisis.

The second issue is more abstract. It is conceivable that *bēt gināe* referred to the Agency as an institution, and was not a place per se (Postgate 2013a: 108). There are two reasons to doubt this. The first is the unsettling frequency with which one finds reference to things *ina bēt gināe* "in the *bēt gināe*." One can interpret this as referring to an abstract entity, but it seems a singularly awkward phrasing. For comparison, one might consider the term *ēkallu* "palace," which does indeed refer to an abstract entity much of the time. When appearing as an abstract entity the phrase *ša ēkalle* "of the palace" is normally used. In contrast, I know of no example of the phrase *ina ēkalle* "in the palace" referring to an abstract entity, but there are at least six clear examples of it referring to an actual place in Middle Assyrian administrative texts.¹⁵ This parallel suggests that the *bēt gināe* was a real place.

¹⁵ KAV 119, MARV 1 14, MARV 1 27, MARV 2 17 MARV 3 11, MARV 4 33

The second reason relates to the *nakkamtu*. As the above discussion made clear, the term *nakkamtu* refers to one or possibly several actual storage sites. Yet MARV 7 5 sums up its contents with the line *mimma anniu ša nakkamte u ša bēt gināe ana pūhi laqqiū-ni* “all this which was of the *nakkamtu* and the *bēt gināe*, which was taken as a loan” (13-14). This suggests the two are comparable entities. In the most likely reconstruction, then, the Agency had access to two storage locations both of which were probably inside of the Aššur temple compound.

2.2 Unusual sources of grain

Normally the grain officials received their grain from a boatman or the *gināu* supervisor, or conceivably a subordinate of one of the two.¹⁶ Yet the grain officials did occasionally get their grain from other sources. All of these involve interactions with people outside the Agency. The best attested examples of this involve the *šakin māte* and other high officials. These occurred during major crisis periods for the Agency, and will be discussed in the contexts of those crises in III.1. However, two officials, Aššur-baissunu and Siqqi-Aššur-ašbat, distributed grain to the six officials frequently enough to warrant discussion here.

2.2.1 Aššur-baissunu

Aššur-baissunu shows up twelve times in the *Gināu* Agency’s documentations. His appearances span a time period of at least a decade, but are concentrated in the years Aššur-šuma-ēreš and Ninuaya (III.1). They are summarized in the following table:

¹⁶ As discussed in Appendix C, there is little evidence that the *gināu* supervisor had any subordinates apart from the Agency’s executive staff that has already been discussed.

Text	Date
MARV 8 59	II.20+x.Adad-apla-iddina
MARV 6 81	I.10.Aššur-šuma-ēreš
MARV 7 12	III.x.Aššur-šuma-ēreš
MARV 5 65	0.0.Aššur-šuma-ēreš [?]
MARV 5 41	X.11.Ninuaya
MARV 7 76	X.12+x.Ninuaya [?]
MARV 7 86	XI.30.Ninuaya
MARV 9 112	XI.3 [?] .Ninuaya
MARV 7 89	0.0.Ninuaya [?]
MARV 5 44	0.0.Ninuaya [?]
MARV 8 46	III.25.Sākipšunu
MARV 8 68	0.0.0

Figure II.1-2: Attestations of Aššur-baissunu

As the grain officials seem to have been well-acquainted with him, they did not feel the need to give his precise title in their documents. The administrative texts outside the archive are equally silent on the subject. Postgate has suggested he was part of the administrative staff of the Agency, but the fact that at least two of the disbursements in which he appears are sealed suggests he is an outsider (2013a: 94).¹⁷ Moreover, at least three texts where he appears go out of their way to explicitly state that the grain he provided was for normal operations.¹⁸ This does not appear to be mere bureaucratic formalism, since radically different phrases are used in each text.¹⁹ Rather, it seems the information that this grain was for normal operations was of singular importance and had to be added in. Since this was an irregular occurrence, there was not a standard way of doing this and the information was added in a different way each time.

Further supporting the idea he was an outsider, he seems to have acted as an agent for the *šakin māte*. This is clearest in MARV 8 59 when the *gināu* supervisor's son receives grain *kī qāt*

¹⁷ On sealing practice in the expenditure texts see II.3

¹⁸ MARV 5 65, MARV 6 81, MARV 7 86.

¹⁹ In MARV 5 65 a header informs us that the following disbursements involve *u'u gināe* “grain of the *gināu*” (1). MARV 6 81 notes after the disbursements that the grain *kī qāt Ezbu-līšēr . . . tadin* “was given as though via Ezbu-līšēr” (11-12). MARV 7 86 mentions after its grain distribution that *ina qāt Aššur-baissunu ana gināešunu mahrū* “they received it via Aššur-baissunu for their *gināu*” (12-14).

Šahhute šākin-māte ina qāt Aššur-baissunu “from the managing authority of Aššur-baissunu as though from the managing authority of Šahhutu, the *šākin māte*” (9-11). In other texts listing emergency grain sources used by the Agency, he always comes between the *šākin māte* and the house of Samnuha-Ašarēd.²⁰ That he is always listed next to the *šākin māte* and is attested acting in his stead suggests the two figures are linked.

We find him active under two successive *šākin māte*'s, Aššur-kēttī-šēši and Šahhutu, so it is unlikely he was a personal retainer of one of them. Rather he seems to be connected to the office of the *šākin māte*. He also seems to have served as *līmu* at some point in his career, which suggests he was of some importance in the administration (A 1065²¹). Perhaps the best clue to his office comes from MARV 8 46, where his son brings in a shipment of grain to the Agency. The unusual phrasing *eleppu ša PN* “boat of PN”, rather than *ina qāt PN malāhe* “from the managing authority of PN the boatman,” suggests his son is not a professional boatman, but an official working on behalf of his father. This is broadly similar to what we know about Ištu-Aššur-ašāmšu, apparently the governor of Kalhu (MARV 6 88:5), and another holder of the *līmu*-office. He brought 1000 *qa* of grain to the Agency once, apparently in person (MARV 8 3:r.8'-11'), and another time had his steward bring a shipment of grain on his behalf (MARV 6 88:4-5). This similarity suggests that Aššur-baissunu's office was broadly comparable to that of Ištu-Aššur-ašāmšu, and that he was perhaps a minor governor active in the Assyrian heartland. He may have been a sub-governor of Libbi-āle province, like those attested for Arbela province (I.1). Or, since Ištu-Aššur-ašāmšu vanishes from our documentation in Tiglath-pileser I's second year, Aššur-baissunu may have been his replacement as governor of Kalhu. However, the evidence does not let us settle conclusively what his precise position was.

²⁰ MARV 5 41, MARV 5 44, MARV 7 76, MARV 8 68

²¹ Unpublished; discussed in Donbaz (1998: 182).

Whatever his exact title, his activities in the archive are fairly well defined. He could interact directly with the *gināu* supervisor.²² This is not surprising; most interactions between the *Gināu* Agency and outsiders went through the *gināu* supervisor. What is more striking is that Aššur-baissunu could bypass the *gināu* supervisor and interact directly with the grain officials. This is most explicit in MARV 6 81, where the grain officials receive a disbursement *ina qāt Aššur-baissunu* “via Aššur-baissunu” (3) *kī qāt Ezbu-līšēr* “as though via Ezbu-līšēr (the *gināu* supervisor)” (11). In two other texts the six grain officials also draw individual disbursements *ina qāt Aššur-baissunu* “via Aššur-baissunu.”²³ Two other texts have summaries that imply the same thing, though they do not itemize the grain given to each grain official.²⁴

These interactions raise another question, where did Aššur-baissunu get the grain he was giving to the office? As we would expect, some of it was taken from grain he was managing.²⁵ However, this was not his only source; he could also act as an intermediary and supply the Agency with grain from outside people and institutions. In MARV 7 89 the grain officials receive grain *ina bēt hašīme ša bēt šakin māte* “from the *hašīmu*-storehouse of the house of the *šakin māte*” (2-3) and *ina bēt hašīme ša bēt Ašrī-ilī* “from the *hašīmu*-storehouse of the house of Ašrī-ilī” (4-5) via Aššur-baissunu. As these storage facilities belonged to outsiders and the text was composed during the height of the Ninuaya crisis, it seems likely that the grain in question also belonged to outsiders, presumably the *šakin māte* and the house of Ašrī-ilī. Certainly, it would be a most cumbersome way of referring to Aššur-baissunu’s own grain.

²² MARV 8 12 has explicit direct interaction between Aššur-baissunu and Ezbu-līšēr the *rab gināe*. MARV 8 46 likely describes direct interaction as well, but is too damaged to be certain.

²³ MARV 5 65, MARV 7 86

²⁴ MARV 7 89, MARV 9 112

²⁵ MARV 5 41, MARV 5 44, MARV 7 76, MARV 9 112: 10.

Aššur-baissunu also drew grain from a certain *bēt hašīme ša bēt kisalle* “*hašīmu*-storehouse of the courtyard building” (MARV 7 86: 15-16). This is the only reference to this particular storage facility in the Agency’s archive, so it seems unlikely that the Agency was in the habit of regularly storing grain there. What is more, like MARV 7 89 the text comes from the Ninuaya crisis when the Agency was essentially bankrupt and survived almost entirely on emergency loans and grants from outside sources. Hence it is not a great stretch to assume that this text refers to yet one more external funding source.

In sum, Aššur-baissunu was one of only a handful of people outside the Agency who interacted directly with the grain officials. He not only provided them with his own grain from time to time, but also acted as a liaison between the Agency and other outside officials. Much of his activity was involved with the Ninuaya crisis, but we find him working closely with the Agency for at least two years before that,²⁶ and he was somehow involved in the *maddattu*-crisis in the early years of Tiglah-pileser I as well²⁷. Likely he began to work more closely with the Agency on account of the advancing age of Ezbu-līšer, who apart from a single appearance in MARV 9 112 is essentially absent from the archive by the year Aššur-šuma-ēreš, when Aššur-baissunu started to work closely with the Agency (Bloch 2012c: 81).

2.2.2 Siqqi-Aššur-ašbat

The other outsider who disbursed grain to the Agency on a regular basis was Siqqi-Aššur-ašbat. While Aššur-baissunu was a high official who eventually held the office of *līmu*, Siqqi-Aššur-ašbat seems to have been an *alahhinu*. Thus, we find him filling in for the major *alahhinu* Šūzub-Sîn in two texts (MARV 6 23, MAARV 7 36). His employment as an *alahhinu* also

²⁶ Adad-apla-ēreš (MARV 8 59); Aššur-šuma-ēreš (MARV 6 81).

²⁷ MARV 8 68

explains how he had access to the milled flour he issued to the Agency's millers in MARV 7 56. We find him associated with the house of a certain Ašrī-ilī (MARV 7 81, MARV 9 112), with which Aššur-baissunu had ties as we saw above, but it is difficult to be more specific.

Siqqi-Aššur-ašbat seems to have interacted directly with the *Gināu* Agency on at least four separate occasions, none of which need have lasted more than a month. In the year Aššur-šallimšunu he substituted for Šūzub-Sîn (MARV 6 23, MARV 7 36). In the year Ina-iliya-allak he provided the *alahhinus* with grain, apparently in lieu of shipments from the provinces of Halahhu and Šūdu that had not arrived (MARV 6 19, MARV 6 24). MARV 6 24 suggests a back-story for this. In that text, the disbursed grain is described as the *gināu ša pāhat Šūde* “*gināu* of the province of Šūdu” (10-11). Yet, the envelope describes the same grain as *ša iškārāte ša alahhinē u sīrāšê ina libbi u'e ša bēt Kidityê* “of the *iškāru* of the *alahhinus* and brewers, from the grain of the house of Kidityê” (1-4). This Kidityê is presumably the governor of that name attested elsewhere in the archive.²⁸ As was discussed in I.1, it appears that Siqqi-Aššur-ašbat was collecting supplies owed to the Agency by taking them directly from the governors' houses in Aššur (Postgate 2013a: 334). In the year Mudammeq-Bēl he was called upon to supervise the novice *alahhinu* team that had just been installed, apparently signing off on one of the monthly summaries of their activities.²⁹ Finally, he made an appearance during the Ninuaya crisis as one of the Agency's emergency grain sources (MARV 7 56, MARV 9 112).

²⁸ He is explicitly referred to as a governor MARV 7 50: 6'. He also appears in MARV 1 21:17-20, MARV 9 14 in the M 4 archive, and in MARV 1 68 from the M 6 archive.

²⁹ MARV 7 24. The task was not exclusively his. In MARV 7 48 we find Urad-Aššur the brewer apparently doing the same thing.

2.2.3 The term *iškāru* in the *Gināu* Agency

We can get further insights into the irregular grain sources used by the Agency by looking at the term *iškāru*. Here we must be very precise. While we are looking at occurrences of the word *iškāru*, we are not discussing “the *iškāru*” as an administrative institution with some kind of ontological status.

Now, as has been known for some time, Middle Assyrian texts generally use the term *iškāru* to describe quantities of raw materials issued to individuals who are to process them and return finished goods (Postgate 2010: 21-23). More succinctly, one can translate the term as a “work assignment.” The grain disbursed to the *Gināu* Agency’s executive staff can be seen to fit this description without too much difficulty, and so it is hardly surprising that we find some of the disbursements labeled as *iškārus*. The problem is why only about two dozen of the more than four hundred published tablets from the archive use the term.

One approach would be to assume that the term *iškāru* indicated something different from the Agency’s normal administrative procedures (so Postgate 2013a: 418-419). In a sense this turns out to be true, but there is a better, more precise solution. We can posit that *iškāru* was simply a generic term for work assignment. On a broad level, this interpretation nicely explains why we find the term used not only in government administration, but also in documents related to the internal administration of the private household of Bābu-aha-iddina (e.g. KAV 98: 42, KAV 99: 23, KAV 103: 10). Within the Agency this term would seem to have applied equally well to all disbursements issued to the Agency’s executive staff. The issue was that in most cases where a text dealt with an *iškāru*, the fact was so obvious it did not warrant the hassle of being written down. By this reasoning, in the two dozen or so texts where the term is used the presence of the term *iškāru* should resolve some ambiguity in the text or otherwise simplify a complicated

expression. As we will see, not only does this explanation make sense of those places where the term occurs, it also throws into high relief a number of irregular grain sources used by the Agency.

It is simplest to start with outgoing materials. Four texts refer to sesame issued to the oil presser Mār-Āpie as an *iškāru*.³⁰ Here we can nicely posit that the term *iškāru* was used to make it absolutely clear that the oil presser was expected to press and return this sesame. Given the Agency's frequent practice of making small virement loans or grants to outside officials, without the term *iškāru* it would be easy for an official to mistake these informal oil pressing contracts for virement (III.3).

On the side of incoming materials, the best starting point is MARV 6 24. As mentioned above, the actual tablet of this text reads like a fairly normal small disbursement of grain received from Šūdu province. However, the envelope summarizes the transaction with the note *kiširtu ša u'e ša iškārāte ša alahhinu u sīrāšū ina libbi u'e ša bēt Kiditê ina sūte ša pirik ritte ina qāt Siqqi-Aššur-ašbat ina Abu-šarrānī ūm 24 līme Ina-iliya-allak mahrū-ni* "sealed tablet of the grain of the *iškārus* which the *alahhinus* and the brewers received from the grain of the house of Kiditê (measured) by the "across the hand" *sūtu* via Siqqi-Aššur-ašbat on XI.24. Ina-iliya-allak" (e.1-8).

Here we can nicely posit that the term *iškāru* on the envelope was intended to resolve an ambiguity created by the irregular source of the grain. As noted above, the grain used to make the payment seems to have been confiscated from the holdings of the governor of Šūdu in the capital. Hence, the text can be understood as combining two different administrative activities. One was the transfer of grain from the household of Kiditê into Agency custody. The second was

³⁰ MARV 5 9, MARV 6 61, MARV 7 78, MAVR 7 79.

disbursing this grain to the Agency executive staff for processing. Without the term *iškāru* it would be easy to misinterpret the envelope as meaning that the executive staff transferred the grain into the Agency's storage facilities for future use. In contrast, the inner tablet largely ignored the precise way in which the grain was obtained. This fact and the inner tablet's itemization of disbursements by official meant there was little danger in thinking that the text referred to a transfer into storage rather than disbursements to individual officials.

Using this model we can also make sense of the other occurrences of *iškāru* in the archive. Irregular transfers of supplies and similar ambiguity prone situations were most likely to happen during crisis years where the Agency worked closely with outsiders. It is hardly shocking, then, that many of the texts using the term *iškāru* come from crisis years where such close relationships are known to have occurred. During the first year or so of the *maddattu* crisis the external *alahhinu* Urad-Aššur was attached to the Agency as a consultant to help it manage the vast influx of grain provided by the first *maddattu* (III.2). Fittingly, we find that two straightforward small disbursement texts composed at this time describe their grain disbursements as *iškārus* (MARV 6 15, MARV 6 80). The texts are silent about the source of the grain, though one of them (MARV 6 15) bears the seal of the *šakin māte*, suggesting that it, like MARV 6 24, dealt with an irregular consignment of grain that was transferred to the Agency and disbursed directly on arrival. The exact details of MARV 6 80 are harder to recover, but a similar irregular source is hardly out of the question.

Officials from the Agency also ended up using the term *iškāru* to simplify records relating to a complicated affair involving Urad-Aššur's milling staff that occurred in Month I of the year Ištu-Aššur-ašāmšu (MARV 5 57, MARV 7 67). Urad-Aššur seems to have ended his stint as a consultant around that time. This reduced the Agency's regular interaction with

outsiders and hence it is not surprising that we find the term *iškāru* used in only two texts from the next half decade or so. One was MARV 6 24, which we discussed above, and the other was the badly damaged small disbursement MARV 5 50, whose exact circumstances are difficult to reconstruct.

In the year Ibri-šarre the Agency was brought into close contact with the palace catering staff and other outsiders as a consequence of the third *maddattu* payment, and just as our theory would suggest this situation seems to have furnished many occasions where disbursements had to be described as *iškārus*. In MARV 7 96 an irregular outside source is described in some detail. MARV 5 25 refers to two disbursements of *hašlātu* made to the Agency's executive staff. Although the text does not explicitly mention an outsider source, the Agency did not normally deal with *hašlātu*, or indeed, wheat from which *hašlātu* seems to have been made (I.1). It is not a great leap to assume that the *hašlātu* came from outsiders, most likely the officials on the palace catering staff. MARV 5 49 apparently refers to a payment from an outside source as well. The text notes that at the same time the *alahhinu* Urad-Gula received his disbursement of 400 *qa* of barley, Ezbu-līšer drew an allotment of 100 *qa* of *hašlātu*. Since we have very little reason to think that the *gināu* supervisor himself actually processed grain, it would seem that he was receiving supplies to keep in the Agency's storage facilities for future use, and hence that these supplies came from outside the Agency. It is not a stretch to think that Urad-Gula's disbursement was added to the tablet because he obtained his supplies from the same outside source as Ezbu-līšer.

After the year Ibri-šarre the close relations with outsiders ceased and again the *iškārus* largely vanish from the archive for half a decade. The only exception is a single laconic text where Urad-Gula received a sum of perhaps 60 *qa* (MARV 7 95). The small size of the sum and

the fact that it was issued to only a single grain official suggest something unusual was afoot, but we have no way to recover much information about it.

During the year Mudammeq-Bēl the outsider Urad-Aššur once again became involved in the Agency's affairs. This time he seems to have been temporarily incorporated into the Agency's staff to help smooth out the transition from the older generation of *alahhinus* (Aššur-danninni, Šūzub-Sîn, and Urad-Gula) to their younger replacements (Ahī-lāmur, Aššur-šumaidina, and Mār-šilliya) (see Appendix C). Unsurprisingly, the occasions where it was necessary to label a disbursement as an *iškāru* multiplied. Two texts use the term with unusual consignments of white barley received by the grain officials, likely to indicate that these were not simply taken into the Agency's custody, but actually distributed for use (MARV 9 22, MARV 9 103). In addition, there are two texts describing a grain allotment given to Urad-Aššur which specify that this was an *iškāru* (MARV 9 31, MARV 10 91). The ambiguity here likely arose because Urad-Aššur had ties to institutions outside the Agency. Although he had been temporarily detailed to the *Gināu* Agency, it would be easy to mistakenly see small payments made to him alone as virement directed toward his former (and future) employers.

Two additional texts used the word *iškāru* for a slightly different purpose. As noted in II.3, the Agency kept an unusually close watch on its grain processing activities during the transition year Mudammeq-Bēl. As part of this, the Agency sometimes gave out large sums of grain to its officials intended to cover exactly one calendar month. While this might seem like an intuitive way of issuing disbursements, the Agency only rarely used full calendar months as

account periods (III.3). As a result, the Agency had to be particularly explicit about the arrangement, for which it used the term *iškāru* (MARV 5 62, MARV 9 8).³¹

Continuing the pattern, the last use of the term *iškāru* in the archive occurred during the Ninuaya crisis, in a text where the *alahhinus* were issued emergency grain by the outsider Aššur-baissunu (MARV 7 86). Thus for the well-documented first decades of Tiglath-pileser I's reign, all the instances of the term *iškāru* in disbursement texts can be reasonably explained as attempts to resolve ambiguity in the text. This ambiguity usually, but not always, arose from the extended contact with outsiders that occurred in crisis years.

Before we leave the matter of the term *iškāru*, there are a few loose ends to tie up. First, on the disbursement side, before Tiglath-pileser I took the throne, we find the term *iškāru* used to describe a transaction where Ezbu-lišer received a small quantity of white barley from an outsider and then redistributed part of it to the grain officials (MARV 6 71). This fits with our general model. Stranger is the text MARV 5 33, which can be dated on prosopographic grounds to the early reign of Aššur-dān I. Here the *alahhinus* receive large amounts of grain with the note *ana iškārātēšunu ša ištu Hibur ūm 25 adi Hibur ūm 29 ša 5 umāte mahrū* “they received them for their *iškārus*, which were from XII.25-XII.29, (for a period) of 5 days” (5-10). The irregularity here seems to be that the Agency was operating considerably over capacity. To use up the grain allotments described in that time frame would require the major *alahhinu* to use 143 *qa* per day, and the minor *alahhinu* 188 *qa*. Without an explicit note that these were work assignments intended for a five day period, one could easily make the mistake of estimating the

³¹ MARV 9 8 lacks a date. However, it features exactly two major *alahhinus* from the future *alahhinu* team 6, like many of the transitional *alahhinu* groupings used around the year Mudammeq-Bēl. This fact, and the fact that *iškārus* of one calendar month are only otherwise attested in the year Mudammeq-Bēl (MARV 5 62), makes it attractive to date MARV 9 8 to the same year. However, it should be noted that a later dating for the text, which is possible in principle, does not really affect the general argument. It only requires that we posit another reason why the Agency temporarily adopted the practice of using accounting periods of one calendar month when making disbursements.

amount of grain used at the normal rate and erroneously concluding that the officials would be fully supplied for at least seven days. Finally, the Agency may have once used the term *iškāru* to describe the amount of grain each of several boatmen was expected to transport, though the tablet is too damaged to be certain of this interpretation, let alone the larger administrative context that might have motivated the author to use the term *iškāru* (MARV 8 6).

2.2.4 The Agency's own staff

The Agency's unusual grain sources were not confined to outsiders. In some circumstances the Agency obtained grain from the personal stores of its members, usually as informal loans to keep operations running smoothly. This is clearest in two of the large disbursement texts where we find, in addition to the usual quantities of grain *ina muhhi* PN "at the disposal (i.e. owed by) of PN," quantities described as *ša* PN "of (i.e. owed to) PN."³² Similarly, the Agency repaid Kuttahhu grain *kīmū aklē ša ušākilu-ni* "in place of the bread which he gave out for consumption" (MARV 7 21: 15'). It is not difficult to imagine ways the Agency allowed itself to become indebted to its executive staff. It could have incorrectly estimated how long the grain would last or could have been temporarily out of grain.³³ The issue is how did the *alahhinus* find grain to keep on working once the grain from the Agency ran out?

Since the *alahhinus* drew rations for their milling teams from the general stock of grain that they were given to process it is possible they simply suspended ration payments and used that grain to make good the shortfall. The problem with this is that some of the shortfall amounts are rather large. In MARV 5 13 the largest shortfall is 156 *qa*, which even assuming a large team

³² MARV 3 61, MARV 5 13

³³ Note that MARV 5 13 is dated to the *fourth* year of Da'ānī-Ninurta. If the state was in such disorder that it managed to go three years without being able to name a new *līmu* it is hardly surprising the funds for offerings were not being provided promptly. Indeed, this period saw a considerable amount of financial shortfalls in the Agency (see III.1).

of sixteen millers would be nearly ten days' rations. In large disbursement text MARV 3 61, we find that some officials still had Agency grain on hand, but that the *alahhinu* Aššur-šumu-līšer and the brewer Aplaya were both owed sums of at least 1000 *qa*. Using a 16 person milling team, this would represent over two full months' rations. As 1 *qa* per man per day rations for the millers are already essentially at subsistence level, it is difficult to believe the *alahhinus* could suspend rations entirely for weeks or months on end.

A better explanation is that the *alahhinus* were using grain from their personal reserves; that is, they are essentially making interest free loans to the Agency, perhaps under some form of compulsion.³⁴ We have an explicit reference to the *rab gināe* funding the offerings with an enormous payment of 27050 *qa* from his personal grain reserves (MARV 3 34), and it is not unreasonable to think other Agency officials might be called upon to do the same on a smaller scale.

2.3 When do they get the grain?

Distributing grain from a central storage location poses a second problem. When officials received grain directly from incoming shipments, the timing of the grain disbursements is clearly dependent on when particular shipments arrived. Even if it wanted to, the Agency could not have had more than passing control of when shipments actually showed up (see I.2). However, it could exercise quite close control over when grain was disbursed from a central storage facility.

As it turns out, the Agency used two different procedures to distribute stored grain. A full discussion of the two procedures appears in II.3, and we need not go into detail here. It suffices

³⁴ We find similar loans from staff to the Agency in MARV 5 8, there involving oil rather than grain and covering a much broader base of officials. Although uncommon in modern governments, even in western countries one can find examples of officials temporarily covering large government expenditures with private funds or credit into the nineteenth century C.E. (e.g. Nagle 1992: 103).

to note the following. One approach was to issue small amounts at short intervals, often only a few days apart. This kept the balance of each official's working fund quite low and we will call it the "small disbursement system." The other approach was to issue a large payment of grain every few months. In this situation officials would have extremely large working funds. We will term this the "large disbursement system."

2.3.1 Timing of large disbursements

We will begin with the large disbursement system since it only involved a few disbursements per year, and so only requires us to pinpoint a few calendar dates. The pertinent data are summarized in the following table:

Text	Assyrian Start Date	Assyrian End Date	Babylonian Start Date	Babylonian End Date
MARV 3 61	0	X.2.x		
MARV 8 69	V.25'.x	0		
MARV 5 28	0	V.27-6.10.0		
MARV 5 13	0	IX.14.urke Da''ān-Ninurta		
MARV 7 42	X.21.Tiglath-pileser I	V.x.Ištu-Aššur-ašāmšu	II.21	IX.x
MARV 7 2	X.30.Ina-iliya-allak	VIII.14.Šadānayu	II.30	XII.14
MARV 5 6	0	V.11.Šadānayu		IX.11
MARV 5 70	II.15.Ibri-šarre	VII.2.Ibri-šarre	V.15	VIII.2
MARV 5 62	II.1.Mudammeq-Bēl	VI.1.Mudammeq-Bēl	III.1	VII.1
MARV 5 40	X.1	VI.1.Bēl-libūr	XI.1	VI.1

Figure II.1-3: Attested Large Disbursements

We can approach these data in two different ways. First, we could assume the disbursements were made based on cultic considerations and so correlated with the Assyrian calendar on which the rituals were fixed. It is certainly striking that all but one of the accounting periods start in either Assyrian Month II or Month X. On the other hand, it is possible that the disbursements were made in accordance with the annual cycle of grain delivery and so should correlate with the Babylonian calendar. Four out of the five account periods that can be placed on the Babylonian

calendar start between the last third of Month II and the middle of Month V, during the heart of the grain delivery season.

The matter cannot be securely decided. Yet, the lack of any well documented festivals in either Month II or Month X (see II.2), favors them being tied to grain delivery and so to the seasonally adjusted, Babylonian calendar.

2.3.2 Timing of small disbursements

For small disbursements the dates are more plentiful, but the matter is messier. For simplicity, we will use only texts from Tiglath-pileser I's reign, when the corpus is the densest. There are two questions we would like to ask about timing. First, is there any pattern to parts of the year in which the small disbursements were made? Second, is there any pattern to how far apart individual small disbursements were made? As we will see, the answer to both seems to be a firm "no."

To investigate the first question, the simplest approach is to note the total number of texts datable to each month in the Assyrian calendar. To check for possible correlations with seasonal events it is necessary to perform the same procedure with Babylonian months. However, since some years are much better attested than others, this raw count might be skewed by the vagaries of preservation. For instance, while six texts dated to Assyrian Month VI are in the corpus, five of those are from a single year, Mudammeq-Bēl. Hence, we will also look at a weighted average which gives only the number of years in which at least one small disbursement text is attested in a particular month. The source data are summarized in the following table:

Month	Frequency by Assyrian Month	Frequency by Assyrian Month (weighted)	Frequency by Babylonian Month	Frequency by Babylonian Month (weighted)
I	5	4	6	5
II	5	4	2	2
III	7	5	6	5
IV	2	1	8	7
V	5	4	3	2
VI	5	3	7	4
VII	6	2	7	5
VIII	3	2	7	3
IX	9	7	9	5
X	12	6	6	4
XI	10	8	7	3
XII	3	3	4	4
Total	72	49	72	49

Figure II.1-4: Frequency data for Small Disbursements

These are summarized in the following graph:

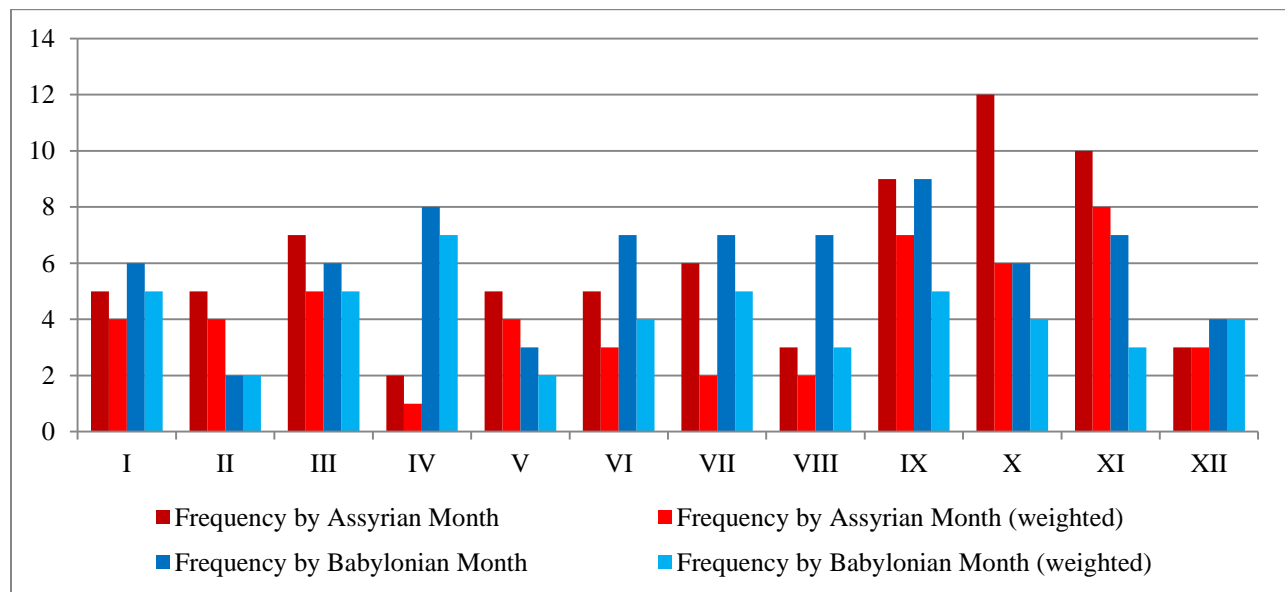


Figure II.1-5: Small Disbursements by Month

Although the Assyrian month data shows a slight peak in months IX-XI, a chi-squared test indicates that it is not statistically significant.³⁵ For our purposes, the months in which the Agency decided to issue small disbursements were effectively random.

When we turn to the question of the spacing of individual small disbursements, the picture is equally bleak. Part of the problem is that it is difficult to reconstruct a complete sequence of small disbursements for any length of time. It is, of course, hard to know how much we are missing, but we have a sequence of texts drawn up in the year Mudammeq-Bēl that summarize the disbursements made each month (see II.3). Enough numbers and names are damaged on all of them that we cannot get exact data for the whole of any month. Yet, it is possible to get a lower bound for the total number of disbursements each month by counting the number of extant entries for individual days on each tablet. Doing this we get lower bounds of six (MARV 7 48), seven (MARV 7 24), and ten (MARV 5 29) disbursements in a single month. However, the largest number of individual small disbursement texts we have for a single month that year is five. One of the months with five extant texts, Month IX, is the same month that the summary text MARV 5 29 shows had at least ten small disbursements. For Month VI we have individual texts of only two of the at least six disbursements that must have occurred that month (MARV 7 48). Similarly Month VII has four out of at least seven disbursements extant.

These heuristic data suggests we probably have no more than half of the single disbursement texts that were drawn up in any given month. Indeed, if we assume for simplicity that the number of small disbursements per month that year was relatively stable, and take the average of the monthly small disbursements from the three summary texts, we get a figure of 92 small disbursements made that year. Yet only 22 single small disbursement texts can be dated to

³⁵ Using the weighted data and putting the texts into two-month bins we arrive at a p value of 0.109.

the year Mudammeq-Bēl. Thus we would have a little less than a fourth of the small disbursement texts likely made that year. There are simply not enough texts to reconstruct the sequence of daily disbursements for the year. Sadly, the year of the summary texts, Mudammeq-Bēl, is the single best attested year for small disbursements in the entire archive, accounting for a full quarter of the archive's datable small disbursement texts.

We might still try to heuristically pick out patterns without a complete sequence, but the procedure is largely futile. Apart from a few occasions when disbursements were made to allow for special offerings at a known monthly festival (III.2), there are no clear patterns. The data, it would seem, really are random. It should not be surprising that there is no clear pattern to the months or days on which small disbursements were made. The timing of disbursements was likely influenced by factors like the availability of grain and at what times all the people involved could be gotten in the same place. Moreover, as discussed below, the brewing and baking processes differ strongly in when and how much grain they require for a given purpose. To use the language of signal processing, all these and doubtless other minor factors create noise in the data that effectively drowns out the underlying rationale for when many disbursements were made, if indeed there even was such a rationale. As we will see presently, the data on the size of disbursements is equally noisy.

2.4 How much grain do they get?

2.4.1 General thoughts

Despite the ample documentation the *Gināu* Agency has left us on grain disbursement, arriving at figures for just how much grain its officials could expect to receive in a single disbursement is rather challenging. We know the size of innumerable individual disbursements,

but these by themselves are not especially useful figures. The Agency sometimes disbursed only enough grain for a single day and at other times gave out many months' worth as a single payment. As a result the sizes of disbursements vary from under 100 *qa* to over 10000 *qa*. Even ignoring the years when the large disbursement system was in use, small disbursements could still range between 50 *qa* and nearly 3000 *qa* (MARV 7 77). Listing the attested figures would just underscore this tremendous variation.

For some of the disbursements we have a reasonable idea why they were of a given size. When they were pulled directly from boats, a driving force was the size of particular shipments. We also can make conjectures for a few of the better documented crisis periods. However, in most cases we do not know. When the Agency was issuing small disbursements the exact amount of disbursements, like their exact timing, was likely influenced by countless short term considerations and is thus noisy. Millers working on one team might have fallen ill, a particular supply might have run low, the bakery might have needed to repair an oven, etc. We cannot reconstruct such events for most periods of the archive and they generate too much noise in the data to say much about the ideal absolute disbursement size.

Yet all is not lost. There are two approaches that can still make some sense of the data, even if we concede that the absolute sizes are effectively random. We can look for consistency in how the disbursements are measured out, be they large or small. We can also use the disbursement texts to investigate the average amount of grain used per day, which we can then compare to the data we obtain from texts describing the finished offerings.

2.4.2 Measurement method

When we look at issues of measurement there are some very clear patterns. The details of this analysis (involving, among other things, an analysis of more the 400 individual

disbursements) are involved and are treated in Appendix B. Here we will only summarize the results. It turns out that the Agency strongly favored making small disbursements in even multiples of 50 *qa*. This likely reflects the fact that it tended to store its grain already measured into 50 *qa* sacks. It would seem that, wherever possible the Agency did not measure out disbursements from a pile of grain, but counted out integer numbers of grain sacks. Moreover, it is not a great leap to go from making expenditures in whole numbers of grain sacks to planning for those expenditures in terms of grain sacks. Thus, it is reasonable to ask if the Agency planned its daily expenditures in terms of even grain sacks. As we will see shortly, the answer is a firm yes.

2.4.3 Daily grain usage

As discussed in greater detail in (II.2), the *gināu* offering which the Agency funded was supposed to be made daily and be of constant size. At least in theory then the average amount of grain used to make it each day should have been roughly constant, and so the average amount of grain disbursed per day would be likewise constant. Matters in real life were more complicated, and sometimes offerings fell short, but we have little evidence they were made intentionally oversized.³⁶ Hence, the sum of the largest of the attested daily averages for each grain official should give us an approximation of the daily requirements of the cult, or at least an upper bound since it is possible not all the grain in the disbursements ended up in the finished offerings. As a guideline, the Agency's nominal yearly grain income was 198730 *qa* (I.1). Assuming a 365 day year, this means that its expenditures cannot have averaged more than 544 *qa* per day. If we use the 360 day year often used in Assyrian administrative planning (e.g. MARV 7 1), the figure

³⁶ The only clear case is in MARV 5 66 where 106 *haršu* breads were used in the offerings instead of the usual 100, but this may have been an attempt to compensate for the total lack of *miṭru* bread on that day.

risers to about 552 *qa*. In either case there is a firm upper bound of about 550 *qa* on the Agency's daily grain expenditures. As we will see, this fits quite nicely with what the Agency actually spent.

We have at least one text where the Agency itself actually reckoned its daily grain usage, MARV 6 70. This text summarizes expenditures with the line *naphar 402 aklu sikar bēt ile SA.MAR t̄abu ša umāte* “total 402 *qa* (grain used to make) bread, temple beer, and sweet SA.MAR beer per day” (16-17). The next line multiplies the figure by 30 to arrive at the amount to be used for one month, confirming that it was understood as a daily average. The text itemizes that sum as 124 *qa* per day for beer and 278⁷ *qa* per day for bread. We also get explicit daily figures when grain is given out for a particular special offering, though we have no guarantee the offering was not somehow larger on those days. The largest figures are 350 *qa* (MARV 6 20 and duplicate MARV 7 48) and 380 *qa* (MARV 10 89) among the four *alahhinus*. There are also a number of larger disbursement texts which record the amount of grain used by certain grain officials over well-defined period of time. Combining all these sources, we can draw up the following table:

Text	Days Covered	Daily Average	People Involved	Source
MARV 6 70	1	278 ⁷ <i>qa</i>	all <i>alahhinus</i>	explicit
MARV 6 20 (and MARV 7 48)	1	350 <i>qa</i>	all <i>alahhinus</i>	special offering
MARV 10 89	1	380 <i>qa</i>	all <i>alahhinus</i>	special offering
MARV 9 107	8	388 <i>qa</i>	all <i>alahhinus</i>	small disbursement
MARV 5 28	14	150 <i>qa</i>	major <i>alahhinus</i>	large disbursement
MARV 5 70	138	249 <i>qa</i>	major <i>alahhinus</i>	large disbursement
MARV 7 2	279	199 <i>qa</i>	2 major <i>alahhinus</i>	large disbursement
MARV 6 70	1	124 <i>qa</i>	all brewers	explicit
MARV 5 70	1	134 <i>qa</i>	all brewers	large disbursement
MARV 5 40	240 ⁷ (8 months)	87.5 <i>qa</i>	1 brewer	large disbursement

Figure II.1-6: Daily Grain Usage Figures

The question before us, then, is how to go from these varying particular daily usage figures to a more general daily usage estimate. One approach is to simply add up the largest attested expenditures. The largest daily expenditure figure for both brewers is 134 *qa*. However, if we double the figure of 87.5 *qa* per day for a single brewer in MARV 5 40, we can get a slightly higher estimate of 175 *qa* per day for total brewing expenses. For all the *alahhinus* (including the minor *alahhinu*), the largest attested figure is 380 *qa*. These combine to a total of 555 *qa* per day. Thus, the Agency's maximum attested grain expenditures line up nicely with the limit of 550 *qa* or so on its daily expenditures imposed by its total income.

However, both the 175 *qa* estimate for brewing expenses and the 380 *qa* estimate for baking expense are only supported by a single text. Indeed, the 380 *qa* figure is only attested for a single day and could be anomalously high. Similarly, one could posit that the brewer in MARV 5 40 was doing considerably more than half of the Agency's brewing in that period. Hence, it behooves us to look for a more robust estimate.

Here it is easiest to start with the *alahhinus*. In every text we have, the *alahhinus* never use more than 100 *qa* per man per day. Moreover, we find that the major *alahhinus* often used exactly 100 *qa* per day. The three daily offering texts consistently assign each major *alahhinu* 100 *qa*. MARV 9 107 similarly shows them using exactly 100 *qa* each per day for six days. Most striking of all, MARV 7 2 shows two of them using almost exactly 100 *qa* every day for the better part of a year. We do find the *alahhinus* using amounts less than 100 *qa* per day, but these small figures do not congregate around any particular value. Thus, it is reasonable to think that the Agency planned for each major *alahhinu* to use exactly 100 *qa* per day, and made ad hoc reductions to this number when it was short of funds.

When we turn to the other officials, the matter is a bit more difficult. In the various texts described above, the minor *alahhinu* never receives the same average twice. In MARV 6 20 (and its duplicate in MAR 7 48), the minor *alahhinu* receives 50 *qa* for one day. In MARV 9 107 he averages 66 *qa* per day for a period of 8 days. In MARV 10 89 he receives 80 *qa* for one day. More generally, in texts where he appears with the major *alahhinus* the median ratio of his disbursement to theirs is 0.626 (Appendix B). Since the major *alahhinus* averaged a reliable 100 *qa* per day, this implies that the minor *alahhinu* used about 62.5 *qa* per day. Similarly, the daily usage figures for an individual brewer are 62 *qa* (MARV 6 70), 67 *qa* (MARV 5 70), and 87.5 *qa* (MARV 5 40). Where both brewers appear alongside the major *alahhinus*, the median ratio of their combined disbursements to that of a single major *alahhinu* is 1.25 (Appendix B), implying that each used about 62.5 *qa* of grain per day. Combining these with the more solid figures for the major *alahhinus* gives us a range for 474-555 *qa* per day for the Agency's total grain expenditures.

Yet, it would still be nice to reduce this unpleasant range of more than 80 *qa*. Here the data from MARV 6 70 is useful. That text describes a total of 278 *qa* of grain allotted for bread production and 124 *qa* allotted for making beer. Now, given that the major *alahhinus* alone normally used 300 *qa* of grain, these figures must represent a reduction in offering levels. Furthermore, it is not unreasonable to think that the Agency reduced its bread and beer offering by roughly the same percentage. If we assume that original allotment for making bread before the reduction was 300 *qa* (the amount required by the major *alahhinus*), then the original amount allocated for beer making should have been 134 *qa*. Suggestively, 134 *qa* is also the largest combined daily average attested for the brewers (MARV 5 70) and still nicely close to the other large attested figures. Therefore I would suggest the following model.

Under ideal circumstances, each major *alahhinu* would use an average of 100 *qa* of grain per day. The two brewers between them would use an average of 134 *qa* of grain. Based on the calculations in MARV 6 70, these two sums would be enough to cover the bulk of the *gināu* offerings. In addition, perhaps 66 *qa* were used by the minor *alahhinu* to cover any remaining *gināu* and to possibly meet other minor expenses (for instance the 126-*qa* ritual discussed in II.2). This works out, then, to average daily expenditures of about 500 *qa*, a figure close to but comfortably beneath the Agency's daily expenditure cap of 550 *qa*. Since, the Agency's actual income in any given year was almost always lower than its theoretical income (I.1), this breathing space would have been quite helpful.

Before we leave the topic, though, we should return briefly to the exact figure calculated for the Agency's theoretical income, 198730 *qa*. As we noted in I.1, this figure seems to have been arrived at by computing initial assessments based on the size of land holdings equal to 147730 *qa* and then assigning an additional 51000 *qa* of obligations among the various grain paying provinces. We can explain this quite nicely if we assume the Agency planned in terms of 50 *qa* sacks of grain. As noted above, the three major *alahhinus* each were supposed to use 100 *qa* per day, that is, two 50-*qa* sacks each. Now, to allow for the brewers to use 134 *qa* per day, they would need three sacks per day, and similarly, the minor *alahhinu* would need two sacks to meet his average daily expenditures in the 50-80 *qa* range. These grain sack figures are, of course, overestimates of the grain actually needed, but they offer nice round figures useful for planning. Thus, as a rule of thumb, the Agency would have needed a total of about eleven sacks of grain per day to ensure smooth operations. If the Agency then reckoned a year to have about 360 days (as we find it doing in MARV 7 1), it would then have arrived at a total of 198000 *qa* of grain as sufficient to cover operations for one full year. We can therefore explain the total

51000 *qa* shift as the smallest multiple of 1000 *qa* sufficient to make the Agency's income larger than 198000 *qa*. These additional obligations were then assigned to various provinces in units of 500 *qa*.

3 Grain processing

Getting appropriately sized disbursements of grain into the hands of the Agency's executive staff is still only part of the story. The executive staff had to use that grain to produce the bread and beer actually used in the offerings. This task is only poorly documented in the archive. As discussed in II.3, there are good reasons to explain this apparent lacuna. Fortunately, there are still enough scattered bits of information that we can arrive at a reasonably clear picture of the process, at least in its basic outline.

3.1 Milling

3.1.1 Qualitative considerations

3.1.1.1 Is milling a profession?

The most labor intensive part of grain processing was milling. In Middle Assyrian sources two types of miller are known: the *ṭēinu* "miller" and the *sāmidu* "huller." MARV 7 4 indicates both worked for the *Gināu* Agency. We will look at each in turn.

Ṭēinus were by far the most common type, and a single *alahhinu* might have more than a dozen in his employ.³⁷ Given how much more common the term is, it is possible that *ṭēinu* also sometimes served as an umbrella term that included *sāmidus*. As one might expect, we find that

³⁷ MARV 3 69

the cognate verb *ṭēnu* could be used to describe the process of making ordinary flour (e.g. Jakob 2009 81). Hence, it is reasonable to think that the *ṭēinu* milled raw barley into flour.

Where matters become more complicated is when we turn to the *sāmidu*. *Sāmidus* seem to have worked only for brewers. This is clearest in MARV 3 69. There, in a list of milling equipment issued to various officials, only brewers receive equipment for a *sāmidu* miller. What is more, even brewers seem to have employed relatively few of them. In the fully preserved entries of MARV 3 69, each brewer receives only enough equipment for one *sāmidu*.³⁸ Similarly, MARV 7 4 conspicuously adds a plural determinative to the word *ṭēinū*, but not *sāmidu*, suggesting that the milling staff it described consisted of several *ṭēinus* and only one *sāmidu*.

Clearly the *sāmidu* and *ṭēinu* had rather different functions in the Assyrian administrative apparatus. This raises the question, what was exactly was the difference? Postgate has suggested that the *sāmidu* specialized in fine milling (Postgate 2013a: 111-112). This seems rather unlikely since, at least in modern times, finely milled barley is not generally used in brewing. However, in other periods, the cognate verb *samādu* was used to describe the process of creating groats, namely removing the hard outer hull from grain to leave a naked seed (CAD s.v. *samādu*). It seems best to assume the verb had at least roughly the same meaning here as well, referring to a very rough and basic processing of the grain. For convenience, we will refer to the profession as a “huller.”

This interpretation would also nicely explain why one hardly sees more than one *sāmidu* in a work group. Since the *sāmidu* specialized in a quick and coarse type of processing, he could likely process a much higher volume of grain than regular *ṭēinu* millers. A work team would thus

³⁸ The phrase 17 NA₄.HAR [. . .] “17 mill stones . . .” in the footer apparently refers to the total number of *sāmidu* milling sets issued, since the text involves milling equipment for the staffs of 19 total officials and considerably more than 17 *ṭēinu* millers. Since the text seems to deal with only 16 brewers, it is likely that one damaged entry involved equipment for two *sāmidus*.

need to deal with a rather large amount of grain to need the services of more than one. This principle would also neatly explain why the brewing teams issued equipment in MARV 3 69 are so much smaller than their bread-making counterparts. The single *sāmidu* most of the teams employed was, with the aid of one of two *ṭēinu* millers, able to process a volume of grain that would require perhaps a dozen men working full time to convert entirely into flour suitable for bread making.

Milling required special equipment, as will be discussed below, but evidently not special skills.³⁹ Thus, in the letter KAV 107 one hears of a bowyer who had been *ana ṭēinūte tadnu-ni* “given over to milling duty” (12-13). This shows that millers could be recruited from men who normally worked at other professions. Indeed, it is reasonable to think most households milled their own grain, and that only large institutions could employ people who milled full-time. Hence anyone on state service could function as a miller if need be. Matters would seem to be more complicated in MARV 4 72, where *ṭēinus* and *naggārū* “carpenters” are separated out from the generic mass of workmen, though still counted in the total 57 *ṣābū ša pittī Papsukkalaya* “57 workmen in the custody of Papsukkalaya” (6-8). Yet, we can reconcile this passage with the letter above by assuming the status of miller relates to equipment needed for milling. The “miller” would be a workman who had been issued this equipment and so was ready to mill.

3.1.1.2 Equipment

We can say a bit more about what this equipment was. In Middle Assyrian practice, milling seems to have required at least three different pieces of equipment: the *erû* “lower milling stone”, the *narkubu* “upper milling stone”, and the *mašhulu* sieve. In MARV 3 69 *erû*

³⁹ Thus I cannot agree with Gaspa’s implication that the Agency’s milling force form a group of “skilled laborers” (2011a: 249).

and *narkubu* stones are issued to both *tēinu* and *sāmidu* millers, but the text is careful to distinguish between *tēinu* and *sāmidu* millers throughout. Hence, it is possible that the two varieties of milling used different varieties of *erû* and *narkubu* stones.

Not surprisingly, the upper and lower milling stones were frequently issued as a set (e.g. MARV 3 69 *passim*). MARV 6 75 appears to be an internal document describing the distribution of such equipment among the members of the Agency's executive staff. This sadly damaged text is our only clear record about milling equipment from within the archive, but it is not unreasonable to think that the distribution of milling equipment was normally handled internally (so Gaspa 2011a: 244).

That said, the process of issuing equipment was evidently not always without complications. It seems that the Great Steward could become involved in providing milling equipment and millers to various government agencies, including the *Gināu* Agency. Thus, we find the well known Agency brewer Ša-Aššur-līšer receiving two millers with stones in a text from the Great Steward's archive (MARV 3 69: 29-30). What little information we have on the Agency's millers suggests that they were brought in from the provinces. Hence, it is attractive to see these two millers provided to a single member of the executive staff as an irregular arrangement. That would also explain why he is the only official from the Agency to appear in the text, which lists at least a dozen other *alahhinus* and brewers, while the equipment text from the Agency's archive refers to all six grain officials and no one else. The Agency normally provided milling teams and equipment for all its officials, but when this proved impossible it could send an official to the Great Steward to get a properly equipped team.

On the part of the Great Steward, this action does not seem to reflect a special concern for the *Gināu* Agency. Rather it seems his office generally made good deficiencies in the state's

milling apparatus. Thus in MARV 1 30 we find the Great Steward issuing milling equipment to three men, each explicitly described as making a different product. This could be equipment for members of one agency with unusually diverse responsibilities, but it seems easier to assume they were just three different individuals on state service who had not managed to get the appropriate equipment. MARV 3 69, which lists 19 officials who received milling equipment, could be interpreted as a similar measure. Indeed, as mentioned above, we know the text included only one member of the *Gināu* Agency's regular staff. It is not a stretch to see the other names as people who worked in a wide variety of government agencies, united only by their inability to find sufficient milling equipment or personnel in their home agencies.

Indeed, that would explain why the vast majority of the officials in the text are brewers, when at least in the *Gināu* Agency, *alahhinus* were the more common of the two professions. This is not a comprehensive list of people engaged in milling, but only those people who were having difficulty maintaining normal operational levels. As a letter from Dūr-Katlimmu shows, in times of crisis brewing was one of the first activities to be cut, and so it is no surprise that more brewers found themselves without milling staffs than *alahhinus* (BATSH 4 12: 10-12). The efforts of the Great Steward and his agents to bring in small amounts of milling supplies (MARV 10 72) and millers (MARV 10 31) by boat to the capital also fit nicely with the idea that he primarily fixed problems in the milling system rather than organizing it.⁴⁰ To provide fully for the needs to the dozen or more teams apparently active in the capital, his office would need to secure not a few isolated men and millstones, but a hundred or more of each.

It is quite possible that the *Gināu* Agency received its milling stones from the Great Steward at one point in time and then simply held onto them permanently, going back to him

⁴⁰ MARV 10 19, which contains two names paired with milling equipment might be another reference to shipping in milling equipment, though it could just as easily be another disbursement list.

when any needed replacing. Certainly that would explain the paucity of texts in the Agency's archive explaining where they obtained milling equipment. One might also explain this absence by assuming the millers brought their equipment with them, but then it is hard to explain why we find the Agency issuing equipment to what seems to have been its entire milling staff in MARV 6 75. While the Great Steward remains the best candidate for the ultimate source of the equipment, the evidence is not strong enough for this to be anything more than an educated guess.

3.1.1.3 Recruitment for the Agency

The Agency required a sizeable workforce to mill its grain. This workforce was organized into five teams, each run by one of the major *alahhinus* or the brewers. This seems to have been a general Middle Assyrian practice for both professions. MARV 3 69 refers to nineteen such teams, mostly headed by brewers. Closer to home, in I.Ištu-Aššur-ašāmšu we find references to the team of Urad-Aššur, an *alahhinu* assigned to help the Agency in the first years of the *maddattu*-crisis, apparently interacting directly with the Agency while their chief was otherwise occupied.⁴¹ It is possible that the minor *alahhinu* also had a team, but this is uncertain. Alone among the grain officials, he does not receive milling equipment in MARV 6 75, and given the other peculiarities of his office (to be discussed below), it is entirely possible that the Agency did not provide him with a formal milling team like his colleagues.

The simplest way to provide millers to the *Gināu* Agency would have been to assign individuals to the task from the general pool of state labor. In fact, Ša-Aššur-līšer the brewer seems to have been issued millers in just that way alongside a number of other *alahhinus* and brewers in MARV 3 69. Yet this was not the only way.

⁴¹ MARV 5 57, MARV 7 67

In the two roster texts the Agency draws its milling staff from all over the Assyrian state, apparently trying to ensure each province had at least one man in the milling staff (Gaspa 2011a: 244; Postgate 2013a: 111). As will be discussed in the Conclusions, this cumbersome practice was likely ideologically motivated (Maul 2013:571-572).⁴² Both texts can be dated to the earlier part of the archive based on the provinces they mention, so it is possible the practice lapsed by the time of Tiglath-pileser I. Yet, an admittedly confusing note at the end of MARV 6 90 appears to refer to an *alahhinu* receiving a miller from Kilizu province in the year Bēl-libūr (Postgate 2013a: 111). This suggests the system was at least partially functioning at that time. Alternatively, it may only ever have involved the millers who worked for the *alahhinus*, and not those under the brewers. That would explain why neither of the rosters mentions hullers (*sāmidu*) who took part in brewing but not bread-making. Unfortunately, there does not seem to be enough evidence to decide the matter.

In addition to giving the geographic origin of the millers, the rosters also show that the Agency's full complement of millers could range between 23-47.⁴³ The upper figure fits nicely with MARV 3 69, where an *alahhinu* (not affiliated with the *Gināu* Agency) has a staff of 15 *tēinus*, and brewers generally have teams of two or three. Indeed, MARV 7 91 seems to name two people as the milling team of one the *Ginau* Agency's brewers. As the Agency had three *alahhinus*, they alone would account for around 45 millers, with the brewers accounting for perhaps another two each. If the minor *alahhinu* did not have a regular milling team, this would yield an estimate of 49 milling staff for the whole Agency. This rough estimate fits nicely with

⁴² Maul interestingly suggests that milling service could plausibly be seen as an honor rather than duty, though he notes the matter is undecidable from the extant texts (2013: 572). In addition to this, one could also suggest that the millers were in effect hostages from the provinces, but likewise there is no evidence. For now it seems safest to assume the millers were regular laborers pulled from those who owed service time to the state.

⁴³ MARV 5 60, MARV 6 64

the exact count of 47 millers found in the personnel texts, and by using a smaller number for the major *alahhinus*' teams, one could easily bring it to exactly 47 and even allot a small milling contingent for the minor *alahhinu*.

The wide variation in the number of millers is less expected. As already shown, the number of executive staff in the *Gināu* Agency was constant for generations. One could suggest that the offerings varied in size over the years, but as shown in II.2, the size of the *gināu* offerings seems to have been relatively constant—at least in theory—throughout the period, just like the assessments collected to cover them.

The simplest solution is that the Agency had to make temporary staff reductions to cope with the endemic supply shortages that so often beset it. The *Gināu* Agency had a theoretical maximum income of 198730 *qa*, as shown in I.1. At a milling rate of 2.3 *qa* per hour, the Agency would need to average about 240 man-hours of milling per day to mill through its entire stock. Divided among 47 millers, that works out to a very reasonable five hours of grinding per man per day.⁴⁴ Assuming some of the grain used for brewing was only hulled, the total labor might be reduced a bit more.

Divided among 23 millers the result would be a more extreme ten hours. Hence, the 47 figure likely reflects the Agency working at near capacity while the 23 figure comes from a troubled time like the end of Ninurta-apil-Ekur's reign, when some provinces lagged years behind on payments. Presumably the Agency dismissed surplus millers to cut down on costs in

⁴⁴ I am aware of no data on the labor required for Mesopotamian barley milling. There has been work on the topic for wheat milling in Ancient Egypt though, which used a similar process and so should be at least of the right order of magnitude (Samuel 2009). I have averaged four of the rough milling times Samuel obtained experimentally for different wheat varieties to obtain a figure of 20.15s to mill 10g of wheat (Samuel 2009: 473). Using a figure of 790g/l as the density of wheat, one gets a figure of 26.5 minutes of milling for each liter of wheat. Since the Assyrian *qa* was reasonably close to a liter and the calculations are rough anyway, we can assume a comparable amount of time would be needed to mill a *qa* of barley. At this rate in one hour one would mill about 2.3 *qa*. Samuel's data for fine milling requires roughly twice as much time, so if doing fine milling Assyrian millers might get through only about 1.2 *qa* per hour (Samuel 2009: 473).

such a crisis. Indeed, as discussed in more detail in III.1, at least once the Agency so reduced its milling staff it had to rely on flour milled by outsiders.⁴⁵

It is possible that the same problems that caused grain shipments to not get through to the capital also kept back the millers, and that transport problems rather than simple economizing reduced their number. We might even have a glimpse of this in MARV 6 90, where millers from Kilizu accompany two full years of back payments from that province. Returning to the rosters, MARV 6 64 listed 23 provinces, while MARV 5 60 listed only 14. However, where we can read the total for the same province in both tablets, the number is always strictly smaller in MARV 5 60.⁴⁶ Thus we are not dealing only with fewer provinces sending in millers, but also with provinces systematically sending in fewer millers. This favors the idea that the driving force was not how many millers could make their way to the capital, but rather how many the Agency needed to have on hand.

3.1.1.4 Payment

The above discussion raises the question of how exactly the millers were paid. Several texts mentions the *kurummat t̄ainē* “rations of the millers” or similar phrases, but none gives a clear figure just how much they received. A damaged passage in the early text MARV 7 43

⁴⁵ MARV 3 6 shows this happening in the aftermath of Ninurta-apil-Ekur’s seizing the throne. MARV 9 112 shows it happened again in the Ninuaya crisis in the middle of Tiglath-Pileser I’s reign. In the latter text the crisis was so severe that the executive staff had to borrow the flour for the offerings on loan from outsiders (III.1).

⁴⁶

Province	Millers (MARV 5 60)	Millers (MARV 6 64)
Addarik	1	3
Apku	1	2
Idu	1	2
Karānā	1	2
Šibanibe	1	2

Figure II.1-7: Comparison of Millers in MARV 5 60 and MARV 6 64

includes an entry described as *kurummat Bēr-šuma-iddina* “the rations of Bēr-šuma-iddina,” otherwise known to have been the governor of Halahhu province around that time (13-14). The text also gives the amount of this ration grain spent by each grain official. One could see here a principle whereby provincial governors each had to support their province’s workmen in the Agency. Indeed, the provincial text BATSH 18 8 records an allotment of 1470 *qa* of grain for various individuals from Dūr-Katlimmu assigned to work off-site in Šadikannu and in the capital.

However, on closer examination this idea is problematic. One issue is that, as shown in I.1, only provinces on the Tigris river system generally shipped grain to the capital, but millers were also sent in from provinces on the Euphrates river system. We would have to posit that, although the government thought it was too cumbersome to ship grain from the western provinces to cover the *gināu* offerings, it had no problem arranging ration shipments from the same area. Moreover, it would be rather cumbersome to continuously send such small amounts of grain, even on the Tigris. If such a system was ever in effect, one suspects that the millers’ rations came along with the *gināu* or were obtained in Aššur from the governor’s property in the city. However, all this remains pure speculation.

In the time of Tiglath-pileser I we find the millers drawing their rations from the same fund used to supply the offerings (Postgate 2013a: 111). In MARV 6 48, which summarizes the amount of grain processed by each major *alahhinu*, the yield is expressed as (quantity) *qēmu adi kurummat ṭāinēšu* “(quantity of grain used for) flour together with the rations of his millers.” This implies that the millers’ rations came from the same fund as the grain they turned into flour. More strikingly, in MARV 1 49 we find 16184 *qa aklu sikru adi kurummat ṭāinēšu u sāmīdēšu kīmū gināe ša Salmanu-ašarēd Ezbu-līšer ultākil* “16184 *qa* (of grain used for) bread and beer

together with the rations of his millers and hullers, which Ezbu-lišer caused to be consumed in place of the *gināu* of Salmanu-ašarēd” (8-11). A similar, though more damaged passage follows for the work team of Urad-Aššur (12-15). These lines are rather explicit that the millers’ rations were paid from the same funds being used to cover the offerings.

Admittedly, that text deals with *maddattu* grain, and one might try to argue it was an emergency measure. However, the fund is described as *kīmū gināe* “in place of the *gināu*,” which would seem to imply that the expenses, including rations, were those normally met directly from *gināu* funds. KAJ 306a likewise confirms that this was not a one-time emergency measure linked to the *maddattu* and that the practice goes back in some form at least to the time of Ninurta-apil-Ekur. In that text we find a summary of when various offerings were complete or deficient. In the last, unfortunately damaged entry, we read *ištu Kalmartu 15 līme Pišqiya akla u sikra ana . . . adi kurummat šābē[?] . . . imahhurū[?]* “from III.15.Pišqiya bread and beer for . . . including the rations of the workmen[?] . . . they will receive” (15-18). The passage is badly damaged, and the words *adi* and *šābē* mostly restored, but the signs ŠUKU-*at* = *kurummat(u)* “rations” are quite clear, and so there can be little doubt that the passage described rations being supplied by the Agency whatever the precise details might have been.

We can nicely explain the lines by positing that on III.15.Pišqiya, the date the tablet was composed, a large shipment of grain had come in and the Agency was now able to resume the offerings and pay its workmen for the foreseeable future. This would imply that the same fund provided both for the offering and the workmen’s wages. Otherwise it would be strange for a note about rations to appear on the same tablet and very strange for both offerings and rations to resume on exactly the same day. Curiously, if the restoration is correct and grain did not lurk somewhere in the break, then in contrast to the Tiglath-pileser I texts, the men appear to be being

paid in finished bread and beer rather than grain. This may have been an emergency measure, or there may simply have been a change in practice; the evidence is too scanty to decide.

3.1.2 Quantitative considerations

The previous discussions of the milling process have been largely qualitative. We have discussed how millers were obtained, paid, and equipped. Also, from earlier in the chapter, we have a good idea of the total amount of grain which the Agency needed to mill. However, there is one pesky complication. Milling a quantity of grain can significantly alter its density. Modern millers generally avoid this problem by measuring the before and after product in terms of weight, which is unaffected by the density change. Unfortunately, the Assyrians measured both grain and flour by volume. As a result, to incorporate both grain and flour figures into our model we must have some way of estimating the density change caused by the milling process.

3.1.2.1 A note on metrology

Before we investigate this question, we must note one further unpleasantness in Assyrian accounting practice. We are often confronted in our texts with quantities of bread described in terms of volume. For measures of grain the meaning of volume measures is straightforward: 1 *qa* of grain is the amount of grain that would fit in a 1 *qa* jar. But for bread and beer it is not. Does 1 *qa* of bread refer to a loaf that would fit neatly in a 1 *qa* jar, a loaf made from 1 *qa* of flour, or a loaf made from 1 *qa* of raw grain? *A priori* the answer is not clear, and it turns out the *Gināu* Agency itself was inconsistent on the matter, ascribing different meanings to bread volumes depending on what was convenient in the document being composed.

A frequent concern of the Agency was making sure its grain reserves were large enough to cover the offerings. To do the appropriate calculations the Agency needed to know how much

grain had been or was about to be spent. Thus, we find it measuring both bread and beer by the volume of grain used to make them. This practice is most obvious when texts subtract bread and beer volumes from a total of grain (e.g. MARV 1 49). The same practice underlies the occasional addition of bread and beer figures (MARV 1 49, MARV 6 70, MARV 7 4). If the figures were the finished volume of the products, this sum would not be especially useful, except possibly for shipping purposes. However, if the bread and beer were being measured by component grain, this gives the total amount of grain used, a very useful figure indeed. MARV 1 49 in fact uses its bread and beer sum explicitly for that purpose, subtracting it from one amount of grain to obtain another amount of grain. This practice however, does not seem to have been common in the archive. All the likely examples of it seem to be confined to the period of the *maddattu* crisis.⁴⁷

Of course if one's interest is in the amount of bread and beer that will be set before the deity on a given day, measuring by the grain needed to make it would be rather cumbersome. When presented with actual bread and beer, it would only be possible to know their official "size" in this system by using a considerable amount of calculation. Indeed, since there could be some variance in the efficiency of the milling and brewing process, it might not be possible to recover the exact "size" of the food in question from the finished product alone. It would be much simpler to somehow measure the finished volume, and in fact this seems to have been the normal procedure.

For beer this is a simple matter since measuring the volume of a liquid is rather straightforward. For bread the matter is more complicated. Measuring the volume of a solid piece of bread would be challenging, and the variance in just how much loaves might expand during

⁴⁷ MARV 1 49, MARV 6 70, MARV 7 4 (Tukulti-apil-Ešarra); MARV 5 57 (Ištu-Aššur-ašāmšu), MARV 5 70 (Ibrišarre), MARV 8 68 (no date preserved but prosopographically linked to the *maddattu* crisis).

the baking process would limit the usefulness of the figure.⁴⁸ Barley bread does not exhibit the dramatic volume increases found in leavened wheat bread since it lacks the high level of gluten required to trap large air bubbles, but the addition of water to make dough and the small air pockets created by steam both can make the finished product noticeably larger than the flour used to make it. In contrast, it is relatively easy to measure the volume of the flour used in the baking process, and this seems to be what was done.⁴⁹

The texts are, in general, not explicit about how they obtain their volume figures. But the texts give several hints that this is what is going on. It is easiest to start by looking at how the Agency dealt with oil, which could be measured either as finished oil or raw sesame. MARV 7 1, which was a summary of the Agency's yearly expenditures, gives some figures in both systems. However, it calculates the daily usage requirements exclusively in terms of oil that had been pressed. By analogy it would make sense that they reckoned bread requirements based not on raw grain, but on milled flour.

Indeed, as we will discuss below, we have reason to think the Agency estimated the yield of 100 *qa* of grain as 63 *qa* of flour when compiling the offering log MARV 2 14. Since most of the other offering logs give similar amounts of bread (III.2), it would seem that the flour based system was consistently used in the offering logs. Because those texts run from the last days of Ninurta-apil-Ekur into the early years of Tiglath-pileser I (MARV 6 31), it would seem to be the default method of measuring bread. In contrast, the measurements made by raw grain volume are confined to a period of less than a decade and can all be linked to a single crisis-event in the

⁴⁸ Of course, the process would be rather straightforward if the bread were baked in molds, as known, for instance, in Egypt. However, there is no archaeological evidence for the use of bread molds at Middle Assyrian sites (Duistermaat 2008: 253).

⁴⁹ This is not a perfect system either since flour is compressible to a certain degree, which is why in modern times professional bakers generally measure by weight. Still measuring flour by volume is common practice among amateur bakers and works reasonably well, at least on a small scale.

early part of Tiglath-pileser I's reign. Hence, I will assume that texts are measuring the volume of completed beer and the volume of flour used in baking a loaf unless they contain clear evidence to the contrary.

3.1.2.2 Computing the conversion factor

Now that we have a way of discerning which bread "volumes" refer to flour and which to raw grain, we can return to the question of how the size of a grain allotment changed when it was milled. Two basic issues must be accounted for. First, material including the hull is normally removed from the grain during processing. Second, once it has been ground flour has different stacking properties than raw grain, and, to add confusion, flour is significantly compressible. As a result, flour tends to be considerably less dense than raw grain. Of course, there are obviously limits to this variability since traditional western cooking has managed reasonably well measuring flour by volume. In modern practice the end result is that milled barley flour occupies about 75-80% of the volume of the raw grain from which it was made.⁵⁰

We would like to know what this figure was for Assyrian milling. Unfortunately not a single text in the archive provides the information to answer it directly. MARV 6 48 seems like it should, for it gives quantities of grain and then resulting amounts of flour. However, the numbers it gives would imply that after the millers had taken rations from the grain and milled the remainder, the flour produced was still an impossibly high 83% of the original grain volume. A closer reading of the text reveals that it is not giving the volume of flour milled from certain grain allotments, but rather the portion of each grain allotment that had been used for milling.

⁵⁰ For this figure I am indebted to Rick Halverson of Great River Milling (personal communication). On the difficulty of deriving precise measures for the density of raw barley and related matters see Van der Spek 1998: 249-250).

That is, both figures are in terms of volumes of raw grain, and so the text gives us no insight into the change in volume in the process or how much went to feed the millers.

However, the matter is not as hopeless as it may seem. As shown above, the major *alahhinus* seem to have had teams of about 15 men each, and to have processed grain at a rate of 100 *qa* per day. Assuming they were paid the standard 1 *qa* per adult man per day rations used in Middle Assyrian times, after the millers were fed there would be about 85 *qa* of grain to work with. Assuming they milled at the bottom of the modern conversion range, 75%, they would then produce about 64 *qa* of flour per day.⁵¹

Here we should note that under ideal operating conditions, the Agency's three major *alahhinus* processed 300 *qa* of barley per day. As we will show in the next chapter, they used this to make 200 *qa* of bread, with the possible assistance of the minor *alahhinu*. This looks suspiciously like the Agency reckoned on a rough conversion ratio of about 2:3, allowing for volume loss in milling and feeding the milling staff, right about where our calculations put it.

With a figure of around 64% for the conversion rate we can also explain a curious number in the offering log MARV 2 14. That text gives the amount of bread distributed daily during an extended period of reduced offerings. For *haršu*-bread the figures are either 0 or 100 *qa*, and wheat bread 0 or 50 *qa*. But for *miṭru*-bread there is a wider range, with the figures 10, 25, 50, 57.5, and 100 *qa* per day all attested. The 57.5 *qa* figure stands out as the only one that is not a round figure in base-ten counting. It seems not to have been a fluke since the *miṭru*-bread was offered at this amount for more than two months at a stretch. Moreover, it happened on two

⁵¹ Here it is interesting to look at MARV 3 35 and MARV 3 40. These texts both refer to nearly identical obligations imposed on two individuals on the same day. MARV 3 5 involves a quantity of 280 *qa* of barley, while MARV 3 40 involves a quantity of 205 *qa* flour. If we make the admittedly heroic assumption that the two quantities refer to roughly the same original quantity of grain, we arrive at a conversion figure of about 73%, right around the bottom edge of the modern method, assuming no grain was removed to cover labor costs. Sadly, there are too many leaps in this argument for it to be taken as conclusive.

different occasions for different, non-commensurable lengths of time, so it cannot have been the result of averaging a round amount over a fixed period.

This curious figure can be readily explained if we posit that it came from using a reasonably round amount of raw grain. Here we have two major options. One could suggest it was the amount of flour milled from 100 *qa* of grain per day. If the Agency used 15% of the grain as rations, as suggests above, then it would be milling the remaining 85 *qa* into 57.5 *qa*, which implies the milling process itself reduced the grain's volume to 68% of its original size. That is about 7% lower than the low end of the modern figures. The second approach is to assume that the entire 157.5 *qa* of bread—including the 100 *qa* of *haršu* bread as well as the 57.5 *qa* of *miṭru* bread—was made from a round amount of grain. If we assume that starting amount of grain was 250 *qa*, after removing 15% as rations, we would get a conversion ratio of about 74%, a figure right at the low end of modern standards. In favor of this idea, we might note that MARV 5 70 seems to show the same reduced offering arrangement. The text does not tell us the volume of finished bread, but it does indicate that the major *alahhinus* as a group used an average of about 249 *qa* of grain per day over a period of around 138 days.⁵²

On the whole, this second interpretation seems more likely. First, as noted above, the use of three major *alahhinus* processing 100 *qa* of grain per day to make 200 *qa* suggests that the conversion factor was around 66%. In our first model, the total conversion factor would be the quite low figure of 57.5%. In contrast the second model yields a figure of 63%, which is only 3% shy of that total. A second point is that, as discussed in II.2, *miṭru* and *haršu* seem to have been made by garnishing the same basic loaf in different ways. Thus the amount designated to become either type would only be an issue after the bread had been baked, and hence one would expect

⁵² These calculations assume no 29-day months in the period covered. Allowing for a few of these would reduce the total accounting period by a few days and so increase the average to a little larger than 250 *qa* per day.

the total amount of barley to be round. What is more, MARV 5 70 seems to show the same reduced offering arrangement posited for MARV 2 14, requiring 250 *qa* of grain per day.

What is perhaps most convincing, though, is how neatly the math works out with a 63% conversion figure. The ratio of 157.5 to 250 is not about 63%, but exactly 63%. Thus, one could arrive at the 157.5 *qa* figure by reckoning the finished flour would only be 63% of the original amount of 250 *qa* after milling and paying the millers. Moreover, this same 63% figure also makes sense of why the Agency reckoned on using the curious amount of 278 *qa* per day for offerings in MARV 6 70. If we posit that the goal was to reduce the final offerings by 25 *qa* of bread, then at a 63% conversion rate these offerings would require 277.78 *qa* of raw barley per day. Rounding up to the nearest *qa* one would arrive at exactly 278 *qa* per day.

Taking this together then, there is reasonable, if not entirely ironclad, evidence that the Agency actually used a conversion figure of 63% in its calculations. Since our two best examples of the figure being used in calculations, MARV 2 14 and MARV 6 70 were separated by more than half a century, it would seem that this conversion figure was not an ad hoc computation but a standard part of how the Agency organized its grain processing. However, even if we allow that the figure might have varied somewhat over the course of the Agency's history, as we saw above, there is good reason to think that the conversion rate was generally around two thirds.

3.2 Baking and the minor *alahhinu*

The story does not stop with milled flour. Once the flour had been milled the Agency still had to ensure it was made into bread and baked, and that any special additives like honey or oil were on hand during the process. The key figure in this process seems to have been the minor *alahhinu*, and it makes sense to approach the Agency's baking through the lens of this unusual office. As we will see, he seems to have been a sort of baking coordinator for the group.

It is perhaps best to start with his formal title, which seems to have been *ša uppâte*. In MARV 7 1, we find that 1 *qa* oil is allotted per day for some temple officials called *rādius* and for the *ša uppâte*. Similarly, the offering schedule MARV 6 35 + MARV 7 26 allots 5 *qa* for temple *rādius*, 3 *qa* for *alahhinus*, and ½ *qa* for the *ša uppâte*. Assuming the normal middle Assyrian ration levels of 1 *qa* per adult man per day, these would be sufficient to employ five *rādius* and three *alahhinus* full time, and to employ the *ša uppâte* part time. Presumably the three *alahhinus* on full-time payroll are the three major *alahhinus*. Furthermore, it is not a stretch to think that brewers derived their income from the grain they were issued for processing, just like millers, which would explain why they do not seem to appear on the list. On the other side, the five temple *rādius* also show up in MARV 2 17: 9. What exactly they did is unclear, but their number appears to have been fixed. Since the executive staff has no intuitive subgroup of exactly five people—let alone an intuitive subgroup of five that did not include the major *alahhinus*—it seems very likely that the *rādiu* officials were not members of the Agency, or at least were not involved in grain processing.

However, this still leaves the minor *alahhinu* without an income and the *ša uppâte* without a clear link to the Agency. We can nicely tie up both loose ends by assuming that the formal title of the minor *alahhinu* was *ša uppâte*. Since he generally only received about half as much grain as his major *alahhinu* colleagues, it is reasonable to think that he would only receive half rations from the Agency, as the *ša uppâte* does in MARV 6 35 + MARV 7 26.

Now, the Middle Assyrian term for “baker,” *āpiu*, is derived from the verb *epû*. It does not seem a great stretch to assume that the anomalous term *uppātu* is also derived from this root, and therefore means something like “oven” or “baking.” We could also posit that the daily oil

allotment made to the *ša uppâte* in MARV 7 1 was intended largely for greasing baking equipment and the like.

In addition to the association implied by his title, we also find the minor *alahhinu* closely linked to a group of two to three bakers (*āpiu*). This is clearest in MARV 9 110. That text mentions the following disbursements:

22 <i>qa</i> white barley	Ēṭiru
11 <i>qa</i>	Badî
55 <i>qa</i>	Kuttahhu
11 <i>qa</i>	Ēṣidu
11 <i>qa</i>	Aššur-šuma-iddina
11 <i>qa</i>	Urad-Aššur
11 <i>qa</i>	Šūzub-Marduk (4-10)

Of the men mentioned, the last three are the major *alahhinus* on duty at that time, and Kuttahhu the minor *alahhinu*. Since the text summarizes the transaction with the note *alahhinū u āpiū ana aklē ša sisīt ile mahrū* “the *alahhinus* and bakers received it for the bread of (the ceremony of) the calling of the god” (12-14), the three remaining men (Ēṭiru, Badî, and Ēṣidu) are presumably bakers. Thus we find the minor *alahhinu* placed not with his major *alahhinu* colleagues but with these bakers. What is more, the only individuals to received more than 11 *qa* are Kuttahhu and the baker Ēṭiru.

MARV 5 36 offers a similar situation. In it, two or possibly three otherwise unknown men and the minor *alahhinu* Kuttahhu pay down an obligation of 79 *qa* of bread. Again it seems reasonable to assume that the extra men were bakers. They may have been part of the team to which we find the minor *alahhinu* bringing rations (MARV 7 48: 11-13). This team may have included millers as well, though we do not know this for certain. The fact that each baker only

occurs once in the archive suggests that they were temporary employees, like the millers, and only worked with the Agency for short periods of time.

The question then, is how did the minor *alahhinu*'s baking activities fit into the Agency's broader bread-making project. I would suggest the following model. The major *alahhinus* were concerned exclusively with processing grain for the main *gināu* offering. Unfortunately, with each official processing 100 *qa* per day this was not quite enough milling capacity to get through the 317.5 *qa* needed to yield 200 *qa* of flour at the Agency's usual 63% conversion rate, and the major *alahhinus* certainly could not cover any additional baking tasks that might arise. As a result, the Agency employed an additional *alahhinu* part-time. One of his tasks was to take care of any extra milling work. This included whatever was needed to complete the day's *gināu*, but from time to time also occasional expenses above and beyond the regular *gināu* like the 126-ritual with which his office is closely associated (III.2). Since his colleagues were busy coordinating milling, he was also given the task of overseeing the Agency's ovens and the actual baking. This was not enough work to keep him busy full time, but was enough ensure him a permanent place in the Agency.

Now, as we noted above, the minor *alahhinu* does not seem to have received a milling staff from the Agency, but did often receive reasonably large amounts of raw grain to process. We can nicely explain this by assuming that he already had a private milling staff for his work outside the Agency that could be shifted to Agency work as needed. While it is speculative, it is possible that minor *alahhinu* was compensated for the services of his private milling staff by being able to use the Agency's ovens for private baking work once the day's *gināu* was finished. That the minor *alahhinu* had a strong private bread making practice would nicely explain the curious passage in MARV 7 21 where the minor *alahhinu* Kuttahhu is reimbursed with an

amount of grain above and beyond the normal grain disbursement he was issued earlier in the text *kīmu aklē ša ušākīlu-ni* “in place of the bread which he gave out for consumption,” (r.4). We can hypothesize that the Agency needed bread for an occasional offering but was not able to provide Kuttahhu with the grain in time. As a result he simply advanced the Agency the bread from his private practice on the understanding that he would be repaid in due time.

The only question which remains is what precisely was the minor *alahhinu*’s relationship with the bakers mentioned in the archive? It is possible that these men worked for him, but one might also explain them as professional associates brought in to help out with unusual baking jobs. Given the rarity with which they appear, it does not seem possible to pin down their role more precisely.

3.3 Brewing

3.3.1 Time lag

Finally we must turn to the brewing process. The brewing process put different constraints on the Agency’s grain officials than bread making. Whereas grain can be milled and baked into bread in a single day if there is enough labor, brewing is a process that takes several days at least, and, in modern practice, sometimes months. Exactly how long it took the Assyrians to brew beer is not spelled out clearly in the extant Middle Assyrian corpus.

Modern experimental archaeology suggests at least 6 days were required using late bronze age brewing implements (Duistermaat 2008: 252), and this seems a workable lower bound. Within the archive, MARV 9 107 appears to yield a figure only a few days more than this. That text describes three disbursements: sesame to be used from X.28-XI.3, grain to be used for bread from X.28-XI.4, and grain for beer cryptically described as *ša ina Muhur-ilānē ūm 20* “which is

on X.20” (16-17). The amount of grain allotted for beer, 2870 *qa*, is far too large to be used on a single day, and so this must refer to several days’ worth of beer, evidently either received or begun on that date. If it was begun on that date, then one could assume it was for use starting on X.28, like the other commodities, and one thus gets a brewing time of 8 days. However, key parts of the passage are broken, so it could refer to beer received on that date, or some other circumstance now obscure to us.

MARV 5 62 yields a somewhat longer figure. In that text the brewers curiously settled their accounts for the period II.1-VI.1 on V.10, twenty days before it ended. An additional note mentions that *ištu Allānāte ūm 1 līme Mudammeq-Bēl ina libbi u’e urkie ša ana gināe inaššiu-ni išaqqi* “From VI.1Mudammeq-Bēl he will provide (beer) for consumption from the grain of the *gināu* which he will take later” (16’-20’). This means that the Agency planned to start a new batch and have it ready for consumption within 20 days.⁵³

What is more, since the accounts through the end of Month V were able to be settled on V.10, it seems likely that the Agency already had a full beer supply for that month. This means the Agency was able to store at least two-thirds of a month’s supply of beer at one time. Based on the monthly usage figures give elsewhere in the text and a conservative 2:1 conversion ratio, this means that the Agency could have at least 1100 *qa* of beer on hand at one time. This

⁵³ MARV 6 40 gives a figure roughly comparable to the 20-day upper bound in MARV 5 62. It lists a number of disbursements which had been made to the six grain officials but which had not yet resulted in finished offerings. The text summarizes these with the lines: *ištu muhur-ilānē ūm 14 Pa’uzu ušakkal ištu Abu-šarrānē ūm 13 3 alahhinū u Ṭābaya ušakkulū ištu Abu-šarrānē ūm 10 Aplaya išaqqi* “from X.14 Pa’uzu (the minor *alahhinu*) will give out food; from XI.13 the three (major) *alahhinus* and Ṭābaya (the brewer) will give out food; from XI.10 Aplaya (the brewer) will give out drink (16-19). Since all of these officials had already been given raw materials but had not produced anything yet when the text was composed, it would seem that the one month lag time between the first disbursement to be made and the other two was intentional. As the latter two both involve brewers it is possible that they had to wait for the beer to brew before they could begin distribution, and that a full month was allowed for this.

suggests that the brewers were not making a small batch every day, but rather a few large batches, each sufficient to cover the offerings for a few weeks.

Middle Assyrian brewers certainly had the capacity to make large batches. Middle Assyrian brewing pots as large as 97 to 150 liters each have been recovered from Šabi Abyad (Duistermaat 2008: 253). In letters from Harbe we hear of an individual brewer handing off 240 *qa* of beer (Jakob 2009 53). In another letter five brewers each bring 500 *qa* of already brewed beer to ensure a visiting dignitary and his party will have enough to drink when they arrive (Jakob 2009 13). Clearly the Middle Assyrian brewers, even in the provinces, had the capacity to make and transport large batches. It is no stretch to think they had an equal or greater capacity in the capital.

If we return to MARV 9 107, we find more evidence of brewing in large batches. In that text, while the oil presser and *alahhinus* are to use their commodities over several days, the brewers are apparently to use theirs on only one day. Whatever the exact stage in the brewing process the text refers to, it would seem all the beer is in same state, and hence that the brewers are brewing a single large batch intended to last for several days. That beer was brewed in large batches is also consistent with MARV 7 61. That text originally divided up an incoming shipment so that the brewer Šîn-ašarēd received 200 *qa* of barley. However, before the clay was dry the text was revised and massive reductions were made to the other officials' allotments so that Šîn-ašarēd could have 1900 *qa*. We can explain this dramatic swing quite simply if we posit that the brewer changed his mind about when his next batch needed to be started. Rather than wait for a few more shipments to come in, he decided that he needed to start now, and so his colleagues transferred enough grain to him that he could get the next batch underway. Suggestively, the 1700 *qa* by which his disbursement was increased is almost identical to the

figures of 1734 *qa* and 1700+x *qa* which MARV 5 62 gives as the *iškāru* for one brewer for one month.

This practice of making large batches, combined with the time lag (whatever its exact duration), explains why reductions to bread and beer offerings in the offering log MARV 9 19 are not well synchronized. A grain shortage would immediately impact bread making, since there would be no grain to use and no reserve of pre-made bread to work through. However, the shortage would only impact the brewers some time later when the batch they should have brewed then would have come to maturity. Of course, in the interim the wily brewers could account for the beer that had not been brewed by reducing the amount they gave, and so one would expect much less variation. This is exactly what we find in MARV 9 19, where the beer varies between 10 and 20 *qa* per day on non-complete days, and is never cut off. In contrast, the bread is more variable, and can get as high as 25 *qa* but at other times is not offered at all.

Thus, the textual evidence supports what one might infer from the practicalities of brewing: it is far more efficient to brew a few large batches than numerous small batches. The brewers were probably not idle in between batches but presumably busied themselves with preparations for brewing the next batch. Indeed, given the small number of millers in their employ it would behoove them to go about the process as efficiently as possible. To make sure a replacement batch was ready before a current one ran out required the brewers to plan much more carefully than their *alahhinu* colleagues, and as a result the brewing process was less prone to the wide variation and complete stoppages that often accompanied the Agency's bread production.

3.3.2 The process

We can say a few things about the actual brewing process. First, as already noted in the section on milling, the brewers employed millers, though considerably fewer than the *alahhinus*. Moreover, much of the grain used in the brewing process was only coarsely milled. However, milling required not just raw barley, but also malted barley (*buqlu*). During a brief period when the Agency and palace catering staff were merged we find equal amounts of malt and barley issued to the Agency's brewers and a brewer from the palace (MARV 6 73). This suggests that the brewers used roughly equal amounts of the two commodities.

Middle Assyrian texts as a whole are not entirely consistent on whether to treat malting as part of the brewing process or as a separate act. One could commission a person specifically to make malt (e.g. KAJ 315). Just like brewing this seems to have been more efficient to do in large batches. Within the documents of the *Gināu* Agency we find quantities of 2000 *qa* and 5500 *qa* of barley given over to the Agency's two brewers *ana buqlu* "for malt" (KAJ 105; MARV 5 26: 15).⁵⁴ Making large batches would imply considerable amounts had to be stored until use, and in fact texts from outside the Agency explicitly mention this (A 1020, KAJ 180).

In both of the malt texts from the *Gināu* Agency, the grain that was to be malted entered the Agency's possession still as raw grain, and indeed, the anomalous MARV 6 73 is the only record we have of the Agency directly issuing malt. Likely the Agency's brewers normally handled the malting process in house. Unfortunately, malting is the last step of the brewing process we can follow in the documentation. The next time we hear about the two brewers they are presenting finished beer.

⁵⁴ We find traces of this same practice in other Middle Assyrian texts. A man is obligated to make 1000 *qa* of grain into malt in one text (Jakob 2009 82), and we encounter quantities of 3608 *qa* (KAV 110) and 4000 *qa* (KAJ 180) of finished malt, likely made in a single batch as well.

4 Commodities other than barley

One of the pots in which the M 4 archive was found was labeled *ša kakardinne u šāhite ša bēt Aššur ša qāt Ezbu-līšer rab gināe ša bēt Aššur . . .* “of the *kakardinu*(s) and the oil-presser(s) of the temple of Aššur under the management of Ezbu-līšer, the *rab gināe* of the temple of Aššur . . .” (Deller 1985: 349). As discussed in III.3, this jar, like the other inscribed jars, was reused and the caption does not bear directly on its contents. However, it does show that the Agency interacted with at least one *kakardinu* and one oil-presser. The former dealt with honey, and the latter with sesame and sesame oil. Both officials are tantalizingly rare in the extant tablets. We also find scattered references to other non-grain commodities, like fruit, wheat, various types of flour, and even a few inedible commodities in the Agency’s texts. Given the scanty sources for some of these commodities, it seems best to start with the best attested and then work our way to the more difficult items.

4.1 Oil

We will start with how the Agency pressed its sesame into oil, since oil is the best attested of the non-grain commodities. Before looking at the actual amount disbursed, it is important to know just how many oil pressers worked with the Agency. In general, the evidence points to there being only one. The inscribed pot that mentions an oil-presser does not write the word with a plural determinative, while the inscribed pot referring to the brewers, of whom we know there were two, does include the plural determinative. The few documents from the archive dealing with oil-pressing are consistent with this, for we never meet two men being assigned to press oil in the same text (though the Agency did interact with more than one oil-presser in other contexts). This does not prove there was only one oil presser, but it does strongly favor the idea.

We might also wonder whether an oil-presser was assisted by a team of subordinates like those who worked for the *alahhinus* and brewers. We do not hear about workers assisting the oil-presser nor any mechanism by which he would have received grain to feed them, so it is possible he genuinely worked alone. We do not have good figures for the labor required to press oil by Mesopotamian methods, so it is hard to say one way or the other if one man really could press it all by himself.

Since the oil-pressing texts are not nearly as numerous as the grain texts, it comes as no surprise that we cannot reconstruct a continuous sequence of oil pressers. Indeed, as we will discuss below, the Agency normally outsourced its oil pressing. While it sometimes cultivated a long-running relationship with a single oil presser, at some points it may have made opportunistic use of a number of oil-pressers in the capital. Under these circumstances there may have been sizeable periods for which there would be no neat sequence of oil pressers to reconstruct no matter how copious the surviving documents.

4.1.1 Processing

The oil presser was not as closely integrated into the Agency as the six grain officials (Jakob 2003: 409-410). Oil pressers did occasionally receive disbursements alongside the grain officials.⁵⁵ More common, though, are documents where the oil-presser is dealt with separately from the grain officials. In general, the Agency seems to have commissioned the oil presser to press a certain amount of oil in a certain time frame. As we learn from MARV 3 20 and MARV 7 9, he often had to be explicitly paid for this service. Oil pressing could be arranged with a formal debt note, as we find with the oil presser Siyutu who was active in the earlier part of the

⁵⁵ MARV 5 17, MARV 8 26, MARV 9 107, and possibly MARV 7 94, but it is very damaged.

archive (MARV 3 20). However, we have only that one unambiguous attestation of the practice, and so the use of formal documentation may well have been abandoned in later years.⁵⁶

By the reign of Tiglath-pileser I, the Agency had switched over to a less formal system for oil pressing. All the extant texts involve one man, Mār-Apie, who was commissioned to press work assignments (*iškāru*) of sesame, usually in batches of 150 *qa*.⁵⁷ While the practice is only attested in two years, those years are at least a decade apart. The inscriptions on the pots in which the archive was found offer a ready explanation for this. The pot involving the *kakardinnu* and oil presser is dated to I.20.Ištu-Aššur-ašāmšu, while that involving the brewing records is undated. Likely oil texts from the same time period were kept together, and during the sequence of purges that eventually produced the M 4 archive, only two of the caches made it into the same storage location as one of the archive's components (see III.3). Thus, it is reasonable to think oil was regularly pressed via an *iškāru* arrangement by the time of Tiglath-pileser I.

Where the oil went once it had been pressed is less clear. MARV 3 9 seems to indicate that it was returned to the Agency in jars which were subsequently handled by the *alahhinu* along with jars of honey. Yet, some of the oil to be distributed there is to be taken from an *alahhinu*'s own personal stores, which suggests this situation is not typical but an emergency expedient. Since the Agency was able to make loans of oil on a number of occasions, at least some of the pressed oil seems to have made it back to the Agency before it was used.⁵⁸ Of course

⁵⁶ Quite a few other loans of sesame are attested in the archive, but by and large these seem to have been actual loans and not oil-pressing contracts phrased as loans. The precise reasons each text is to be interpreted as a real loan are best left to the commentary sections on the editions of each of them. One common trait, though, is that while regular oil processing contracts in the archive generally involve at least 150 *qa* (as discussed later in this chapter), true loans involve much smaller amounts, frequently 50 *qa* or less. The relevant texts are MARV 3 50, MARV 3 51, MARV 3 52, MARV 3 60, MARV 6 42, MARV 7 92, MARV 8 60.

⁵⁷ MARV 5 9, MARV 6 61, MARV 7 78, MARV 7 79, MARV 9 5.

⁵⁸ MARV 3 22, MARV 3 24, and MARV 3 31 are all unambiguous loans of Agency oil. A number of the other loan texts in the archive involve oil and may also be loans, but it is hard to be certain that they are not actually contracts for oil pressing.

the Agency did occasionally accept oil in lieu of honey (I.1), so it is possible that the oil it lent was entirely obtained from that source. Given the paucity of evidence, it is hard to draw any general conclusions. Much of the oil may have gone straight from the oil presser to the ritual for which it was needed.

4.1.2 Oil-pressing statistics

When it comes to quantitative data, we are extremely well informed thanks to the unusual text MARV 7 1, which one might loosely describe as an annual oil “budget” for the Agency. Why exactly it was drawn up and the full scope of what it records will be discussed in the edition of the text. What matters to us here is that it gives figures for the Agency’s theoretical annual sesame income, actual sesame income that year, the amount wanting, and the equivalence of each amount in pressed oil. Most striking of all, it gives an itemized breakdown of daily oil expenditures for the Agency and derives from the daily figure monthly and annual totals, which we will return to at greater length in the section on II.2.

Let us start, like the oil pressers, with the raw sesame. The text gives a theoretical income of 20820 *qa* for the year. This fits nicely with the 21710 *qa* per year estimate we deduced from the *gināu* receipt tables in the last chapter. According to the text, that would yield 4364 *qa* of oil. That means the pressed oil was 21.0% the volume of the original sesame. This is in keeping with the other figures on the text, which yield ratios of 20.0% and 21.5%. It is also in keeping with the oil delivery described in MARV 1 33, where 40 *qa* of sesame are to yield 8 *qa* of oil, producing a ratio of exactly 20%. Figures in the 20-22% range are also attested in Ur III documents and are not far off from modern figures, so the conversion factor is on firm ground (Potts 1997: 68).

Turning to the oil consumption, if we use the Agency’s theoretical income and a 365 day year, we find that it could afford to use no more than about 12 *qa* per day. As discussed in II.2,

our text implies that an ideal daily offering would use around 12.25 *qa*, but it was composed during a moderate shortage. As a result, its actual calculations are carried out with a slightly reduced usage estimate of 10.25 *qa* of oil per day. To produce that reduced amount at a 20% conversion rate would require about 50 *qa* of sesame. Indeed, if they were calculating with a 20.5% yield figure, which is on the lower side of the attested figures, the amount needed would be exactly 50 *qa* per day. Likely the Agency arrived at the curious 10.25 *qa* figure by reckoning on spending exactly 50 *qa* of sesame per day. A similar sort of reckoning seems to be behind the *iškārus* issued to Mār-apie, which involved amounts in even multiples of 150 *qa* (MARV 6 61, MARV 7 78, MARV 7 79).

However, despite the recurrence of the daily expenditure figure of 50 *qa* of sesame, both MARV 7 1 and the Agency's nominal sesame income suggest that a complete offering schedule would require about 12 *qa* of oil per day, and hence about 60 *qa* of sesame. We do indeed find places where this amount was achieved. In MARV 9 107 we find 300 *qa* of sesame used over 5 days, and in MARV 5 17 we find 180⁷ *qa* being used for three days. In both cases, this works out to 60 *qa* of sesame per day, i.e. about 12 *qa* of oil per day at a 20% conversion rate.

These numerical data allow us to address one final issue about the Agency's sesame. Given that sesame seeds are edible (and used quite commonly in modern cuisine), one might wonder if the Agency used sesame seeds "as is" in its cooking, as suggested by Postgate (Postgate 2013a: 94). Sesame by itself does occur in the detailed offering text MARV 3 16, so it was undoubtedly offered in un-pressed form in Middle Assyrian times.

But, as we discuss in II.2, MARV 3 16 does not deal with the *gināu* offering. For the *gināu* the numerical data indicate that only a small portion of the Agency's sesame can have been used "as is." The theoretical calculations in MARV 7 1 start with total of 20080 *qa* of

sesame that was supposed to be pressed. This is 1630 *qa* below the Agency's nominal sesame income as derived from the *gināu* tables. Assuming complete payment, this discrepancy would allow the Agency a surplus of about 4.5 *qa* of sesame per day that could be used for purposes other than oil production. However, it is also possible that the 20080 *qa* represents the Agency's nominal income which had been slightly reduced in the half century between the writing of the bulk of the *gināu* tables and MARV 7 1. Without more evidence a conclusive answer is likely beyond our grasp.

4.2 Honey

The texts describing the Agency's use of honey are even rarer than those involving oil, and they vary dramatically in style and content. We can thus only very loosely reconstruct how the disbursement system worked.

4.2.1 Who gets honey?

The key figure in the Agency's management of honey was the *kakardinnu*. His title is conventionally translated as "confectioner," but a more nuanced view is needed. As noted by Jakob, he seems to have taken already baked bread and then added the finishing touches to it (Jakob 2003: 398). In texts from the unpublished M 13 archive, we find several explicit attestations of this practice (Pedersen 1985:118-120). The "bakery" text Postgate 1994 can also be readily interpreted in this way.

In fact, we have little reason to think that the *kakardinnu* ever actually baked bread himself. Certainly he is never attested receiving grain in the texts from the *Gināu* Agency, and in

the entirety of published Middle Assyrian texts only does so once.⁵⁹ If he indeed did not work directly with grain, it would explain why he appears so rarely in the archive. The Agency dealt with more than five times as much grain as all other commodities combined (by volume), and so grain dominates the documentation. Sesame was the next highest, and, as expected, documentation involving sesame is the next most frequent. In contrast, the Agency's yearly honey receipts were about 2200 *qa*, a little over 1% of its annual income by volume. That works out to around 6 *qa* per day. Simply put, it did not take a mountain of tablets to ensure one man received 6 liters of honey per day, and so very few tablets were drawn up concerning honey disbursements and the *kakardinnu* who received them.

Although the attestations of the *kakardinnu* are few, in virtually all of them he is receiving honey. In MARV 6 1 a *šapputu* jar of honey is put into the custody of a *kakardinnu* whose name is broken. The Agency also lent 6 *qa* of honey to one *kakardinnu* (MARV 3 49), and borrowed 70 days' worth from another one (MARV 8 88). Honey was not entirely confined to the *kakardinnu*, though. The *alahhinu*s handled honey at least occasionally (A 1781, MARV 3 9, MARV 6 87, MARV 7 28, MARV 10 83). Similarly, we find the two brewers and a related figure called a *mušākīlu* involved with honey (MARV 7 41, MARV 3 25).

Finally, before going further, one must address one alternate possibility. It is conceivable that the official I have termed minor *alahhinu* was in fact the Agency *kakardinnu*. Two lines of evidence go against this.

The first is that in A 1750⁶⁰ four officials working for the Agency are each called *alahhinu*. Similarly the summary lines where the minor *alahhinu* appears refer only to "the

⁵⁹ In addition to those texts mentioned in Jakob (2003: 395-396), the following attestations are known to me: MARV 10 33, MARV 10 45, MARV 10 59, A 3196, Jakob 2009 4.

⁶⁰ Weidner 1935-1936: no. 88 (edition); Donbaz 1976 (copy).

alahhinus” or “the *alahhinus* and the brewers.” They never refer to a *kakardinnu*. It is possible that the *kakardinnu* was understood to be a type of *alahhinu*, or that one person held some manner of joint appointment, but these seem overly complicated explanations.

The second line of evidence involves a certain Šēp-Adad. He is never explicitly given a title, but we find him receiving a sealed *šapputu* pot (MARV 5 24:10-12). The text does not specify the commodity, but as we will discuss below, the *šapputu* pots were used mainly for honey. This makes him a good candidate to be a *kakardinnu*. Furthermore, he also shows up receiving 90+x *qa* of an unreadable commodity from Šūzub-Sîn, the *alahhinu*, which may be an explicit reference to receiving bread to decorate (MARV 6 47). Yet the minor *alahhinu* appears earlier in the former text receiving grain. One could devise an explanation where Šēp-Adad was an outsider on special assignment, but as before, the simplest explanation is that the minor *alahhinu* and the *kakardinnu* are two different people.

4.2.2 How much honey do they get?

The Agency’s total honey income was 2208 *qa*, which would not allow it to spend more than about 6 *qa* of honey per day. It is not surprising then that the Agency seems to have allotted exactly 6 *qa* of honey per day for its expenditures. This is perhaps clearest in MARV 9 107, where a *kakardinnu* received 30 *qa* of honey to cover offerings over a five day period, implying a spending rate of 6 *qa* per day. However, the 6 *qa* figure and its multiples lurk near the surface in much of the other honey documentation from the archive. We find that the Agency lent out 6 *qa* to a *kakardinnu* (MARV 3 49), and 12 *qa* on two further occasions (MARV 3 25, MARV 7 28). It also received 60 *qa* from one town for four consecutive years (MARV 6 39). One of the major *alahhinus* received a damaged number of *šapputu* vessels 42 *qa ana madāde* “for measuring out 42 *qa*” (MARV 3 9: 26). In another text, admittedly not from the archive, we find

a series of honey disbursements for ritual activity totaling to 17.5 *qa*, three units of 6 *qa* assuming a small amount was lost in the measuring or one jar was not quite filled all the way (KAJ 226).

Now, not all of these texts seem to deal with disbursements to be used in the offerings per se. For instance, MARV 3 25 deals with a virement loan made outside the Agency. Therefore, it is natural to wonder why they still tended to be made in multiples of 6 *qa*. As with the frequent multiples of 50 *qa* in the grain disbursements, we can neatly explain this by assuming that the Agency stored its honey in premeasured 6 *qa* units. We know the Agency frequently kept its honey in *šapputu* vessels. The practice seems to have been relatively widespread since *šapputus* of honey also show up in the M 8 archive.⁶¹ Moreover, at least within the *Gināu* Agency the *šapputu* evidently had a standard size since the Agency occasionally reckoned quantities of honey by counting the number of *šapputu* vessels used to contain them (Gaspa 2011b: 181).⁶² We can thus arrive at a nice 6 *qa* base unit by assuming the Agency's *šapputu* jars were filled with 6 *qa* of honey each. Admittedly there is one Middle Assyrian text that describes a *šapputu ša 2 qa* "šapputu vessel of 2 *qa*" (KAJ 277:7'), but the fact the scribe had to explicitly give the volume suggests that it was of nonstandard size. In any event, *šapputu* vessels from Neo-Assyrian times are attested with volumes ranging from 10 to 25 *qa* in capacity, so 6 *qa* would certainly not be out of the question (Gaspa 2007: 161-162).

Before we leave the point, we should note that the Agency did not always handle honey in these neat 6 *qa* units, but seems to have occasionally used 10 *qa* vessels as well. Thus, MARV 7 66 refers to two disbursements made to cover a single day's offerings that each contained 10

⁶¹ M 8: MARV 1 7: 14, MARV 1 29: 20.

⁶² Honey income is recorded twice 1 *šapputu* (MARV 6 1:23; MARV 6 42: 23-25 and MARV 7 5: 11-14, the last two refer to the same jar of honey), and once 8 *šapputu*'s (MARV 6 21: 18'', 21''). Another text refers to 2 of 10 *šapputu* jars being given out (MARV 10 68).

qa of honey, and A 1781 refers to 320 *qa* of honey belonging to the *alahhinus*. In addition, the Agency paid back a number of people who had lent it honey with 10 *qa* jars of oil, apparently an equivalent volume to the honey it had borrowed (MARV 5 8).⁶³ The regular 6 *qa* jars undoubtedly made life convenient for the Agency, but if need be it could use whatever jars were on hand to store its honey.

4.2.3 How do they get the honey?

The references to jars of honey that litter the archive are not just a convenient way of reckoning volume; rather, the use of whole jars seem to characterize interactions with *kakardinnus*. Even more than the oil presser, he does not seem to have been well integrated into the Agency. Emblematic of this separation is the fact that the *gināu* supervisor sealed as least some of the honey jars, a practice unknown for any other commodity in the archive (MARV 7 5: 11-14). As discussed more in II.3, the Agency almost never sealed documents unless an outsider was involved. Unfortunately, the actual process of issuing these jars to the *kakardinnu* is too poorly attested to say much more about it.

4.3 Fruit

For fruit matters are even bleaker, but we can still extract some information about how the Agency disbursed it. As noted in I.1, this category included figs and a substance called *mirqu* made from small pieces of fruit. As we also mentioned in that chapter, these products were both preserved in some fashion. Fresh fruit was evidently not on the god Aššur's daily menu.

⁶³ It seems that oil was roughly as valuable by volume as honey (Postgate 2013: 116). In MARV 5 27 we find 100 *qa* oil given in lieu of the honey of Šadikannu province, which normally pays 90 *qa* of honey. This would suggest that honey is 10% more valuable than oil. In contrast, in MARV 3 36 Amasakku province pays 60 *qa* of oil in lieu of honey of which it normally paid 66 *qa* per year, which would suggest that oil was 10% more valuable than honey.

We can say little more about how figs were used, but MARV 6 40 refers to the minor *alahhinu*, Pa'usu receiving 300 *qa* of *mirqu* during the crisis at the start of Ninurta-apil-Ekur's reign. Thus, at least some of the Agency's fruit appears to be going through the minor *alahhinu*. One would expect the *kakardinnu* to have dealt with fruit as well (Postgate 2013a: 118). Yet, there are no attestations of this in Agency's archive or to my knowledge in the entire published Middle Assyrian corpus. But, since we only have one attestation linking the minor *alahhinu* to fruit distribution—and that from a period of rather irregular operations—it would be folly to generalize and assume the minor *alahhinu* regularly handled all fruit.

However, this singular lack of attestations requires some comment. We hear about the normal disbursement of fruit only once (MARV 7 66), but about replacements for fruit twice (MARV 6 40, MARV 7 62). This is consistent with fruit not being “disbursed” like the other commodities under normal circumstances. That is not to say it was not given out, for as we will see in the next chapter, fruit was a standard component of the offerings. Rather, fruit did not move around inside the Agency like the other commodities. Unlike grain and sesame it did not need to be processed, and unlike honey it did not need to be expertly applied to foods by a specialist *kakardinnu*; one simply needed to put the appropriate amount in a dish. Since it required no processing, it is possible the Agency normally gave it directly to those who were to make the offering. The vast majority of the documentation we have on the Agency's expenditures focuses on commodities moving around within the Agency for processing. This is why we have innumerable grain disbursement texts but only 21 texts that mention finished bread. Since fruit did not move around within the Agency, it left only minimal documentation. Add to that the fact that the Agency only processed about one twentieth the volume of fruit as it did of

grain, and a back-of-the-envelope calculation would suggest that only one or two texts dealing with fruit disbursements should have survived, which in fact is what we have.

Despite our limited knowledge of who handled the fruit, we can say something about the amounts used. Based on the Agency's annual income it could afford to spend about 35 *qa* of fruit per day, and indeed this seems to be about what it spent. In MARV 7 62 we find amounts of 30 *qa* and 35 *qa* of bread being disbursed *kī azamre* "as fruit" (3-4, 7-8). Similarly, the disbursement MARV 7 66 refers to disbursements of 36 *qa* and 16 *qa* of fruit. Finally, MARV 9 27 seems to state that the Agency reduced its fruit offering level by 26 *qa* per day, implying that the ideal total was higher than this. The data are not overwhelming, but the maximum figures do tend to hover around the maximum possible daily expenditure figure of 35 *qa*. Thus, it would seem that the Agency's theoretical income was just enough to cover the expenses of the daily offerings, just as with the other commodities.

4.4 Grain products other than raw barley

We will bring this section to a close by returning to grain products. We have dealt with raw barley already at great length, but we do occasionally find the Agency disbursing barley flour, "white barley," wheat, and a commodity called *simdu*. We will look briefly at each of these in turn.

4.4.1 Barley flour

The grain officials of the Agency receive barley flour in three texts. These can be linked to two major crises: one in Ninurta-apil-Ekur's reign (MARV 3 6), and the Ninuaya crisis (MARV 7 56, MARV 9 112). Thus, it would seem that under normal operations they received their barley in raw form rather than as processed flour. A few deliveries were also made to the

Agency in flour, but by and large these come from two consecutive years during the *maddattu* crisis.⁶⁴ The only text that did not was MARV 3 40, one of the earliest texts in the archive, where flour is given in place of some borrowed fruit. In sum, the Agency did not normally work with already milled flour unless circumstances forced it to.

4.4.2 White barley

More mysterious is the commodity *u'u pašiu* “white barley.” The phrase is not unique to Middle Assyrian, but also shows up in Old Babylonian times (CAD s.v. *pešû* 1g3’). One might posit that it refers to the product of some particular form of grain processing, but this seems unlikely. As we discussed above, processing barley tends to change its volume. Yet, in MARV 6 20 (and its duplicate passage MARV 7 48) the major *alahhinu*s are issued 100 *qa* of white barley each to cover exactly one day’s worth of offerings. Since regular barley was also issued in the ratio of 100 *qa* per major *alahhinu* per day, it would seem that white barley yielded the same volume of bread as regular barley. Hence, it cannot have been significantly processed. I would suggest instead that this phrase refers to the type of barley used. Here is not the place to wade into the dangerous waters of precisely identifying particular ancient plant varieties. It suffices for our purposes to note simply that white barley likely came from a different sort of barley plant than regular barley.

The various attestations of white barley in the archive are summarized in the following table:

⁶⁴ MARV 3 36+ 3 84, MARV 5 55, MARV 9 16, MARV 9 25

Text	Average Amount per Major <i>alahhinu</i>	Date	Other Information
MARV 3 76	200	IX.22.Bēl-libūr	“In <i>bēt gināe</i> ”
MARV 5 76	200	X.24.Bēl-libūr	“In <i>bēt gināe</i> ”
MARV 6 18	350+x <i>qa</i>	V.30.Ippitte	
MARV 6 20 (and MARV 7 48)	100	VI.3.Mudammeq-Bēl	“In <i>bēt gināe</i> ”
MARV 6 51	100+x <i>qa</i>	X.28.Mudammeq-Bēl	Source stated
MARV 6 71	x <i>qa</i>	XI.5.Ninurta-ašarēd	Source stated
MARV 6 83	x+100 <i>qa</i>	X.23 ⁷ .Mudammeq-Bēl	
MARV 8 48	200 <i>qa</i>	IX.x+18.Mudammeq-Bēl	
MARV 9 22	100 <i>qa</i>	X.22.Mudammeq-bēl	<i>iškāru</i>
MARV 9 32	36.7 <i>qa</i>	I.20.Mušēzib-Aššur	Source stated
MARV 9 103	200 <i>qa</i>	X.20.Mudammeq-Bēl	<i>iškāru</i>
MARV 9 110	11 <i>qa</i>	VII.25.Mudammeq-Bēl	For <i>sisīt ile</i> ritual

Figure II.1-8: Attestations of White Barley

As can be easily observed, white barley was not normally issued in very large quantities. Most disbursements of it were only sufficient to last one or two days. The texts give the general impression that this special grain was obtained irregularly. MARV 6 71 and MARV 9 32 both appear to name the individual providing the white barley, MARV 9 22 and MARV 9 103 both explicitly describe their white barley as an *iškāru* payment. MARV 6 51 may link its white barley to Kalhu province, although the text is too damaged to determine whether this was part of a normal *gināu* payment or an irregular arrangement.

On the usage end of things, we find white barley intended for use in a specific ritual in MARV 9 110 and MARV 6 20 (as well as its duplicate passage in MARV 7 48). Fittingly for a commodity that arrived only in small amounts, we find a number of references to white barley being stored in the *bēt gināe* as opposed to the *nakkamtu* storehouse usually used for bulk commodities like grain (MARV 3 76, MARV 5 76, and MARV 6 20, MARV 7 48). What is perhaps most striking about these texts, though, is that all but one (MARV 6 71) come from a window of about six years between I.20.Mušēzib-Aššur and X.24.Bēl-libūr. The outlier, MARV

6 71, comes from about to decades earlier, and so it seems that it was not entirely out of the ordinary for the Agency to come into the possession of small amounts of white barley.

The picture is unfortunately quite fuzzy, but the overarching pattern is clear. From time to time the Agency received white barely through irregular channels which it disbursed in small amounts, often to cover particular rituals. Unfortunately, there do not seem to be enough data to work out the mechanics of obtaining or distributing white barley any more precisely.

4.4.3 Wheat

On occasion the *Gināu* Agency dealt with wheat (Gaspa 2011b: 165). Not surprisingly, this wheat was normally used to make bread (MARV 2 14, MARV 9 21). As will be discussed in greater detail in II.2, the technical name for this bread was *qadûtu*, and it seems to have involved *simdu*-flour in addition to wheat.

Wheat shows up only sporadically in the documents of the *Gināu* Agency. If the bread was a regular part of the offerings, the Agency did not normally pay for it. Indeed, the Agency seems to handle wheat progressively less over time. In the time of Aba-lā-īde, that is, around the accession of Ninurta-apil-ekur—the very earliest part of the archive—we find the Agency lending out 200 *qa* of wheat. At least in those early days, then, the Agency had its own stores of wheat (MARV 3 37). During the crisis following Ninurta-apil-Ekur’s accession the Agency received both wheat and the *simdu* flour used in making wheat bread (MARV 3 6, MARV 6 40). We find occasional references to wheat deliveries (MARV 5 3, MARV 5 5, MARV 6 2, MARV 8 94) and wheat bread used in the offerings (MARV 2 14, MARV 9 21) until the year Aššur-bēl-li’te. Another text likely from that year, MARV 5 4, mentions wheat as well, but after that wheat completely disappears from the archive for a period of about half a century. Since we cannot date the earliest text (MARV 3 37) precisely, we cannot say to what degree the Agency handled

wheat before Ninurta-apil-Ekur's reign, but sometime after his reign the Agency ceased to provide wheat for the offerings. Indeed, as we will discuss more in II.2, even the wheat the Agency used in this period seems not to have been a regular component of the offerings but a substitute for barley bread. One would like to speak about the amounts of wheat used in this period, but we do not have enough texts of similar genre to allow any significant conclusions.

Wheat only returns during the reign of Tiglath-pileser I in the year Ibri-šarre. It appears in four texts (MARV 5 23, MARV 6 73, MARV 7 97, MARV 8 6). Sometimes small amounts are issued alongside large barley disbursements (MARV 7 97, MARV 6 73), and once fairly large wheat payments are given out by themselves (MARV 5 23). On the income side, MARV 8 6 refers to several shipments involving both barley and wheat which were received by the Agency.

As with the texts from the time of Ninurta-apil-Ekur, these texts are too few and variable to allow any conclusions about the amount of wheat being used and the details of the disbursement process. The curious text MARV 6 73 points to why wheat reappeared. This text refers to combined operations of the grain processing staffs of the *Gināu* Agency and the palace. As we will discuss more in III.1, this year saw an attempt to more closely integrate the Agency into the central administration. The project seems to have been abandoned by the end of the calendar year, and with it the Agency's regular involvement in wheat processing. We encounter one final reference to wheat a few years later in the poorly documented year Aššur-apla-iqīša (MARV 6 36, Reculeau and Feller 2012 47), but that is the last we hear of wheat or wheat products until the end of the archive.

4.4.4 *hašlātu*

Another grain product that makes a cameo in the Agency's archive is something referred to as *hašlātu*. This is generally thought to be a form of crushed grain, though whether it was

made from barley or wheat remains undecided (Postgate 2013a: 110). The evidence does seem to point to wheat though. In at least two texts from outside the archive we find the grain products listed in the sequence *u'u, kibtu, hašlātu* “barley, wheat, *hašlātu*” (MARV 1 9: 1-3, MARV 4 151: 15-16; Postgate 2013a: 110n.62). That *hašlātu* is listed after wheat suggests it is a subtype of that commodity and not barley. Stronger evidence is that all six texts which refer to it in the M 4 archive are from a single year, Ibri-šarre. That was also the same year the Agency resumed working with wheat, and it makes sense to see the sudden presence of *hašlātu* as part of the same phenomenon. Indeed, MARV 6 73 has two officials who deal exclusively with wheat and *hašlātu*, while the other officials deal only with barley products. This does not prove the commodity was made from wheat, but it does strongly favor that it was.

It is difficult to say what the Agency used *hašlātu* for since it only appears in small disbursement texts. It seems unlikely it was a regular part of the offerings, for it appears only in texts from a single year. One might suppose it was made as an intermediate step in producing part of the offerings, like flour, but it is still difficult to believe that a product in regular use would not show up at some point in the rest of the archive. It is simpler to think *hašlātu* was a commodity not normally handled by the Agency but temporarily routed through it during the administrative changes in the year Ibri-šarre.

The disbursement of *hašlātu* is intimately linked with a certain Aššur-dēnī-amur who is attested only in the year Ibri-šarre. He appears in four of the texts mentioning *hašlātu* in the archive (MARV 5 11, MARV 5 25, MARV 5 48, MARV 6 33), and can be restored in the remaining two (MARV 6 33, MARV 6 60). In the only other text where he occurs, MARV 5 70, he receives an unlabeled commodity while everyone else in the text receives a commodity explicitly labeled as barley. Hence, there too he might be receiving *hašlātu*. We can reconstruct

the changing pattern of *hašlātu* use in that year by following his career, but that is best left to the discussion of the Ibri-šarre administrative reforms in III.1.

4.4.5 *Simdu*

As discussed above the *sāmidu* millers employed by the Agency seem to have produced a hulled and perhaps coarsely ground grain product. It is reasonable to think that the term *simdu*, derived from the same root, refers to this product. In Neo-Assyrian times *simdu* was added to wheat bread at the Aššur temple (see SAA 12 69), and there is no reason to think this was not also the case in the Middle Assyrian period. It was likely also used in the brewing process since brewers had *sāmidu* millers on staff. Presumably, the brewers usually made their own *simdu* and the *alahhinus* either received some from them or also made it in small amounts. In both cases it would seem it ended up incorporated into finished beer or wheat bread. Hence, as an intermediate product it does not normally show up in disbursement records. It is thus not surprising that disbursements of *simdu* only show up twice in the archive, both during the Liptānu crisis (MARV 3 6, MARV 6 40).

4.5 Inedible items

One final note is needed. In addition to foodstuffs, Mesopotamian temples handled a considerable amount of inedible things. It is thus natural to ask if the Agency dealt with them. One possible text is the rather damaged MARV 9 63, which refers to a chariot. The text mentions the three major *alahhinus* by name as well, but it seems to be dealing with grain allotments rather than the chariot per se. The only other published text from the Agency which refers to inedible materials is the milling equipment text MARV 6 75. Hence, there is only minimal evidence for the Agency dealing in inedible items.

In contrast, as with the milling supplies discussed above, there is reasonable evidence that Great Steward handled at least some of the inedible items used by the kingdom's major temples. Thus we find a long damaged text summarized with the line *mimma anniu lubultu ša Ištar ša Arbāil . . . ana Adad-rība mašenne šarru' ana šašbute iqbiu-ni* "all this is the cloth of Ištar of Arbela . . . which the king⁷ told Adad-rība, the (Great) Steward, to provide" (MARV 3 8: 37-39). Another damaged text from the Great Steward's archive describes a large number of inedible items, at least some of which seem to have been for a ritual purpose since it refers to *niqiāte ša Muhur-ilānī* "the offerings of Month X" (MARV 10 4: 18). We even find the Great Steward explicitly involved with the Aššur temple in MARV 10 63, which is too damaged to be fully understood, but includes the phrase *ša pānī Aššur . . . madid* "that which is before Aššur . . . it was measured" (2-4) and *ša bēt Aššur* "of the Aššur temple" (9). While it is dangerous to argue from absence, it seems reasonable to think that inedible items are rare in the Agency's archive because it did not regularly handle them. This was possible because other officials, like the Great Steward, provided the Agency with most of the inedible goods it needed.

5 Conclusions

Let us now return to the executive officials with which we began the chapter. As we have seen, there were six of these in total, assisted by a milling staff of about fifty. The three major *alahhinus* arranged for grain to be milled and made into bread. Under ideal circumstances they would each process 100 *qa* of raw barley per day. The minor *alahhinu* filled a similar function, but focused more on the baking side of the process, only doing a small amount of the regular processing himself, and often handling ad hoc assignments over and above the regular *gināu*. It took an average of about 60 *qa* of grain per day to keep him supplied.

In good times the two brewers also each brewed an average of 66 *qa* of grain per day. But, unlike the *alahhinus*' figures, this really was an average. In practice the brewers tended to make large batches able to last for weeks or even months. In addition, the Agency contracted with oil pressers to press an average of 60 *qa* of sesame per day. To complement all this bread and oil the Agency also provided honey and fruit with minimal processing.

All told, for one day's complete *gināu* offering the Agency used about 500 *qa* of grain, 60 *qa* of sesame, 6 *qa* of honey, and 35 *qa* of fruit. The Agency ground a little over 300 *qa* of this grain into flour each day and brewed the rest. It also contracted with an oil presser to press 50-60 *qa* of sesame per day into between 10.25-12 *qa* of finished oil. As we will see in the next chapter, these amounts were just enough to make the various finished foods used in the *gināu* offering. The story of the *Gināu* Agency is in fact "one day." It was a day the nine men of the executive staff would labor to repeat day in, day out for the duration of the Middle Assyrian kingdom.

II.2: Offerings and the Cultic Calendar

*One of them is counting the days,
but they go so fast he cannot stop
to tell us how many.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

In the last chapter we outlined how the *Gināu* Agency's executive staff converted its revenue from shipments of raw commodities into finished products. But to leave the story there would be like ending a study on a building project just when the truckloads of bricks arrived. The point of getting bricks and shipping them to a site is to make a building with them. So too, to fully understand the place of the *Gināu* Agency in the Assyrian state, we must look at what became of the finished goods it made.

A substantial portion of the Agency's revenue went into offerings. In fact, apart from the rations given to its milling staff, almost all of its revenue was used for offerings. Yet, the Agency by no means underwrote all the offerings on the Assyrian cultic calendar, or even all of those at the Aššur temple. Rather, the vast majority of the Agency's resources went to supply one particular set of offerings, its namesake *gināu*.²

In ideal circumstances a complete set of *gināu* offerings would be made every day. The exact size of a complete offering had already been established when our archive began, and it endured to its end with little, if any, change. The Agency's annual income was barely large enough to cover the expense of doing this. If the offerings were made at full size daily, the Agency could afford at most only a few small additional expenses. It could not, and did not, finance the great rituals of the Assyrian calendar.

¹ (Richardson 2004: 10).

² Of course the term "*Gināu* Agency" is an etic label I have applied to the Agency. However, as discussed in the introduction, the term *gināu* pervades the Agency's emic ways of talking about itself.

But for an agency concerned with a single fixed offering, the *Gināu* Agency was surprisingly well integrated into the cultic life of the capital. The Agency itself was presumably based at the Aššur temple (Introduction), but portions of the *gināu* were also offered in other temples in the capital and in the royal palace. Under ideal circumstances, nearly all of the offered food was transferred to the king's palace.

Likewise, the Agency was more involved in the festivities of the Assyrian cultic calendar than its unchanging, highly circumscribed daily offering routine would indicate. True, the Agency did not fund those festivals, but part of these festivals involved making the day's regular *gināu* offering. Moreover, in times of stress when the Agency could not live up to the ideal of offering the whole *gināu* every day, it would often take great pains to ensure that full *gināu* offerings could at least be made during the major festivals. This practice caused the Agency's activities to become intertwined with the broader Assyrian cultic calendar. Therefore, to fully understand how the Agency used its finished products we must try to reconstruct the timing and character of those festivals as well.

1 The daily *gināu*

1.1 Existence

Before we discuss the properties of the daily *gināu* offering, it is necessary to show that it was in fact a daily offering of theoretically fixed size. This was obvious to the members of the Agency and most, if not all, of those who regularly interacted with it. There was no need to write it down as an abstract operational principle. But, as the main organizing principle of the Agency's operations, it is implicit throughout the Agency's documentary record. Indeed, the

very name of the offering, *gināu*, seems to have come from the Sumerian expression *gin.a*, meaning something like “fixed” (Postgate 2013a: 91).

The best evidence that the *gināu* was a fixed daily offering comes from the offering logs. These tended to be drawn up in periods of financial difficulty, and so show the system breaking down. The finer details of how and why the system broke each time are best left to the discussions of the individual crises in III.1. It suffices here to say that Maul’s assertion that “Das Ausbleiben von Lieferungen aus den assyrischen Landen sollte jedoch auf gar keinen Fall zu einer Störung des Opferbetriebes führen,” proved to be an overly optimistic view of the Agency’s abilities to cope with shortages (2013: 568-569). Three things are important for us here. First, often only part of the system broke down. In recording the incomplete portions of the offerings, our texts frequently discuss the complete portions as well. Second, the Agency did not always deal with the same problem in the same way. By comparing its various solutions we can get some idea what the underlying problem was. Finally, a few texts state outright the goal that had not been met.

One frequently tried solution to shortages was to reduce the daily offerings by a fixed amount for an extended period of time. To keep track of the reductions, it was necessary to record the information in an offering log. These texts give us the most explicit evidence that the *gināu* was offered daily and could go months without any change in size. MARV 2 14 is one of the clearest texts on the matter. Its first lines are lost, but one of the earliest readable lines is *ištu Kalmartu ūm 16 adi ūm 26 11 umātu gināu ana mišlāte* “from Month III day 16 to day 26, 11 days, the *gināu* was at half size” (MARV 2 14: 6’). This line, if we had any doubts, indicates that the text deals with the *gināu*. The next line reads *ištu Kalmartu ūm 27 adi Sîn ūm 1 4 umātu ūm 50 qa miṣrū tadnū* “from Month III day 27 to Month IV day 1, (a total of) four days, 50 *qa* of

miṭru bread was given per day” (MARV 2 14: 7’). The text continues in this vein, with the amount offered per day going up or down (and sometimes going to zero), and the time periods ranging from a few days to a few months for a total duration of some two and a half years.³

MARV 9 19 provides similar information for a period of a little under a year and a half, using the distributive suffix TA.ÀM to indicate that its offering amounts were made daily. From the supply side, MARV 6 70 refers to a fixed amount of grain being given daily for bread and beer production, and arrives at a monthly total simply by multiplying that figure by 30.

This idea of a daily offering of fixed size finds its most compelling support in the oil account MARV 7 1. This text deals with the expenditure of *šamaššammū gināe šalme ša naphar pāhāte* “the sesame of the complete *gināu* of all the provinces” (2). Part of this text summarizes a series of itemized expenditures with the line *naphar 1 sūt 2 kās šamnu ša iltēn ūme* “total 10.25 *qa* of oil of one day” (15). The text then proceeds to arrive at a monthly estimate by multiplying the figure by 30, and then a yearly estimate by multiplying the latter number by 12. The yearly figure it arrives at, 3690 *qa*, is 85% of the Agency’s entire theoretical oil income of 4364 *qa*, and 28% larger than the oil the Agency actually ended up with that year.⁴ Thus, it would seem the constant daily oil expenditures used the bulk if not all of the Agency’s annual sesame income. Certainly, the text gives no indication that oil was spent on anything apart from the *gināu* that year. That is to say, the constant daily expenditures *were* the *gināu* offerings.

But all this does not prove that there was a single ideal size for the *gināu* offering. It only tells us the offering’s size tended to be very stable for very long periods. Let us return to the

³ After it notes that *ištu kuzalle ūm 2 līme Aššur-dān gināu batiq* “the *gināu* was cut off from V.2.Aššur-dān” (obv. 12’-13’) it omits periods when no offering at all was made, only giving those periods when offerings were resumed. As discussed in the edition of that text, it also curiously omits periods of complete offerings.

⁴ As noted in (II.1), the Agency’s ideal oil expenditures were actually around 12 *qa* per day; the 10.25 *qa* figure used in the calculations represents an ad hoc reduction made to deal with the sesame shortage that year.

grain figures. As mentioned above, some texts note particular amounts given as *gināu* for extended periods of time. In addition to that, we also find time periods over which *gināu batiq* “the *gināu* was cut off” and *gināu šalim* “the *gināu* was complete” (e.g. MARV 6 65, MARV 6 66). This suggests that, as with the oil, here the Agency had a daily goal it was trying to meet that could be “complete.” But one might argue that the size of a complete offering varied depending on its location in the cultic calendar. Yet, for the periods where we are explicitly told the amount of the offerings, we find they were offered daily at constant amounts for extended periods of time. Given this distribution, it is unlikely individual days required more or less. In a similar vein, one might posit there was some kind of large-scale variation requiring a few weeks at this amount and a few at that amount. However, when we compare the offering logs, there does not seem to be any correlation between changes in the daily offering amount and calendar date.⁵ Indeed, in MARV 2 14 and MARV 9 19, both of which cover a time period of more than one year, we find the changes in the offering levels occurring in one year do not line up at all with those in the next.

The simplest solution, then, is to assume that the *gināu* grain offerings were like the oil offerings, and that they were ideally to be made at the same fixed size every day. Only when this size was achieved could the offering be referred to as *šalmu* “complete,” as we find written explicitly in some of the offering logs. When nothing was offered at all the *gināu* was *batqu* “cut off,” a term that occurs with unsettling frequency in the logs. Presumably, then, when the texts give an explicit amount offered, it is to indicate a state in between these two extremes; something was being offered, but it was not the full amount.

⁵ In contrast, we find offerings being resumed consistently for particular days of importance on the cultic calendar. This will be discussed more at the end of the chapter.

This picture of a daily offering of fixed size is confirmed by a Neo-Assyrian archive from Nineveh dealing with the transportation of leftover offerings from the Aššur temple to the new capital at Nineveh (SAA 7 182-219).⁶ Here, with a single exception, whenever the *gināu* shows up it always involved 11 *qa* of *akal ginê* “*gināu* bread” and 11 *qa* of *qadûtu* “wheat bread.” In addition to the regular *gināu*, the texts also refer to a “new” *gināu*—evidently a Neo-Assyrian addition to the offering schedule—and it likewise always involves the same commodities in the same amounts: 3 *qa* of *gināu* bread, 2 *qa* *miṣru* bread and 2 *qa* wheat bread. These small amounts, of course, were just the leftovers sent to the king at Nineveh and were almost certainly not the entirety of the offering. But, if the total amount varied one would expect the king’s share to vary as well. In fact we find exactly this sort of variation in some of the non-*gināu* commodities described in the same leftover texts. But, the amounts of the *gināu* commodities remain completely unchanged.

Putting all this together, we arrive at the conclusion that the *gināu* was intended to be a fixed daily offering in Middle Assyrian times and persisted as such into the Neo-Assyrian period, though perhaps with changes in the exact amounts to be offered. To provide the full amount of supplies for this offering day in and day out was a major administrative challenge, and oftentimes it proved more than the *Gināu* Agency could handle. Yet, even when it failed, it was this ideal of a fixed daily offering that the Agency failed to meet.

⁶ That the archive describes the shipment of leftovers explains why it was found in Nineveh rather than the Aššur temple (*pace* Maul 2013: 573, Fales and Postgate 1993: xxxv). The actual transportation seems to have been done by chariot since we find the notes “in two chariots” (SAA 7 193: r.2) and “in five chariots” (SAA 7 212: 14) at the end of two of the texts. This interpretation of the archive also explains why the total volume of bread is much smaller than that used in the Middle Assyrian offering. As a practical matter it was likely not possible to transport more than a small portion of a full offering the 100 km or so from Aššur to Nineveh on a regular basis.

1.2 Composition

The next question is what did this daily *gināu* look like? This has two components. First we would like to know what finished foods the Agency made, and how much of each. Second, we would like to know what particular rituals the *gināu* products were used in.

1.2.1 Barley products

The core of the *gināu* offering was a large amount of bread and beer, both of which were made primarily from barley. Since the offerings happened every day, their amount was common knowledge. Hence, the *Gināu* Agency normally referred to the full amount of offerings with variations on the phrase *šalim* “complete” rather than listing its component parts. It is only where the offering differed from its normal amount that the Agency would give explicit values for the amount of bread and beer used on a given day. As there was considerable variety in how the system broke down, we can generate a reasonable picture of what the full offerings were supposed to look like.

1.2.1.1 *Haršu* bread

Let us first turn to the bread products. In the various offering texts we have references to two types of bread, *haršu* bread and *miṭru* bread. To approach *haršu* bread, it is best to start with a historical digression. A product known as *haršu* was used in Neo-Assyrian times. In SAA 12 69: 8 we find a *kakardinu* receiving 5 *qa* of honey and 5 *qa* of oil to produce it. In Neo-Assyrian times it seems to come in pots, suggesting that it was not a conventional loaf of bread (CAD s.v. *haršu*). Indeed, the CAD translated it as “a food, probably a fruit” (s.v. *haršu*). More recently Gaspa has suggested it was a type of cake (Gaspa 2012a: 58), and Postgate has

suggested it was crumbled, finding a possible reference to the crumbling in MARV 6 77 (Postgate 2013a: 112).⁷

However, in Middle Assyrian texts it is frequently written with the bread determinative and hence is probably a type of bread (Jakob 2003: 397n.62; Pedersen 1985: 47n. 23, Llop 2009-2010: 18-19). Moreover, to my knowledge there is no reference to *haršu* coming in jars in this period. Thus, were it not for the Neo-Assyrian evidence, there would be no reason to think *haršu* was not a regular-sized loaf of bread in Middle Assyrian times⁸, and, conversely, most—though not all⁹—Neo-Assyrian references seem to refer to a paste of some sort stored in jars. We can reconcile the two bodies of evidence if we assume that *haršu* could refer to both a sweet paste and the bread to which it was applied. Evidently, though, Neo-Assyrian scribes preferred the former usage, and Middle Assyrian scribes the latter.

An otherwise curious passage in MARV 5 32 may explicitly state this. There we read, 1 *qa aklu ana harše ūm 2* 1 *qa aklu ana miṭre ūm 4* “one *qa* bread for *haršu*, day 2; one *qa* bread for *miṭru*, day 4” (1-3). Arguing from this passage, Llop suggests “other ingredients were possibly added to a bread-base to achieve a *ḥaršu* product” (Llop 2009-2010: 19; cf. Gaspa 2011a: 247). These other ingredients would be what came to be called *haršu* in Neo-Assyrian times, and as shown in SAA 12 69, included honey and oil in equal amounts.¹⁰ Evidently the

⁷ This interpretation is doubtful, as is discussed in the edition of that text.

⁸ One might object that MARV 5 66 spells *miṭru* with the NINDA determinative for bread products, but does not do so for *haršu*. However, the term appears to be written with the determinative later in the text (1.10). What is more, the text implies that a volume of 100 *qa* of *haršu* without the determinative was used for offerings on one day, and 106 *qa* on another. Since the Agency could only spend at most 35 *qa* of fruit, 12 *qa* of oil, and 6 *qa* of honey per day on regular offerings (II.1), the product in question must have been made primarily of grain. This strongly favors that the product in question was in fact bread of some sort.

⁹ In SAA 12 69 it is written with the NINDA determinative for bread.

¹⁰ Experimentation with commercially available honey and sesame oil indicates that such a mixture is quite a pleasant condiment for bread. As suggested to me by Brian Muhs, the basic combination of sesame and honey is quite similar to the halva eaten in the contemporary Middle East.

base product made into *haršu* bread either could also be made into *miṭru* bread or, as we will argue below, simply was *miṭru* bread.

The texts in our archive conform to the model described above. Thus, we find that *haršu* bread involved a considerable amount of oil. MARV 8 91 explicitly refers to 70 *qa* of sesame for the *haršu* bread of Month VI. What is more, MARV 7 1 refers to daily oil disbursements of 3 *qa ana libbi 50 harše² ša ūmešu innepšu-ni* “3 *qa* for the 50 *qa* of *haršu²*-bread which was offered that day” (10-12) and 2 *qa ana libbi harše² ša ilānī ša āle* “2 *qa* for the *haršu²*-bread of the gods of the city” (13-14). In both cases the bread determinative is clear, but the name is damaged. However, the traces seem to fit ²har-[še] much better than ²mi/me-[iṭ-ru], and there is no other reference to *miṭru* bread containing oil. Thus, as we expected, the *haršu* involves oil. Furthermore, since this text describes most if not all the Agency’s daily oil expenditures, but does not mention *miṭru* bread, it would seem that *miṭru* bread did not use oil.

As shown in the previous chapter, the Agency had a total of about 550 *qa* of barley to work with per day, of which a little over 300 *qa* normally made its way to the *alahhinus* to become bread for use in the daily *gināu* offerings. Assuming the 63% conversion rate discussed in II.1, that works out to about 200 *qa* of flour, or enough for a total of about 200 *qa* of bread.¹¹ As I will show presently, that amount fits with the figure of exactly 200 *qa* of bread we can derive from the offering texts.

The clearest of the offering texts on this point is KAJ 306a. That text records that 100 *qa* of *haršu* bread was offered daily in the accounting period starting on II.27. A little later the text notes about the same accounting period *šikaru haršu šamnu dišpu šallum* “beer, *haršu*, oil and honey were complete” (9-10). The implication would seem to be that the 100 *qa* just mentioned

¹¹ As noted in II.1, the Agency generally measured loaves of bread in offering texts by the volume of flour used to make them.

was the complete amount of *haršu* bread. We can derive an identical figure from MARV 9 21. In that text the *haršu* bread was absent from the day's offering. The text notes that the offering had 90 *qa* of *miṭru* bread and 80 *qa* of wheat bread (3-4) as well as a "complete" amount of beer (11), but that it was deficient by 100 *qa* of *haršu* bread (12-13). Since no *haršu* bread was offered, it would seem that 100 *qa* of *haršu* bread that was missing was the entire amount that was supposed to be offered.

More generally, when *haršu* bread appears in the offering texts, there is nearly always exactly 100 *qa* of it (KAJ 306a, MARV 2 14, MARV 5 16). The only exception is MARV 5 66, where for one day 106 *qa* of *haršu* bread was offered. This can perhaps be explained as an ad hoc attempt to compensate for the reduction of *miṭru* bread from 50 *qa* the previous day to 40 *qa* on that day. Regardless of the exact motivation, it is still very close to the standard figure of 100 *qa*. Thus, the evidence seems very strong that a complete *gināu* offering would contain exactly 100 *qa* of *haršu* bread.

The texts giving the amount of oil used for the *haršu* bread complicate matters somewhat. MARV 7 1 mentions that 3 *qa* of oil are to be used daily to make 50 *qa* of *haršu* bread for the *gināu* proper, and an additional 2 *qa* are to be used for an unstated amount of *haršu* bread for the gods of the city. Assuming the proportion of oil in *haršu* bread was constant, this would yield a theoretical daily total of 83 *qa* of *haršu* bread. This figure is below the frequently attested figure of 100 *qa*. What is more, it is otherwise unattested in the archive as a volume of bread given in the daily offerings.

A more elegant solution is to assume that the text refers to two types of *haršu* bread. One, used in part of the daily offering, was made using 3 *qa* of oil per 50 *qa* bread, while the other was made with only 2 *qa* of oil per 50 *qa* of bread. This gets us to the expected daily total of 100

qa of *haršu* bread. This also fits with the quantity of sesame in MARV 8 91. There 70 *qa* of sesame are given out for making *haršu* bread in Month VI. Using the figures for oil pressing from MARV 7 1 (20-25%), this should yield 14-17.5 *qa* of oil. This fits well with the 15 *qa* that would be needed to make three complete batches of 100 *qa* of *haršu* bread using 3 *qa* for half the batch and 2 *qa* for the other half.

1.2.1.2 *Miṭru* bread

In contrast to the stability of *haršu* bread, which is nearly always offered at exactly 100 *qa* per day, the amount of *miṭru* bread offered shows a great deal of variation. The following table summarizes the various amounts that are attested:

Amount per day	Texts attested
10 <i>qa</i>	MARV 2 14
25 <i>qa</i>	MARV 2 14
40 <i>qa</i>	MARV 5 66
50 <i>qa</i>	MARV 2 14, MARV 5 66
57.5 <i>qa</i>	MARV 2 14
90 <i>qa</i>	MARV 9 21
100 <i>qa</i>	MARV 2 14

Figure II.2-1: Attested Daily *Miṭru* Bread Usage

We can find a possible explanation for this wider variation of breads by turning our attention briefly back to the *haršu* bread. If *haršu* bread was created by adding a paste of honey and oil to bread (as seems to be described in SAA 12 69), then it would not be unreasonable to think that the paste was created in a single batch for the day. Based on the above calculations, the resulting mixture would have a volume of 10 *qa*, exactly the volume of one of the one *sūtu* vessels the Agency often used for storing fluid commodities (e.g. MARV 3 38, MARV 6 40, MARV 7 5). Indeed, we find exactly this volume of *haršu* paste made for the royal *paddugannu* ceremony in the Neo-Assyrian text SAA 12 69 (8). We can then explain the variation between the amounts of

the two breads by positing that the Agency did not draw up fractional batches of *haršu* paste. If there were at least 100 *qa* of loaves and supplies to make a full pot of *haršu*, then it would make up a pot. If there were not supplies to make a full pot of the paste or not enough loaves to put it on, then the Agency would not make up a batch.¹²

This explanation neatly accounts for the data, although for the moment cannot be taken as entirely proven since we have no references to a pot of *haršu* paste in the archive.

Regardless of the exact reason for the variation, the amount of *miṭru* bread never goes above 100 *qa*, suggesting that 100 *qa* was the theoretical amount of *miṭru* bread, which sometimes had to be reduced. Moreover, combined with the 100 *qa* of *haršu* bread discussed above, this figure yields a total of 200 *qa* of barley bread per day in the *gināu* offering. As mentioned above, that is the amount of bread one would expect to be in the daily offering given the Agency's normal daily allotment of around 300 *qa* of barley for making bread. As no other barley breads appear in the offering texts, it is thus reasonable to think the *haršu* and *miṭru* bread comprise *all* the barley bread used in the *gināu*.

One final note is in order. A section toward the end of MARV 6 35 + 7 26 refers to 4 individual offerings of a loaf of *miṭru* bread and sums them up as 2 *qa aklū* "2 *qa* bread" (38-40). For this summation to be right, each *miṭru* loaf must have had a volume of exactly $\frac{1}{2}$ *qa*. If *haršu* bread was made from *miṭru* loaves or a common base loaf, then the *haršu* breads must have been the same size (or perhaps broken into smaller pieces). This nicely explains why bread offerings in the archive always occur in integer multiples of $\frac{1}{2}$ *qa* (e.g. A 981 +[?] MARV 7 25, MARV 6 35

¹² In the anomalous case of the 106 *qa* of *haršu* bread in MARV 5 66, we can posit two workable scenarios. One is that the mixer slightly mis-measured, ended up with more *haršu* paste than he had planned, and perhaps made the best of a bad situation. The second is that the Agency reduced the amount of *haršu* used per loaf. Indeed, as noted above, half of the *haršu* bread seems to have been made with 50% more *haršu* than the other half (see MARV 7 1). It does not seem a great stretch to think that the Agency produced 106 *qa* of *haršu* bread by slightly reducing the amount used per loaf in the former group.

+ MARV 7 26, MARV 8 15). We need only assume that individual offerings were always made with an integer number of loaves.

1.2.1.3 “Bread”

Now that we have an idea of the composition of the Agency’s daily bread offerings, we can attempt to elucidate those texts that refer to neither *haršu* nor *miṭru*, but rather undifferentiated *aklu* “bread.” As one might expect, this turns out not to be a technical term for an additional type of bread, but a blanket term referring to the base bread used by the Agency, regardless of whether or not it had been converted to *haršu* bread. Thus, it can refer to both *miṭru* and *haršu* bread.

In the case of *miṭru* bread, this is clearest in the offering text MARV 6 27. That text describes various small bread disbursements, one of which was repeated over at least four days (12-24). The sequence explicitly refers to the first two offerings as using *miṭru* bread, but refers to the following ones simply as *aklu* “bread”—apparently context made the type of bread obvious. The offering log MARV 9 19 provides similar evidence. Like the other offering logs, it records severely reduced offerings. The *aklu* bread was sometimes absent entirely, but when it was present, it occurred in daily amounts of 5, 13, 25, or 26 *qa*. This pattern is the same one that *miṭru* bread shows in the offering logs, and differs from the all-or-nothing approach normally used with *haršu* bread.

Similarly, in one unfortunately damaged text we encounter the summary line: 8550 *qa aklu ša 3 urah umāte* “8550 *qa* bread (for the offerings) of three full months” (MARV 8 68: 18-19). Using 30 day months this figure yields an average of 95 *qa* of bread per day, or possibly 95 *qa* of grain for bread production. In principle the exact offering amount could have varied on a day-to-day basis, but there must have been at least a few days with offerings of less than 100 *qa*

of bread. Since *haršu* bread never occurs in amounts less than 100 *qa* per day, at least some of the *aklu* bread mentioned in the passage must be *miṭru* bread.

However, we obtain a rather different result in MARV 6 70. There one can work out that 278 *qa* of grain per day has been allotted for bread production. Using the milling volume change figure of 63% from above the result should be about 175 *qa* of bread. The only way to account for such an amount of bread without violating the rules we know for *haršu* and *miṭru* amounts is to assume that it was made of 100 *qa* of *haršu* bread and 75 *qa* of *miṭru* bread, meaning that the term *aklu* “bread” refers to both types of bread here. This conclusion also nicely accounts for the infrequency of the terms *miṭru* and *haršu* in the later portions of the archive. The two products both continued to be offered, but were generally condensed into a single entry for accounting purposes.

1.2.1.4 Beer

The second barley product used in the offerings was beer. In the archive of the *Gināu* Agency we encounter two types of beer, SA.MAR *ṭābu* “sweet SA.MAR-beer” and *šikar bēt ile* “beer of the temple” (MARV 6 70). The same pairing of beers appears in “secular” texts from Tell Huēra, so despite the name of the latter product, we are not dealing with cultic specialties but beer varieties used generally by the administration (Jakob 2009: 22-26, 28).

In the texts from Harbe, SA.MAR *ṭābu* always occurs in greater quantities than the temple beer and sometimes to its complete exclusion.¹³ We find the mirror image of this practice

¹³

Text	SAMAR <i>ṭābu</i>	<i>šikar bēt ile</i>
Jakob 2009 22	40	0
Jakob 2009 23	120	40
Jakob 2009 24	40	0

Figure II.2-2: Types of Beer in Texts from Harbe

in the *Gināu* Agency, which had a not unexpected emphasis on temple beer production. In MARV 6 70, 114⁷ *qa* of grain are allotted to temple beer production in contrast to 10 *qa* for making SA.MAR *tābu*.

When we turn to our archive there is surprisingly little data on how much beer was used in rituals. The only clear figure comes from MARV 6 35 +MARV 7 26. There we find that 119 *qa* of beer was used in offerings whose leftovers were transferred to the palace. The figure is written in the temple beer column of that text, and likely includes only that variety, although one cannot entirely exclude that the sum also included the small amounts of SA.MAR *tābu* beer listed in the next column, which were not otherwise summed. An additional 1 *qa* of temple beer was used for a subsidiary offering, and 10 *qa* of temple beer and 10 *qa* of SA.MAR *tābu* beer was issued to the Agency staff. Thus we arrive at a minimum total of 130 *qa* of temple beer and 10 *qa* of SA.MAR *tābu* beer.

To get an upper bound we must turn to the supply side. As discussed above, we have good reason to think ideal beer production used an average of 134 *qa* of grain per day. The question, then, is how much beer would that amount of grain yield? Here the Middle Assyrian texts are surprisingly coy. However, in the amply documented beer production of the Ur III period we find beer made using one or two times its finished volume in grain (Damerow 2012: 9). That is, the conversion factor from grain to beer is 50-100%. It is reasonable to think that the Assyrian figures were comparable.¹⁴ Indeed it seems quite likely that the 10 *qa* of grain allotted

Jakob 2009 25	120	40
Jakob 2009 26	120	40
Jakob 2009 28	70	0

Figure II.2-2 (cont.): Types of Beer in Texts from Harbe

¹⁴ It is also conceivable that the Assyrian measured beer based on the volume of grain used to make it, as we find sometimes done for bread products (II.1). For our purpose here in tracking grain expenditures this is functionally

for SA.MAR *tābu* production in MARV 6 70 were intended to make exactly 10 *qa* of finished SA.MAR *tābu* beer like we find in MARV 6 35 + MARV 7 26. This would yield a conversion factor of 100% for that type of beer. This would leave about 124 *qa* of grain to make the 130 *qa* or so of temple beer, again implying a conversion factor of about 100%.

1.2.2 Other products

1.2.2.1 Oil

As we will discuss in more detail below, we are well informed about the Agency's use of oil thanks to MARV 7 1. In that text a total of 5 *qa* went into the production of *haršu* bread and 4 *qa* for an offering known as the "palace oil," which was offered simply as oil, while the remaining 1.25 *qa* went to meet various minor obligations.¹⁵ It is presumably to the latter offering that the references to "complete" oil refer (KAJ 306a: 10-11; MARV 5 66: 10-14). Indeed, KAJ 306a explicitly states of the oil in question that *ana pāni <ile> ittabak* "he poured it out before the god," indicating that the offering involved only oil and not a more complicated foodstuff made with oil (11).

1.2.2.2 Honey

For honey we are on stickier ground. As mentioned above, in Neo-Assyrian times *haršu* paste was made with equal parts honey and oil, so it is not unreasonable to think that the situation was similar in Middle Assyrian times. Supporting this idea, in MARV 7 34 an official of the Agency receives 3.5 *qa* of honey to produce 77 *qa* of a commodity whose name is broken. That works out to exactly 1 *qa* of honey per 22 *qa* of product. This is nicely between the 1:17

equivalent to beer being produced at a 100% conversion ratio since "1 *qa*" of beer in an offering text would by definition require 1 *qa* of grain to make it.

¹⁵ As discussed in II.1, the figure 10.25 *qa* of oil spent per day probably represents a reduction from an ideal figure of around 12 *qa*.

and 1:25 ratio with which oil was used in making *haršu* bread according to MARV 7 1, and very close to the combined average of 1:20. This suggests that the product in question was *haršu* and that it was made with roughly, if not exactly, the same amounts of oil and honey.¹⁶ Similarly, the damaged text MARV 6 77 seems to refer to an official tasked with making *haršu* paste from 2 *qa* of honey and 2 *qa* of oil per day. Since *haršu* was equal parts honey and oil, at least 5 *qa* of honey would have been needed per day to match the 5 *qa* of oil allotted for making *haršu* bread in MARV 7 1.

Since the Agency consumed, on average, six *qa* of honey per day, that leaves 1 *qa* unaccounted for.¹⁷ As with the oil, this seems to have been offered as is without further processing. Thus, the same texts that refer to the complete oil offerings also refer to complete honey offerings (KAJ 306a: 10-11, MARV 5 66: 10-14). Indeed, plain oil and honey offerings are well attested and frequently associated in texts from outside the Agency (e.g. A 842: 15, Ebeling 1950 32-34: 49-50, MARV 3 16: *passim*). This offering likely accounted for most if not all of the remaining daily honey usage, since offerings of less than 1 *qa* of honey are rather rare.¹⁸

This would seem to conflict with MARV 10 68, where two entire *šapputu* jars of honey are dispensed for the *equ* ritual of Bēlet-ekalle. However, the context of that passage offers an attractive solution. The text notes that the disbursement was made *ina libbi 10 šappāte ša ina bēt gināe paqdā-ni* “from the 10 *šapputu* jars which were held in trust in *bēt gināe*” (4-6). The verb *paqādu* “to entrust” is otherwise unattested in the Agency’s documents and so evidently does not

¹⁶ Admittedly this would be the only reference to a figure of less than 100 *qa* of *haršu* bread in the Agency. Yet the text is a disbursement of honey to a man otherwise unknown in the archive, and so is rather unusual. It is not unreasonable that the circumstances that required writing such a text also required making 77 *qa* of *haršu* bread.

¹⁷ In MARV 8 88 Ezbu-lišer obtained honey from an outside *kakardinnu* for 70 days’ worth of operations, but unfortunately the amount of honey he took for this purpose is tantalizingly broken.

¹⁸ KAJ 226:5 is the only possible reference to an offering of less than 1 *qa* of honey known to me in the published Middle Assyrian corpus. Even in that text the other honey offerings mentioned are all above 1 *qa*.

refer to an administrative action it normally performed. Moreover, the Agency's annual supply of honey would require something on the order of 400 *šapputu* jars, assuming the 6 *qa* figure from the last chapter. Even if one assumes a higher volume for those jars, it is still hard to believe that the 10 jars in the text represented the Agency's full stored supply except under severe duress. But if the Agency were experiencing extreme financial hardship one doubts it would be giving away 20% of its honey reserves for a festival it did not normally finance. When one's supplies are already grossly insufficient, taking on still further obligations tends to end very poorly. Thus, I would suggest that the phrase refers to jars of honey separate from the normal *gināu* income, which had been given to the Agency for safekeeping. At the time the text was composed the owner needed to retrieve two of the jars to finance the ritual in question. It is, then, an outside expense being met by an outside source.

The 10 *qa* disbursements for two individual days in MARV 7 66 are less dramatic but still too large to be regular occurrences. Unfortunately, the text is laconic and we know little about internal affairs in the Agency that year (Sikildu), which makes it impossible to offer a convincing explanation of what events were behind it. The disbursements may have been intended to last more than one day or to fill in for another honey provider suffering from supply problems. It may even reflect a genuine change in practice. We simply cannot say.

1.2.2.3 Fruit

The last of the standard commodities was fruit. As mentioned in the previous chapter, the use of fruit in offerings is very poorly documented, but in general fruit seems to have been used as is without further processing. It came apparently both as whole figs and a type of crushed fruit product of unclear composition (*mirqu*). MARV 5 66 indicates that it was part of a complete

daily offering, and the cryptic text MARV 7 66 just discussed refers to disbursements of it on two days, apparently for use in a ritual. But that is the limit of what we can say.

1.2.2.4 Wheat

There is one more commodity that shows up occasionally among the finished offering goods, wheat bread. This is normally referred to with the generic term *akal kibte* “wheat bread,” but the bread in question is probably *qaduātu*. Although the term is not used in the Agency’s documents, it appears in MARV 3 16, indicating that it was in use in Middle Assyrian times. We learn that this was a type of wheat bread from SAA 12 69, and that it was apparently made or garnished with coarsely ground barley.¹⁹ From the Neo-Assyrian leftover archive we learn that it was a standard component of the *gināu* at that time. 11 *qa* of it were shipped daily alongside the 11 *qa* of *akal ginê* for the old *gināu*, and 2 *qa* of it were given with 3 *qa* of *akal ginê* and 2 *qa* of *miṭru* bread for the “new *gināu*.” This suggests that this particular type of wheat bread was a standard part of the *gināu* and was offered in roughly the same amount as each of the other two types of bread. Since each of those was offered at a level of 100 *qa* per day we would expect the same for the wheat bread.

MARV 9 21 refers to 80 *qa* of wheat bread as part of one day’s *gināu*, which supports this idea. In MARV 2 14 we find a reduced offering of 57.5 *qa* *miṭru* bread, 50 *qa* wheat bread, and 100 *qa* *haršu* bread offered for a period of time, which shows wheat bread and *miṭru* bread in roughly equal proportion and again favors the same general picture.

However, if wheat bread were a standard part of the *gināu* offering, why then does it appear so infrequently in the Agency’s texts? As a finished offering, it only shows up in the two

¹⁹ 280 *kibtu ana qaduāte adi simde adi pappalte* “280 *qa* wheat for the *qaduātu* breads, together with *simdu* and *pappaltu*” (11-12).

offering texts mentioned above, MARV 2 14 and MARV 9 21. A few texts describe the Agency receiving wheat, but these only link Talmuššu and Idu provinces to deliveries of wheat.²⁰ What is more, the two dated receipt texts both come from the first two years of Aššur-dān I, while of the two offering texts one covers the same period and the other comes from the year immediately before Aššur-dān I's accession. That is, the Agency only seems to have handled wheat bread for an interval of a few years. Two additional texts indicate that Agency dealt with wheat on occasion in earlier times, but allow us to say nothing about the scope of this use.²¹ As mentioned in II.1, after the early years of Aššur-dān I wheat—and consequently wheat bread—disappeared completely, only to return for a limited period in the year Ibri-šarre.

I would suggest the following solution. While wheat bread was normally part of the offerings, it was not normally funded by the *Gināu* Agency, but rather supplied directly by the palace. Thus, it tends to show up only in times of close palace involvement with the Agency. As we will show in III.1, the Agency's finances were in shambles at the start of Aššur-dān I's reign, and it took a considerable amount of outside intervention to get them back on track. During this intervention then, the Agency had occasion to supply some of the wheat bread, or at least interacted closely with the suppliers, causing the bread to appear in its texts. For the year Ibri-šarre a similar situation can be reconstructed. After the *maddattu* crises had stretched out for nearly a decade, drastic measures were taken and the Agency was briefly joined to an agency that handled bread and beer for the palace (see III.1). During this merger the Agency picked up some to the palace's wheat bread duties, only to lose them when the two agencies were separated

²⁰ MARV 5 3, MARV 5 5, MARV 8 94.

²¹ MARV 3 37, MARV 3 6.

again. During this period the combined agencies handled about one fourth to one fifth as much wheat as barley.²²

1.2.3 Completeness of the reconstruction

Adding together the figures reconstructed in the previous sections, the full roster of finished goods the Agency produced, including everything used in the offering and any unoffered goods issued directly to its staff, would be as follows:

100 <i>qa</i>	<i>haršu</i> bread (including 5 <i>qa</i> of oil and 5 <i>qa</i> of honey)
100 <i>qa</i>	<i>miṭru</i> bread
130 ⁷ <i>qa</i>	temple beer
10 ⁷ <i>qa</i>	SA.MAR <i>tābu</i> beer
4 <i>qa</i>	oil (for direct offering)
1 <i>qa</i>	honey
35 <i>qa</i>	fruit

At a milling rate of 63%, it would require a minimum of 318 *qa* of barley per day to make the bread, and a high-yield brewing rate of 100% would require an additional 140 *qa* or so per day to make the beer. Thus, the whole process would need at least 458 *qa* of barley per day. Complete offerings would also require at least 12.25 *qa* of oil, 6 *qa* of honey, and 35 *qa* of fruit. These figures match up nicely with the largest daily usage figures of about 550 *qa* barley, 12 *qa* oil, 6 *qa* honey, and 35 *qa* fruit calculated in II.1. In the case of non-grain commodities, the match the figures are virtually identical, meaning that the Agency cannot have spent more than trivial amounts of those commodities on anything else. With grain the margins are larger, but at a minimum some 83% of the Agency's grain expenditures must have been directed toward the daily *gināu* offering. It could devote small sums of grain to occasional offerings or other purposes, as we have reason to think it did (see "occasional rituals" below), but it could not do

²² MARV 6 73 has 300 *qa* of wheat and *hašlātu* alongside 1200 *qa* of barley products. In MARV 7 97 grain officials receive 450 *qa* of wheat and 2050 *qa* of barley.

much else. Elaborate offerings for the great festivals of the cultic calendar (like MARV 3 16) or even daily bread and beer payments of more than trivial size were beyond its means. In sum, then, the *gināu* was the *only* major offering financed by the Agency.

This, of course, is a strong claim. One might object that some of the reconstructed numbers are not entirely certain, particularly the milling conversion factor of 63%. That is a fair point, but one which the better attested commodities argue strongly against. The evidence is most compelling for oil. The budget text MARV 7 1 indicates that all of the oil spent by the Agency that year was used to meet the daily offering expenditures, apart from a small amount each day that went to meet a few small practical expenses. The text makes no mention of special disbursements for monthly or annual festivals, nor does it indicate that the Agency had any surplus oil which might have covered them. Moreover, assuming the Agency made *haršu* with the same ratio of oil and honey attested in Neo-Assyrian times, then it can have had at most about 360 *qa* of honey per year to cover both the daily honey offering and any additional expenditures.

We have no text as clear as MARV 7 1 for grain, but we were able to reconstruct that the Agency issued an average of about 300 *qa* per day to the major *alahhinus* with some certainty. The figures of 66 *qa* per day for the minor *alahhinu* and 134 *qa* per day for brewing are less firm but certainly of the right order of magnitude. Using the estimates for the loss of volume in milling and brewing discussed above those figures are just enough to provide the daily bread and beer for the offering. However, one might argue that the bread was being measured not by flour volume, but still by component grain volume; that is, the bread was made from 200 *qa* of grain. As discussed in II.1, this would be a very cumbersome way of measuring finished bread products in the context of offerings, but let us suppose it was so. Then the Agency would have surplus of

210 *qa* per day of grain. This could conceivably be used to finance other large rituals on a fairly regular basis.

There are two problems with this. The first is that these offerings could not have involved any of the Agency's oil and could only have used very small amounts of its honey. For small offerings this is not a problem, and indeed, the Agency did occasionally fund small offerings of bread and beer as we will discuss below. But, one would expect major rituals to involve oil and honey in some amount. Since the Agency could not afford to provide either without running a structural deficit, it seems unlikely it provided any additional large offerings on a regular basis.

The second issue is the consistency of grain distributions. As discussed in II.1, there was considerable variation in when and in what amounts the Agency made grain disbursements. Despite this, the major *alahhinus* reliably received about 100 *qa* per day—sometimes less, but never more—and the minor *alahhinu* and brewers received roughly two-thirds as much as a major *alahhinu*. If the Agency was providing occasional large offerings that were not daily, one would expect occasional large spikes considerably above the average levels. While there is some variation in the amount used by the minor *alahhinu* and brewers, we never find such large spikes.

Taken together, this evidence makes a compelling case that the bulk of the Agency's funds went into supplying the *gināu* offering alone. It could occasionally fund other small rituals from its own resources. As discussed in II.1 providing for such rituals seems to have largely been the responsibility of the minor *alahhinu*, to which he devoted the 50 *qa* or so of barley that he had left each day after completing his work for the *gināu* proper. These occasional offerings involved relatively small amounts of goods that the Agency normally handled, in most cases just bread. Indeed, it is not hard to see some of these minor rituals as a form of virement (III.3). An

outsider decided that an occasional ritual needed to be performed and so he scrounged up supplies from whoever happened to have them on hand.

1.2.4 “Missing” commodities

If this small set of commodities constituted the complete *gināu*, this raises the problem of what to do about the other foodstuffs known to be used in Middle Assyrian offerings. The text MARV 3 16 suggests a veritable cornucopia of items could show up before the gods. It would also be reasonable to think that the numerous special food items that appear in secular meals could also turn up as offerings from time to time (Gaspa 2011a: 245).²³ For offerings in general the point is well taken, but it would seem that these other items were not part of the *gināu* offering supplied by the Agency. The strongest evidence for this point is that the offerings described above account for virtually the entire income of the Agency, so that it could not afford to offer such additional items. What is more, no text clearly links the Agency with any but the standard commodities.

Three texts sometimes linked to the archive would provide this missing link, but as we will see presently, their association with the Agency is doubtful. The most interesting text is undoubtedly MARV 3 16, which gives an elaborate description of a great number of offerings.²⁴ At first glance one might think we have here a detailed description of the *gināu*, but this is impossible. Some of the numbers are damaged, but just the 19 standard trays for minor deities mentioned at the end required 38 *qa* of oil and 19 *qa* of honey along with a number of other commodities. These numbers are far in excess of the Agency’s daily expenditure limits for those two commodities (12 *qa* for oil and 6 *qa* for honey) and that does not even count the oil and

²³ Gaspa presents an impressive assortment of such items used in Middle Assyrian and comparable Neo-Assyrian offerings, though none of his examples can be clearly linked to the *gināu* itself (2011a: 247-248).

²⁴ For an excellent edition of this very difficult text see Llop (2009-2010).

honey needed for the larger offerings in the other sections of the text. Hence this text cannot describe a daily offering funded by the Agency and hence does not describe the *gināu*. In fact, as Postgate has noted, since the text has no find number, there is no reason to link it to the M 4 archive at all apart from its general concern with offerings (2013a: 119-120).

MARV 5 77 was another large tablet (originally perhaps six columns), which seems also to have listed an enormous number of individual offerings, including some unusual items. Yet the text has no obvious parallels in the Agency's archive, nor is its excavation number preserved. In addition, it comes from the reign of Tukulti-Ninurta I, which would make it one of the earliest tablets in M 4. Therefore, it is likely this text also was not from the Agency's archive and deals with different offerings.

Finally, there is the text MARV 1 33, which among other things deals with the confection known as a "ziggurat" cake. Pedersén linked the text to the archive based on its subject, but it has an excavation number linking it to the M 9 archive (1985: 52). What is more, none of the individuals in the text appears in the Agency's archive. Hence, it too probably reflects ritual preparations made outside the Agency.

We should turn to a few final items before leaving this topic. While animal sacrifice was no doubt a part of temple rites, it was evidently not funded by the *Gināu* Agency and may not have been a part of the *gināu* per se (Postgate 2013a: 120). Similarly, the Agency provided neither wine nor aromatic oils, though both were in use as offering items in Middle Assyrian times (Postgate 2013a: 120).

Taken together, these texts suggest that Assyrian rituals could indeed involve an extensive smorgasbord of items. However, these items were not supplied from the Agency's funds, but from outside sources. As we will discuss shortly, many of these unusual offerings

were probably part of the monthly and annual festivals that littered the Assyrian cultic calendar. For daily offerings a more subdued menu was in order, and this is exactly what the *Gināu* Agency provided.

1.3 Ritual elements

Now that we have a solid reconstruction of the foodstuffs used for the *gināu* offering we can turn our attention to the particular rituals in which they were used. Reconstructing particular ritual actions, procedures or the like, unfortunately, is essentially impossible given our evidence. For instance, we do not even know who presented the finished goods. It is conceivable that ritual presentation was part of the *alahhinu*'s task. A similar practice is well attested with the bakers in the first millennium Ezida temple in Borsippa (Waerzeggers 2010: 232-233). Closer to home, A Neo-Assyrian text describes the (*a*)*lahhinu* as having responsibility to protect against theft during rituals (Menzel 1981: no. 22). However, ritual specialists may have been involved for some or all of the process. We simply cannot say.

While the details of particular rituals may be beyond our grasp, the Agency did occasionally refer to various rituals that used *gināu* offerings. We can thus get an idea of what the rituals were, even if we must remain ignorant of what exactly happened in them.

1.3.1 Oil offerings

The oil expenditure text MARV 7 1 gives a useful itemized list of the Agency's expected daily oil expenditures for the year it was drawn up, and hence, at least some of the daily offerings it financed. Two items totaling 1.25 *qa* seem to be purely practical, going to a group of temple *rādīus* and the minor *alahhinu*. However, three entries clearly refer to rituals. One deals exclusively with oil, reading 4 *qa ana ēkalle* "4 *qa* for the palace" (12). The other two deal with

oil to be used for *haršu* bread. The first reads, *3 qa ana libbi 50 qa harše ša ūmešu innepšu-ni* “3 *qa* for going into 50 *qa* of *haršu* bread which was offered daily” (10-11). The second mentions *2 qa ana libbi harše ša ilānī ša āle* “2 *qa* for going in the *haršu* of the gods of the city” (13-14). These let us articulate three major portions of the offering: the palace oil, the main food offering, and food offerings for other gods.

We can get more detail though. The palace oil is the most straightforward of the three components mentioned in MARV 7 1. As that text indicates, it seems to have been offered daily at a fixed level. This would also explain why MARV 6 14, which describes oil expenditures at the palace, gives the number of days on which the offering was conducted, but not the amount. Since the offering was of a constant size, the latter figure could be easily calculated if needed.²⁵ As to its exact composition, the offering seems to have consisted of oil offered in its finished form. Thus, MARV 6 14 describes oil being *tabik* “poured out” for the offering, and not combined with other items.²⁶

The offering log MARV 6 65 gives us more information on the palace oil, since it distinguishes this offering from the *gināu* proper and gives the shortfalls for both. Comparing the data indicates that the palace oil was the less important of the two offerings, for it sometimes stopped while the *gināu* was still being made, but the reverse did not happen. Furthermore, whereas the *gināu* in this text is either described as *šalim* “complete” or *batiq* “cut off,” the palace oil can also be simply *tadin* “given” or *kali* “withheld.” The latter two terms are only used

²⁵ This is not idle speculation. MARV 7 1 appears to explicitly be making such calculations. The text worked out the amount of oil needed for a single day and then multiplied this by 360 to gain an estimate of about how much oil it should have gone through that year. It then compared this amount with the slightly higher amount actually spent that year.

²⁶ The verb *tabāku* is generally used to describe offerings consisting only of oil in the M 4 archive (Postgate 2013: 116). On the use of this verb in offerings more generally see Llop (2008b: 235).

when the *gināu* proper was still complete and seem to represent an administrative decision to economize by suspending the palace oil.²⁷

We can use this principle to address one complication in MARV 7 1. Before giving the oil budget for the year, that text notes that the Agency's sesame revenues were considerably below their nominal value that year. A generous subsidy from the palace was able to make up most, but not all of the difference. Thus, the offering schedule in our text must have been a reduced offering. Happily, we can arrive at a reasonable estimate of how much oil is missing.

Later in the text we learn that the offerings were occasionally augmented by between 0.75-2 *qa* of oil in an attempt to bring them closer to full strength. This suggests that an ideal *gināu* offering involved about 12 *qa* of oil, which, tidily, is the same figure we get if we divide the text's figure for the Agency's nominal oil income—4364 *qa*—by 365. Thus, about 2 *qa* of oil have been trimmed from the daily offering schedule outlined in MARV 7 1. While we cannot entirely prove it, I would suggest that this came out of the palace oil offering since it was considered the least essential part of the *gināu*. Of course, it is also possible that the oil went to some additional component which was dropped entirely from the daily budget. But, it seems more likely that the Agency, when operating this close to full capacity, would have moderately reduced one or more components of the offering instead of completely eliminating a single component.

1.3.2 Bread and beer offerings

Yet our information is not confined to oil. We also have reasonably good evidence for the bread and beer offerings that comprise the bulk of the *gināu*. At least two times during a crisis

²⁷ An additional badly damaged text, MARV 7 82, seems to have also dealt with oil expenditures including the palace oil, but in its current state one cannot say much else about it.

period the Agency drew up a schedule of daily offerings it planned on making. The text A 891 +² MARV 7 25 is too damaged to be very useful, but MARV 6 35 + MARV 7 26 is quite well preserved and gives us a good picture of the component offerings that comprised the *gināu*.

That text divides the offerings into two large groups based on whether or not their leftovers were transferred to the palace. This is made quite clear in the summary of the first half of the text, which includes the note *adi ša bēt Aššur u bētāt ilānī ana ēkalle* “including that of the Aššur temple and the temples of the gods—for the palace” (35-36). Like the oil expenditures in MARV 7 1, the bread and beer offerings in this section seem to have been divided into groups for offerings in the palace, the Aššur temple, and other temples.

The first is simply put under the heading *ēkallu* “palace.” This was likely a blanket term for a number of different offerings performed at the palace. Indeed, at least one text in the archive explicitly refers to offerings at the *bēt ili ēkalle* “the palace shrine” (MARV 5 7:14), and another refers to the *ilānū ša pī ēkalle* “gods of the palace entrance” (MARV 9 21: 7-8), although this may refer to a transfer of the leftovers of the *gināu* rather than a component of the offering itself. There is also good reason to think these palace offerings were itemized in a lost portion of A 891 +² MARV 7 25, as discussed in the edition of that text. In the case of MARV 6 35 + MARV 7 26, the text was drawn up during the short-lived merger of the Agency with its palace counterpart in the year Ibri-šarre (III.1), and one suspects that this text was drawn up for the benefit of palace officials. Under these circumstances, offerings actually conducted in the palace could be overseen by palace staff in person and did not require close itemization.

The second section (3-14), appears to deal with offerings made within the Aššur temple. It originally mentioned twelve gods, although only eleven can now be read.²⁸ A third, much more

²⁸ They are: Ea-šarru, Adad, Anu, Šin, Šamaš, Ištar, Bēl-šarru, Ellil, Marduk, Bēl-abrê, (broken), and Bēlat-Ēkalle.

damaged section, (15-34) detailed offerings made at other temples, sometimes referring to a god's name, and sometimes to a structure where the offering was made.²⁹

The text continues with a small group of miscellaneous offerings (2 *qa miṭru* bread and 1 *qa* beer) that apparently were not transferred to the palace (37-40), and then ends with 8.5 *qa* of bread and 20 *qa* of beer being issued to the Agency's staff.

Thus, it is clear that the offerings consisted of a number of small offerings made to various deities within the capital. However, two things should give us pause. First, the tablet strangely lacks an entry for the god Aššur or his spouse Mullissu. We can speculate that it was part of the "palace" section or perhaps used to supply the Agency's provisions, but the current evidence does not allow us to settle the matter.

Second, it is not clear that the gods or amounts on the offering roster were fixed. As we showed above, the total size of the *gināu* offering was fixed. However, it is conceivable that how this total amount was apportioned into individual offerings could vary over time. Indeed, MARV 8 15 may show exactly such variation. That text seems to include information on daily offerings conducted over a 37 day period. Happily, it includes many of the same deities mentioned in MARV 6 35 + MARV 7 26. The overlap in the readable names mentioned in the two texts is summarized in the following table:

MARV 6 35+	MARV 8 15
Gods	
Adad	
Amurru	Amurru
Anu	Anu

Figure II.2-3: Comparison of Offering Recipients in MARV 6 35+ and MARV 8 15

²⁹ As noted in its edition, it is attractive to see MARV 6 27 as concerned with the mechanics of transferring the finished bread products from the Agency to the temple of Šin to supply the component of the *gināu* offering to be conducted there.

Bēl-abrê	Aššur [?]
Bēl-šarru	Bēl-šarru
Bēlet Akkadê	
Bēlet-ēkalle	Bēlat-ēkalle [?]
Digla	
	Damkina
	Ea
Ea-šarru	
Ellil	
	Enki of the Abrê [?]
Gula	Gula
Hašnītu	
Ištar	Ištar
Ištar the star	
Marduk	Marduk
Nabû	
Nunnaītu	
Šamaš	Šalmu
Sîn	Šamaš
U.TU [?]	U.TU
Other	
	Adad-šuma-ušur
	Aššur KAL.MEŠ
<i>Bēt Šarrānī</i>	<i>Bēt Šarrānī</i>
	<i>šangû rabû</i>

Figure II.2-3 (cont.): Comparison of Offering Recipients in MARV 6 35+ and MARV 8 15

Since both texts have entries too damaged to read, it is unclear how many of the now unmatched names were originally in both texts, but even the preserved names show a high degree of overlap. Clearly there was a reasonable amount of consistency in which gods received offerings. When we turn the exact amounts offered, things are messier. It is frustrating that MARV 6 35 + MARV 7 26 breaks each offering into four components while MARV 8 15 gives a single figure, which might be one of the components or the sum of several of them. The numerical data from entries in both texts are summarized in the following table:

Entry	MARV 6 35+ Daily Amounts (in <i>qa</i>)				MARV 8 15 Daily Amounts (in <i>qa</i>)
	Bread #1	Bread #2	Temple Beer	SA.MAR Beer	(Unclear Commodity)
Amurru	1	x	0	0.5	0.5
Anu	x	x	x	2	4
Bēl-Šarru	2	2	x	0	2
Bēlet-ēkalle	4	0.5	0.5	0	0.5
Gula	0.5	x	0.5	0	1
Ištar	2+x	2	x	0	4
Marduk	3	3	x	0	1.5
Šamaš	x	x	x	0	3
U.TU	1	1	0	1	x
Bēt Šarrānī	x	x	0	0	0

Figure II.2-4: Comparison of Offering Amounts in MARV 6 35+ and MARV 8 15

Clearly the figures in MARV 8 15 do not neatly map to any combination of the MARV 6 35 + MARV 7 26 figures, though they are of generally similar size. As with the texts describing the size of the full offering, these texts were likely drawn up because the offering values had been altered from what was normal. But, with only a handful of damaged entries from two unusual texts, we simply do not have the information to reconstruct the schedule. Indeed, with such limited evidence, we cannot even say that there was a fixed schedule. It is entirely possible that the exact amounts of the component offerings were altered from time to time.

However, the general picture from MARV 6 35 + MARV 7 26, MARV 7 1, and MARV 8 15 is clear enough. *Gināu* supplies were used for various small offerings at the palace, in the Aššur temple, and in other temples in the capital. In addition, a small portion of the offerings was used to cover practical expenses related to Agency and temple operations.

1.3.3 Leftovers

Somewhat paradoxically, we can say more about what happened to the *gināu* foodstuffs after they were offered than during the offering process. As was common in Mesopotamian ritual

practice, some of the leftover food from the offerings also made its way to the palace. In Neo-Assyrian times this custom is well documented, for a sizable archive dealing with the daily leftover shipments from the Aššur temple has been recovered, as discussed above.

In Middle Assyrian texts, references to the practice are much rarer. This is to be expected. The Agency's documentation is mainly concerned with processing, and not the transfer of finished goods. The shipment of leftovers would represent a transfer of finished goods that had already been transferred once to make the offering. In addition, once the goods entered the palace they would be the concern of palace staff, whose archives have not been recovered.³⁰

Despite that, a few texts do refer to the transfer of leftovers. The clearest of these is again MARV 6 35 + MARV 7 26, which described the bulk the *gināu* being transferred to the palace. Two other texts describing periods of reduced offerings note *ana pān ilī/ilānī tašakkan . . . ana ēkalle ilaqqe* “you would put them before the god/gods . . . he would take them to the palace” (MARV 6 37: 4-5; MARV 7 68: 10-11). Another text has a similar passage entirely in the third person (KAJ 306a: 7-9). KAJ 306a indicates the commodities taken were an unspecified quantity of *miṭru* bread along with 100 *haršu* bread. In MARV 7 68 the quantity seems to be 50 *qa* of *miṭru* bread. However, this text comes from the Liptānu crisis, and we cannot generalize about the amounts.

MARV 9 21 is somewhat more promising. It comes from the same crisis, when evidently the offerings had been restricted to a few select feast days. For the day in question the Agency still came up short, but managed to put together a sufficiently large *gināu* that 90 *qa* of *miṭru*

³⁰ It is not clear to what degree the received goods would have been regularly documented by the palace either. Very few Middle Assyrian administrative texts deal with matters that personally involved the king, and it is conceivable that they were not normally drawn up, because they were directly authorized by the king. One finds an instructive parallel in Medieval Europe where kings might keep very detailed records on other financial matters but very rarely made an effort to systematically keep track of their own personal expenditures (see Webber and Wildavsky 1986).

bread and 80 *qa* of wheat bread could then be taken to the palace. The text further notes that none of the desired 100 *qa* of *haršu* bread had materialized, and hence the gods of the palace entrance were not able to receive any *haršu*, although they did receive their full amount of beer. As we will discuss below, the Agency's total daily bread production was normally only 200 *qa*, at least for barley. Ignoring for a moment the thorny issue of the wheat bread discussed above, it would seem that at least 90 *qa* of *miṭru* bread and 100 *qa* of *haršu* bread were supposed to go to the palace. That is, 95% of the Agency's barley bread was relayed to the palace after the offerings. We find much the same figure in MARV 6 35 + MARV 7 27. There 10.5 *qa* of bread, apparently all *miṭru* bread, was issued to the Agency staff and its associates, mostly at a rate of 1 *qa* per man. In contrast, the amount shipped to the palace was at least 170.5 *qa*. That yields a figure of at least 94 % transferred to the palace. As the two texts were composed more than half a century apart, it seems the percentage transferred to the palace was reasonably constant over time and was about 95%. Presumably the remainder generally went to the Agency staff and its associates, as in MARV 6 35 + MARV 7 27.

2 The ritual calendar

As the above discussion shows, the calendar of rituals funded by the *Gināu* Agency is not exactly eventful. When it had sufficient funds, it would make the same offering every day. Yet it would not do justice to the Agency's activities to stop our account there. The daily *gināu* offering was embedded in the much more complex ritual calendar of the Assyrian capital. This calendar included a number of days on which additional offerings were to be made. For convenience we will refer to these as "festivals." While such festivals might not cause the Agency to make larger offerings, they could and did affect what days it might reduce offerings

on in response to shortages, and sometimes affected the quality of ingredients used. Hence, to understand the administrative actions taken by the Agency we must have some idea what events were on the city's ritual calendar.

Unfortunately, getting at these offerings is not an easy affair. For one thing, under ideal conditions the Agency's contribution to any festival was just a full-strength *gināu* offering, which would be essentially indistinguishable from any other full-strength offering in the administrative record. The second problem is one we have seen before in the archive. The dates of major feasts of the cultic calendar were likely obvious to people who had spent several decades of their lives working at the same temple, and so they had little need to write them down in a systematic fashion.

2.1 Reconstructing the monthly festivals

Our best starting point is regular monthly festivals. From other periods of Mesopotamian history we have good reason to think that the Middle Assyrian cultic calendar included festivals linked to parts of the lunar cycle (e.g. Linssen 2004: 40-61). Since each Assyrian month coincided with exactly one lunar cycle, this would mean that any such lunar festival would occur on roughly the same day of each month. Hence, we can meaningfully speak of a "monthly festival of day x."

We must nuance this a bit though. As we know from other periods, it was possible for cultic activities conducted on a monthly basis to last more than one day. To capture this, we will assume that if two monthly festivals occurred within one or two days of each other, they were part of a single multi-day festival. For simplicity, we will name such festivals after the day on which they began.

We can get at these monthly festivals in two ways. One is to find explicit references to festival offerings on a particular day of the month in the Agency's archive. The other is to look at texts from crisis periods and find particular days of the month when the Agency repeatedly took pains to increase offering levels. As we will see, these two lines of evidence converge to reveal three monthly festivals, beginning on day 5, day 17 and day 26 and each lasting two to three days.

2.1.1 Explicit references to offerings (*niqiu*)

The simplest way to find out when the monthly festivals occurred is to look for days on which the Agency referred to them. At first this might seem a quite challenging. The *Gināu* Agency was in the business of making offerings, and one might posit that they used the same terminology for both the regular *gināu* offerings and those that were part of festivals.

Fortunately, this does not seem to be the case. To an outsider the *gināu* might indeed be like any other offering in general appearance, but it was likely not so for the Agency. Its members would have good reason to want to distinguish the *gināu* offering that they regularly financed from festivals which they did not. Fittingly, the Agency seems to have generally used the word *niqiu* to explicitly designate offerings made as part of festivals.

The term *niqiu* occurs quite frequently in Middle Assyrian texts describing offerings (Llop 2008b: 232-234), and it is not clear that it always had the precise technical sense of festival in the broader Middle Assyrian corpus. Yet the term could indeed be used this way in texts from outside the Agency. The clearest example of this is SAA 12 48, a Neo-Assyrian copy of a Middle Assyrian edict describing *ginû ša Tukulti-Ninurta ana Šarrat-nipha bēlte rabīte irkusu-ni* “the *gināu* which Tukulti-Ninurta (I) decreed for Šarrat-nipha, the great lady” (SAA 12 48: 61-62).

After describing in great detail the division of various cuts of meat, the text notes *naphar u'e ša niqiāte ša Addāru ša Tašrītu . . . āpiū šangû Šarrat-nipha ša bēt eqe ikkulū* “the bakers and the *šangû*-priest of Šarrat-nipha of the *bēt eqe* will consume all the grain of the *niqiu*-offerings of Babylonian Month XII and Babylonian Month VII” (r.3-4). In two other places in the text the baker and brewer receive special perquisites on the second day of those two months.³¹ Indeed, those are the only other references to offerings in either month in the text, which strongly suggests that they are the same as the *niqiu*-offerings (see Menzel 1981: T 8-11). An official also had to give the baker and the brewer the large sum of ten *minas* of copper each (r.15-16)³², which indicates the day two offering was not a regular daily offering, but a special festival.³³ Thus, the term *niqiu* in this text does not refer to a daily offering but a special offering made a few times a year.

Let us turn to the texts from the *Gināu* Agency. Two texts refer to an offering made on the evening of VI.3.Mudammeq-Bēl *ana niqiāte ša ūm 5* “for the *niqiu*-offerings of day 5” (MARV 6 20:10-12; MARV 7 48: 6). MARV 7 48 lists a number of subsequent grain disbursements made for the *gināu* offerings, but does not describe any of them with the term *niqiu*. Therefore, it would seem that the term *niqiu* referred to a special event.

We also find the term *niqiu* used to describe events on days 17-18. The offering log MARV 6 7 uses the term *niqiu* to describe events on XII.17-18, II.17-18, VI.17-18, and possibly V.17-18. Similarly, we read about grain for use in the *niqiāte ša Hibur* “*niqiu*-offerings of month

³¹ *errē bugurrē ša alpe ša ūm 2 ša Addāre ša ūm 2 ša Tašrītu āpiu sīrāšū ikkulū* “the baker and brewer will eat the intestines and *bugurru* cut of the ox of day 2 of Babylonian Month XII and of day 2 of Babylonia Month VII” (40-41).

³² *ūm 2 ša Addāru, Tašrītu 10 manā erū ana āpie 10 manā erī ana sīrāšē iddan* “(the governor) will give ten *minas* of copper to the baker and ten *minas* of copper to the brewer on day 2 of Babylonian Month XII and (day 2) of Babylonian Month VII” (r.15-16).

³³ This payment is far too large to give more than a few times a year. If it were given daily, it would cost 7300 *mina* of copper per year.

XII” in a text dated to XII.17 (MARV 10 89: 8-9). Lest one think that this refers to a full month’s *gināu* offerings, the text involves a total of 380 *qa* of grain, enough to supply only a little more than a single day’s full *gināu* offering. Barring some sort of serious catastrophe, we would expect a full month of *gināu* offerings to use considerably more grain. As we have no evidence for a major catastrophe in the year Bēl-libūr when the text was composed (III.1), it would seem that once again that term deals with a special event.

We thus have special events which occurred on day 5 and days 17-18 of their respective months. When an amount of grain is involved, the figure is around the amount required to make bread for one day’s full *gināu* offering, either 350 *qa* (MARV 6 20, MARV 7 48) or 380 *qa* (MARV 10 89).³⁴ Processing that amount of grain would entirely occupy the Agency’s normal milling capacity, which makes it unlikely the Agency made both a *niqiu* offering and a separate *gināu* offering on the same day. More likely, the term *niqiu* was used to refer to the full *gināu* offering for that day.

But, as we have seen, the Agency was not generally in the habit of describing its regular offerings with the term *niqiu*. Why then was it used here? I would suggest the scribe wanted to indicate that the offering was made during a festival. Given that there are references to a *niqiu* on days 17-18 of various months, it seems likely that there was a monthly festival on that day. Our data for day 5 refers to only a single date, but we might hypothesize that there was a monthly festival on day 5 as well. If our argument stopped here, the picture would be quite sketchy, with only one clear monthly festival, and another potential one. Happily, if we expand our horizons

³⁴ One never finds brewers receiving grain in these contexts. This makes sense since the disbursements to the *alahhinu*’s were made only a day or two before the festival in question. To have beer ready in time the brewers would have had to have received their grain a least a week before (II.1). Moreover, as discussed in the previous chapter, the brewers seemed to have worked in large batches intended to last several days. Thus there is a good chance no particular pot of beer was made with the express intention of being used in a particular festival.

we find firm support that both of these were monthly festivals, and we can even add a third festival at the end of the month starting on day 26.

2.1.2 Offering resumption data

To augment the *niqui* data we must scrutinize some of the Agency’s bleakest moments. As noted in III.2, when under extreme financial stress the Agency often resorted to restricting offerings to only a few days per month. For convenience we will call these offerings on isolated days “one-off” offerings. If the Agency could only finance offerings on a few days per month, it would be natural for it to make what few offerings it could on the most important days on the cultic calendar. More specifically, if offerings were repeatedly resumed on a particular day of the month, we would have reason to think there was a monthly festival on that day.

Two offering logs show this behavior (MARV 6 7, MARV 6 65), and the loan text MARV 7 56 seems to reflect a similar arrangement (see III.1). The pertinent data from these texts are summarized in the following table:

day of the month	MARV 6 7	MARV 6 65 (Palace oil)	MARV 6 65 (<i>gināu</i>)	MARV 7 56	Total
1					
2					
3					
4					
5	XII.5, I.5 [?] , II.5 [?] , III.5, IV.5, V.5	XI.5 [?] , XII.5, I.5, II.5		XI.5	11
6			XI.6		1
7	II.7, V.7 [?]	XI.7 [?] , XII.7, II.7			5
8					
9		XII.9			1
10					
11					

Figure II.2-5: Offering Log Data for Monthly Festivals

12					
13					
14					
15					
16					
17	XII.17, II.17, V.17 [?] , VI.17 [?]				4
18	XII.18, II.18, V.17 [?] , VI.18 [?]	XII.18			5
19					
20					
21					
22					
23					
24					
25					
26		X.26	X.26	X.26, XI.26 [?]	4
27					
28					
29					
30					

Figure II.2-5 (cont.): Offering Log Data for Monthly Festivals

As can be easily seen, the one-off offerings are concentrated on only a handful of days. This becomes even clearer in the following graph:

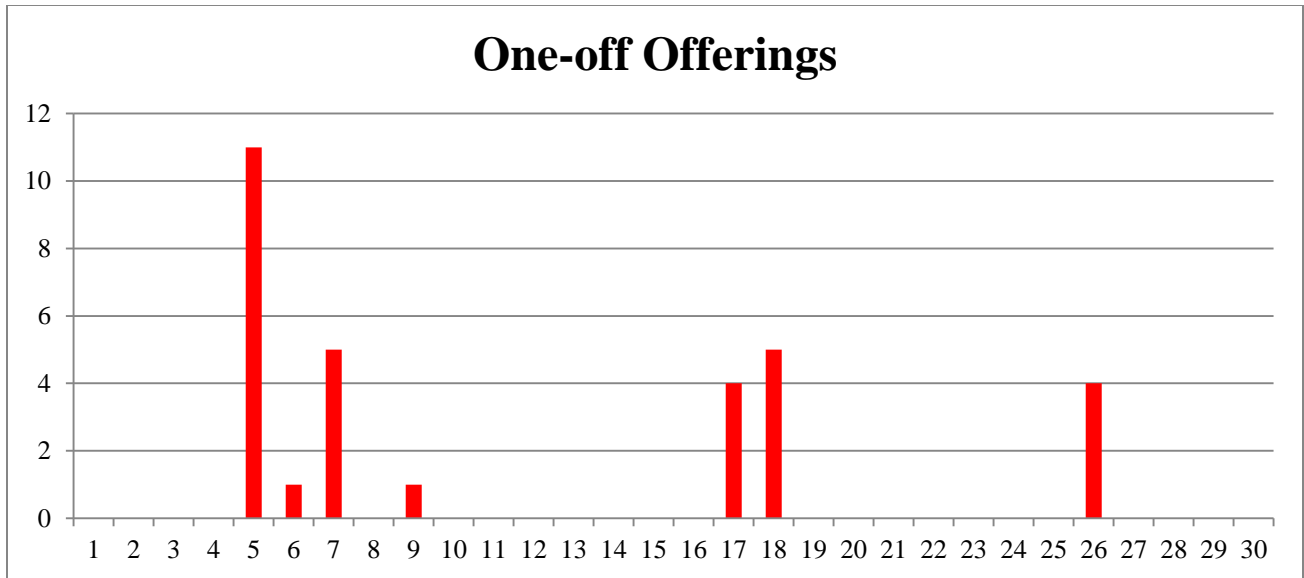


Figure II.2-6: Attested One-off Offerings by Day of the Month

What is more, we find that the three of the four largest peaks are on days 5, 17, and 18—exactly those days that we argued had monthly festivals in the previous section.

If we assume that the offerings on days 5-9 formed part of a single multi-day festival centered on day five, we arrive at a surprisingly neat picture with three major monthly festivals, beginning on days 5, 17, and 26.

2.1.3 Livestock transfers

There is another major way at getting at the major monthly festivals through administrative documentation. As noted by Postgate, the M 6 archive refers to a number of temporary transfers of animals to the *Gināu* Agency and similar institutions, apparently to allow the animals to be fed on the scraps left over from food productions (Postgate 2013a: 188-189). The texts from the M 6 archive which mention such transfers involving *alahhinus*, brewers, and temple gatekeepers are summarized in the following table:

Text	Date
Donbaz 1976 A 1735	II.24
Donbaz 1976 A 1747	II.28
Donbaz 1976 A 1750	III.9
Donbaz 1976 A 2606	III.28
KAJ 185	VI.6
KAJ 214	IV.5
KAJ 237	XII.19
KAJ 264	II.22
KAJ 282	VI.3
KAJ 283	II.28

Figure II.2-7: Attested Transfers of Livestock to Temple Personnel in M 6

If we plot these on a graph one can see possible clusters around day 5, day 17, and day 26:

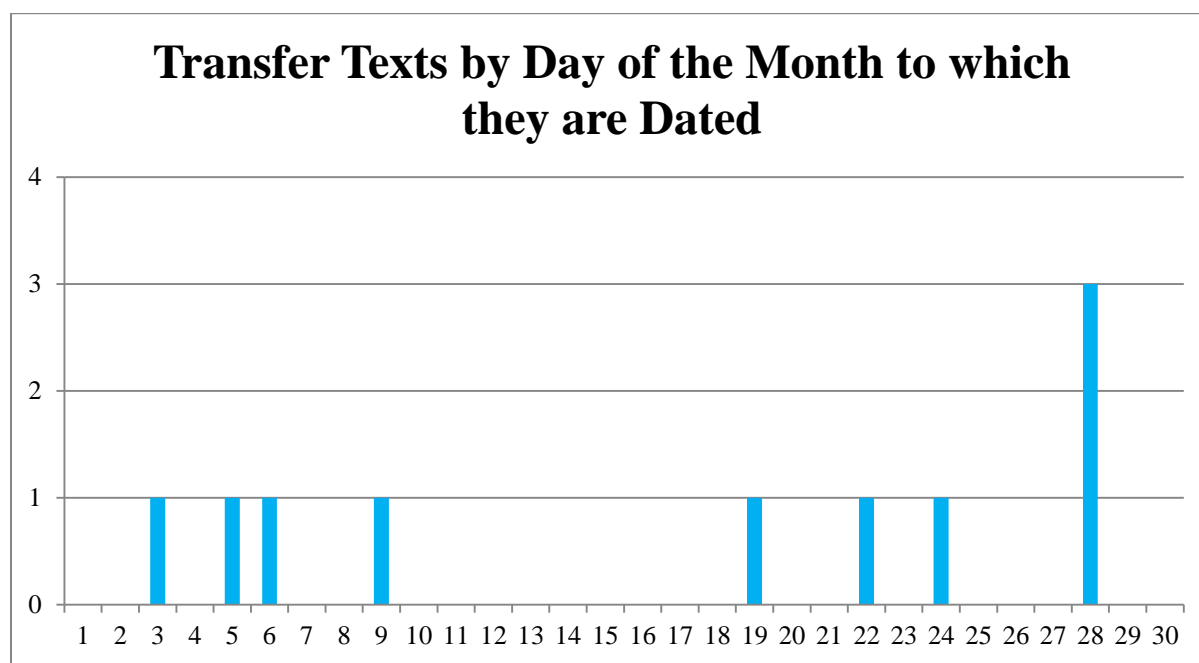


Figure II.2-8: Attested Livestock Transfers by day of the Month

By positing that most festivals lasted at least three days, we could also explain the transfers as providing animals to be sacrificed. However, this runs into the difficulty that the Agency does not seem to have coordinated animal sacrifices. In any event, with only 10 data points the picture is quite blurry, and by itself it would hardly be a convincing proof. What matters for us is that the

pattern they present is consistent with the monthly festivals we were able to discern from the *Gināu* Agency's archive.

2.2 Excursus: further information on the monthly festivals

With the dates of the major monthly festivals in hand, we have sufficient information to discuss the Agency's administrative activity. Yet, it is natural to wonder what else we might be able to say about these monthly festivals. As it turns out, we can also find the imprint of these festivals in a number of Middle Assyrian texts from outside the archive. Combining this with the Agency's own records it is possible to arrive at a fuller, if still not entirely satisfying picture of monthly festivals in the Middle Assyrian kingdom.

2.2.1 Day 5

The best attested of the monthly rites was that which began on day 5. The edict of Tukulti-Ninurta I, SAA 12 48, spells this out the most clearly, referring to the *dāriū ša ūm 5 ūm 7 ūm 15 ša Šarrat-nipha inneppašu-ni* “the *dāriū*-offering of Šarrat-nipha which will be sacrificed on days 5, 7, and 15” (9-10). As can be readily observed in the previous discussion, festival activity on day 5 is much better attested than on any of the following days. Indeed, apart from one anomalous offering on day 6 in MARV 6 65, one-off offerings only occur after day five if the text also records a day 5 offering that month. From this pattern, it is reasonable to posit that day 5 was the most important part of the festival. If there were only supplies available for a single one-off offering, they would go toward the offering on day 5. Only if additional supplies could be found would the Agency make offerings on day 7 as well. The one attested day 9 offering

seems to have been yet another tier down in importance since the only one-off offering on that day was made in a month that also has both a day 5 and a day 7 offering.³⁵

It is conceivable that the references to the fifth day in the M 4 archive refer to a feast that happened only a few times per year. However, there is considerable evidence against this. First, the passage in SAA 12 48 does not specify a month, in contrast to its subsequent discussion of the offerings on day 2 of Babylonian months VII and XII. The simplest way to interpret this omission in a carefully worded royal edict is that the offerings happened every month. This fits with the evidence from other Middle Assyrian administrative texts. We find references to a special offering on the fifth day of all but two months.³⁶

The texts allow us to give some particulars about this ritual. First, it seems to have involved a ritual called the *equ*, though it is not clear if this was the term for the whole ritual or simply a component part.³⁷ The ritual also had a vigil associated on the preceding night. Two texts from the M 6 archive describe the sheep provided for the royal meal that night.³⁸

³⁵ On the subject of the later days of the festival there is an interesting passage in MARV 10 4. There we find the tantalizingly damaged passage *niqiāte ša Muhur-ilānī* (. . .) *ūm 6 eppassu-ni . . . ūm 7 līme ša urke Ninuaya* “the offerings of month X which (. . .) he will make on day 6 . . . day seven of the year *ša-urki-Ninuaya*” (18-20). When complete the lines may have explained activities associated with the festival in considerable detail, though now they are too damaged to do much else than confirm that the festival could in fact extend to those days.

³⁶ Šippu: MARV 6 7
 Qarrātu: MARV 1 14, MARV 6 7
 Kalmartu: MARV 6 7
 Sîn: MARV 6 7
 Kuzallu: MARV 6 7
 Allānātu: MARV 3 32, MARV 7 48
 Bēlet-ēkalle: KAJ 291, MARV 10 68
 Ša-sarrāte: no references
 Ša-kēnāte: no references
 Muhur-ilānī: MARV 6 76
 Abu-šarrānī: MARV 6 65 (if correctly restored)
 Hibur: MARV 6 7, MARV 6 65

³⁷ In MARV 10 68 two jars of honey are disbursed on day 4 which *ana . . . ana ege ša Bēlet-ēkalle ērubu-ni* “had entered (the *bēt gināe*) for the sake of . . . for the *equ*-ritual of the goddess Bēlet-ēkalle” (8-10). On this ritual see KAR 139 and SAA 12 48. It seems normally to have involved animal sacrifice, but it is difficult to say much more.

³⁸ KAJ 200, KAJ 207

At least on some occasions the king attended in person. This comes across the clearest in MARV 1 14, which refers to preparations made *ina ūmi šarru ištu Kār-Tukulti-Ninurta niqīāte ša ūm 5 ana šallume ana Libbi-āle ēberan-ni* “when the king crossed over from Kār-Tukulti-Ninurta to the Inner City to complete the offerings of day 5” (28-30). In another text we read 1 *hurāpu ana naptene ša Ninurta-tukul-Aššur nubattušu epiš* “one spring lamb was sacrificed at the vigil for the meal of Ninurta-tukul-Aššur” (KAJ 200:1-5). Ninurta-tukul-Aššur was at least de facto king of Assyria, though his exact position is debated (Postgate 2013a: 177).

It may have been possible to celebrate the ritual while the court was out of town. MARV 3 1, a monthly account of expenses for the royal court, gives the court’s location on days 5-7, mentions *nubattušu* “at night/ its vigil” and then proceeds to give an itemized account of bread given to various members of the court (I.6-33). This could well refer to food distributed as part of the festival, but unfortunately the text is too damaged to prove the point.

But it was not just the king and his courtiers who were involved in the day 5 festival. It seems that provincial officials also made an effort to be involved in the offering in the capital. In one damaged text an official from Aššur province states that *šēpīya ūm 5 ana šallume ana Libbi-āle . . . uššabit* “I took my feet to the capital for completing the day 5 (festival)” (KAV 217 5’-6’). Similarly, the text Jakob 2009 41 seems to refer to officials travelling to a rendezvous with the king on day 5 of an unnamed month. As noted by Jakob, this seems to have been a daytrip from Harbe (Jakob 2009: 76). Strikingly the men in question, including their compatriot who stayed in Harbe, were not issued rations on that day, although they received rations on days 3, 4, 6, and 7. One could nicely explain this by assuming that these men received leftovers from the

The term *nubattušu* also shows up in a disbursement made by the Agency to cover the day 5 offerings (MARV 6 20:10-12). However, as argued in II.3, this is better seen as referring to the time of day the grain was received.

king's day 5 offering and brought back some for their companion, though this is, of course, quite speculative.

Other officials took pains to send supplies. In MARV 3 32, the governor of Kilizu has his son borrow 20 *qa* figs from the *Gināu* Agency *ana ūm 5-šu* “for his day 5 (festival)” (13). More strikingly, KAJ 291 contains the order *100 immerū 42 urīšū ina urhe annie-ma ūm 5 arhiš ana Libbi-āle ana muhhi šarre bilā niqiāte ana epāše . . .* “bring 100 sheep and 42 goats on this month's fifth day quickly to the Inner City to the king! To perform the offerings . . .” (1-8).

The attestations are too few to say how often governors and other high officials became directly involved in the day 5 festival. Certainly the governors of the more distant provinces cannot have been in the habit of travelling to and from the capital every month. Indeed, the prolonged absence of the official who attended the offering in KAV 217 seems to have resulted in some rather unpleasant legal complications dealt with later in the text. But, it is possible that high officials were expected to send an agent to the offering, or perhaps contribute supplies from their households in the capital. For now we can do little more than speculate about the details.

In addition to the people who were present, we can also say something about the foodstuffs that were used for the festival. In addition to a full *gināu* offering the day 5 festival seems to have involved additional quantities of oil³⁹, honey⁴⁰, and fruit⁴¹ not taken from Agency funds. MARV 1 33 refers to some unusual baked goods distributed on day 6, which could well be for the secondary offering on day 7. Furthermore, the offerings also involved sheep. Two texts refer to animals for the *naptunu* “dinner” the preceding night, and KAJ 241 refers to 142 animals

³⁹ MARV 6 76

⁴⁰ MARV 10 68

⁴¹ MARV 3 32

being sent to the capital, apparently for use in the festival.⁴² They may also have involved large quantities of cedar, if the date of MARV 1 23 is correctly restored as between days 2 and 4.

2.2.2 Day 17

The second festival we were able to isolate in the Agency's administrative documents began on day 17. Based on the frequency of one-off offerings, it appears to have been less important than the day 5 festival, but more important than the day 26 festival. Curiously, the Agency was more consistent in referring to this festival with the term *niqui* than the day 5 festival (see MARV 6 7). This suggests it was perceived to have a different character than the other monthly offerings, but we can say little about what this difference might have been.

As for the festival itself, the main event appears to have been on day 18. This is clearest in MARV 10 89, which refers to a disbursement of 380 *qa* of grain issued to the *alahhinus ana niquāte ša Hibur* "for the *niqui*-offerings of month XII" on XII.17 (8-9). The amount is a bit larger than the 350 *qa* normally allotted for a full day's offering, but it still seems likely that this was intended to cover offerings on a single day. Since the Agency's staff normally required a day to mill the grain before it could be made into bread (II.3), the earliest a full day's offering could have been produced from the grain would be on day 18. Of course, finished bread products can be used the day they are received and we find a few texts involving bread transactions which can be linked to the festival. In MARV 7 57 the Agency received 1 *qa* of *tappinnu* bread from its associate Šamaš-arnī-puṭur, which can be seen as virement intended to cover a small shortage in the day 18 offering. In MARV 9 81 we find the actors reversed, with the Agency issuing 1 *qa* of bread *ana ape ana bēte Kaššiu* "for the *apu* at the house of Kaššiu" (5-7), again likely an act of virement to cover festival related expenses.

⁴² KAJ 200, KAJ 207

Similarly, livestock can be cooked and eaten on the same day that they are received and we find some examples of livestock issued for offerings on day 18. In Weidner 1935-1936 49 we read that on I.18 2 *ana pān Šarrat-niphe epšū* 2 *ana muhhe uššē ša bētāte eššāte epšū* “2 (sheep) were sacrificed before Šarrat-niphe; 2 (sheep) were sacrificed at the foundations of the new temples” (3-8). Similarly, in KAJ 254, dated to II.18 1 sheep is allotted for what are apparently sacrifices at six locations in Aššur, and a further 3 sheep are allotted *ana niqiāte ana Mārat-Anim* “for the *niqiu*-offerings of Mārat-Anim” (3). Again, it seems that there was a major festival offering on day 18. Note that KAJ 254 also includes an entry of one sheep *ana ūm* 19 “for day 19,” which may refer to a small subsidiary offering on day 19 (16). In sum, then, we have evidence for a festival centered on day 18, but including offerings on day 17 and possibly also day 19. The festival is perhaps to be tied to the full moon, which should have happened two days before on day 15, though why the peak day of the festival should be three days after the full moon remains unclear to me.

2.2.3 Day 26

The final monthly festival seems to have begun around day 26. While it cannot be proven, it seems likely that this was intended to bookend the more important day 5 festival, with one festival four days after the start of a month and the other four days before its end.

Curiously, this is the only festival which the Agency’s documents never described with the term *niqiu*. Even so, we can find possible references to a festival on this day in at least four Middle Assyrian documents. The only explicit and unambiguous reference to the festival comes in a small disbursement text from our archive, which refers to preparations on day 25 for a ritual called the *sisīt ile* “the calling of the god” (MARV 9 110: 13). Unfortunately, it is unclear if this name referred to the festival itself or to the occasional ritual described by the text which was

apparently conducted as part of it. This festival may also have been the occasion for the extraordinary oil offering record on day V.20+x in MARV 6 76. In fact, in keeping with our conjectural link between the day 5 and day 26 festival, the other oil offering described on that tablet occurred on X.5 and could be taken as part of the day 5 offering. But this is speculative.

Outside the Agency's archive the picture is not much clearer. The text KAV 110 refers to wine *ana isinne ina ūm 28* "for the festival on day 28 (of month V)" (3-4), which can be seen referring to supplies for a continuation of the festival on day 28. In addition, KAJ 124 refers to a smith receiving copper . . . *mugerre ša šākulte* "[for the . . .] of the chariot of the *šākultu*" (3), on Kalmartu 27, which could also be a last-minute preparation for a ritual on day 28 as the term *šākultu* is generally associated with ritual activity (see below) . Taking these together, we have possible evidence for a festival around day 26 in at least four months, which favors that this was indeed a monthly festival.⁴³

If all these passages are correctly understood to refer to the same festival, then the festival would have involved bread, oil, wine, and a chariot—but this is far from certain. What is perhaps more interesting is that grain allotted to furnish bread for the ritual in MARV 9 110 is 132 *qa*, less than half of the grain required for a full *gināu* offering. Moreover, the text involves not only the usual *alahhinu* staff, but also a number of named bakers. I would suggest that the text refers to a baking duty over and above the normal *gināu*.

As is apparent from the few attestations of the day 26 festival outside the Agency, it does not seem to have been as great an affair as the day 5 and day 17 festivals. Hence, in times of crisis, making sure that there was a full offering to accompany the day 26 festival was not very

⁴³ Month III: KAJ 124
Month V: KAV 110, MARV 6 76
Month VII: MARV 9 110
Month X: MARV 6 65

high on the Agency's priorities. Compounding the problem, if the Agency had enough supplies to cover all three monthly festivals it would be close to having enough supplies to fund offerings on continuous blocks of days or offer small *gināu* offerings on every day of the month, both of which were also fairly common practices in the archive (see III.2). In order for the day 26 offering to receive a one-off offering, the Agency's supply levels needed to be in a small range which was large enough to cover several offerings per month but not large enough for the Agency to abandon making one-off offerings. This was a rather unlikely scenario, and it is hardly surprising that it happened only infrequently.

2.3 Annual festivals

In cultic calendars from other periods of Mesopotamian history we find that there are often festivals which occurred once every year on the same calendar date (e.g. Linssen 2004: 61-91). Hence, it is reasonable to think that the Middle Assyrian cultic calendar also included annual festivals. These are harder to spot in the documentation of the *Gināu* Agency. There are no months with clear peaks in disbursement frequency among the small disbursement texts. This is not surprising; while the total offerings for these rituals probably increased dramatically, the *gināu*-offering and hence the contribution of the *Gināu* Agency did not.⁴⁴ On analogy with the one-off offerings on monthly festivals, one might posit that the Agency arranged to have full *gināu* offerings during major annual festivals in crisis periods. Unfortunately, no clear pattern of annual festivals seems to emerge from the crisis documentation.

⁴⁴ We see this principle at work in the Neo-Assyrian archive leftover archive (SAA 7 182-219). There, while the amounts of many of the goods in the leftover shipments can vary dramatically as a consequence of the particular festivals going on, the amount of *gināu* bread is with a single exception, always exactly 11 *qa*.

2.3.1 The *tākultu* and *šākultu*

Here we must look a bit outside the archive. Several inscribed jar fragments found at the Aššur temple appear to refer to festival activity (A.0.76.27, A.0.76.28, A0.77.25-27). One of these reads *ša [Bēt Aššur] ša tākulte ša rēš šarrūti ša Adad-nērārī uke* “Of the Aššur Temple, of the *tākultu* of the accession year of Adad-nērārī I, the king” (A.0.76.27). Another *ša Bēt Aššur Adad-nērārī šar [māt] Aššur ina 3-te tākultišu ēpuš* “Of the Aššur Temple. Adad-nērārī I, king of the land of Aššur, made it in his third *tākultu*.” It is difficult to believe that kings would ascribe ordinal numbers to a monthly or daily offering, for the numbers would quickly become very large. Rather, it seems better to think the term *tākultu* here referred to an annual festival, or perhaps an occasional festival conducted only once every several years. Certainly, an infrequent but important festival seems like the sort of thing which would involve specially inscribed commemorative jars. Thus, we have at least one clear example of a major festival that occurred once a year or less.

Given we have a clear association of the word *tākultu* with an annual or occasional festival, it would be reasonable to conclude that *tākultu* is the technical Assyrian term for such a festival. Indeed, variations of this assertion have already been made in the literature. Frankena assumed the *tākultu* in that text was the same as the Neo-Assyrian ritual known as *tākultu*, and used it to date the ceremony to XII.10 on the Middle Assyrian calendar (Frankena 1954: 57). Wiggermann went further, arguing that both the term *tākultu* and the related term *šākultu* referred to a single yearly ceremony (Wiggermann 2008b: 560).

Unfortunately, the Middle Assyrian scribes do not seem to have been as precise as these theories would require. Here it is best to start with the issue of chronology. If the term *tākultu* referred to a single annual ritual in Month XII, one would expect references to it to cluster

around that time, but this is not so. At Billa we find an *alahhinu* being given foodstuffs *ana tākulte* “for *tākultu*” on I.19 and VI.10. Conceivably the festival could have been pushed back a month at this particular site, but that does not explain the reference in Month VI as well.

Moreover, the amount involved in both cases is only 200 *qa*. An *alahhinu* in the *Gināu* Agency would have processed that amount in two days. It might have taken a provincial counterpart with a smaller milling team longer, but hardly more than a week or two. Thus, it seems inescapable that the term *tākultu* did not refer to a single annual event at Billa. The term must have referred to some more general act of supplying food.

Now that we have at least one clear example that the term *tākultu* could refer to something separate from a major annual festival, the question becomes, just what could it refer to? The Billa texts sound like they are describing a simple contract to supply food. Although this interpretation is not the only possible one, several other texts also require an explanation along those lines. In Shibata 2012 an official is instructed to repurpose grain with the note *lū tākultu ša mārat šarre ša 14 umāte* “let it be for (providing) the *tākultu* of the princess (for a period) of fourteen days” (13-14). A fourteen day banquet is not impossible, but it would require that daily expenditures in the banquet only amounted to about 30 *qa* of flour per day, perhaps equivalent to 50 *qa* of unmilled grain, subsistence rations for at most 50 adult men.⁴⁵ Amounts that small distributed over such a long period look much more the like a simple effort to supply the princess and her retinue with food while they were passing through the area. In the same vein, a total of 196 *qa* of grain is issued in small amounts to various minor officials in CTMMA 1 99 *ana tākulte* “for *tākultu*,” almost certainly for rations.

⁴⁵ This is based on the conversion between grain and flour of 63% derived in II.1.

We find this usage also in MS 1896/1, where a certain Sāme receives a quantity of grain *ana teāne u tākulte* “for grinding and *tākultu*” (7-8; see Llop forthcoming). As Sāme is contractually obligated to return the milled grain later in the text, this cannot mean that he is to distribute the milled grain. Instead, the *tākultu* seems to be part of the milling process. As we saw in II.1, the Agency issued rations to its milling staff out of the lump sum of grain they were to mill, and it is quite attractive to see the term *tākultu* here as referring to this same arrangement. In the same general vein, in three texts describing the division of harvested grain one finds a budget line *ana tākulte* “for *tākultu*” immediately following the lines dealing with rations (*kurummatu*).⁴⁶ This again suggests that the *tākultu* is not a particular ritual but a general type of expenditure that needed to be planned for.⁴⁷

Perhaps the most dramatic attestation, though, is in MARV 5 83, where we find the lines *naphar 508745 qa ina sūte labīre ana tākulte ša līme Abī-ilī ana Ubre mār Adad-šuma-iddina rab ālānī tadin* “total 508745 *qa* by the old *sūtu* was given to Ubru son of Adad-šuma-iddina the overseer of cities for the *tākultu* of the year Abī-ilī (26’-28’). The context is unfortunately damaged, but the sheer size makes it unlikely to be for a single festival. That would be enough grain to feed 70,000 adult men for almost six days⁴⁸, a feat not far removed from Aššurnāširpal II’s celebrated ten-day banquet for 70,000 people in the city of Kalhu in Neo-Assyrian times (A.0.101.30). As Aššurnāširpal’s famous banquet inscription bears witness, even for a king with access to the immense resources of the Neo-Assyrian Empire, such a feast could be seen as an impressive accomplishment worthy to be commemorated in an inscription. One doubts that the

⁴⁶ MARV 4 47: 21’, BATSH 9 69: 28, BATSH 9 78: 12

⁴⁷ Admittedly MARV 9 18, a harvest division text does have a line item *ana gināe* “for the *gināu*,” but to my knowledge it is the only harvest division text with an entry made for ritual provisions (24). The text has other peculiarities such as the enigmatic reference to *bēlē kurummate* “ration owners?” (23) and finished bread products (25).

⁴⁸ If one converts from old *sūtu* to *hiburnu sūtu*, in which wages are usually calculated, one arrives at a figure of 406996 man-days worth of grain.

smaller and poorer Middle Assyrian kingdom could have done the same. More likely, this refers to grain allotted for rationing a force of about 1100 adult men (or larger amounts of women and children) for the year Abī-ilī. Indeed, one finds about 1000 *šiluhlu* apparently on full time state payroll in MARV 1 6, and the number of men provisioned through the writing board system could also reach into the thousands (e.g. MARV 1 1, MARV 2 17).

More ambiguous are KAJ 92, which refers to a group of sheep given *ana tākulte ša Ninua* “for the *tākultu* of Ninua” (4-5) and BATSH 9 101, which mentions 200 *qa* of spices given to a governor *ana tākulte ša Libbi Āli* “to the *tākultu* of the Inner City” (15-16). Both texts could refer equally well to a general providing of food or to the supplying of a particular ritual. Indeed, since both texts are dated to Month XII, they could conceivably refer to supplying the same ritual celebrated in different cities.

The attestations of *šākultu* raise similar problems. This term does seem to refer more specifically to a ritual or formal meal of some kind. Wiggermann cites an unpublished letter, T97-34, dated to XII.8 in which the grand vizier Ilī-padda asks his servant to ensure perfume is ready because *ina šākulte šamna ana muhhi šarre utabbak* “I will be pouring out oil for the king at the *šākultu*” (Wiggermann 2008b: 60). Similarly, the Middle Assyrian laws state that a man who pours oil on a woman’s head or offers other gifts on a *ūme rāqe* “day without work” or at a *šākultu* cannot take legal action to recoup the spent items (see Roth 1997:169). Whatever a *šākultu* was, it was important enough that it could serve as the occasion for large gifts.

We also find reference to repair work on the *mugirru ša šākulte* (KAJ 124:3) begun on III.27, as mentioned above, and to fattened birds *ša šākulte* being eaten on IX.17 (KAJ 247). Although T97-34 seems to imply its ritual is annual, the other texts are dated to two other months (Wiggermann 2008b: 60). Hence, it is unlikely all attestations of the term refer to a single

annual ritual conducted at the same time throughout the kingdom—though this is not impossible if one makes the heroic assumption that the preparations took the better part of a year. These references could also all be explained as involving generic banquets, like *tākultu*. However, none of them requires such a reading. The term only shows up in clearly ritual contexts (T 97-34, KAJ 247), or associated with what seems to be a piece of ritual paraphernalia (KAJ 124). As there only seem to be a handful of instances of the term currently known in the Middle Assyrian administrative corpus, one cannot say much more.

Putting all this information together, we find that *tākultu* can refer to supplying food in a very general sense that could include a large annual ritual but also mundane things like rations for millers (Postgate 2013a: 322). The term *šākultu* appears in more clearly ritual contexts, but the evidence there is still ambiguous, and we cannot say that there was a specific *šākultu* ritual either. In sum, we know there was a large annual festival, but we do not know its proper name.

2.3.2 The XII.20 Event

If we want to find annual festivals in the Assyrian cultic calendar, it seems we cannot simply hunt for the occurrence of a particular word. However, annual festivals in general involve large amounts of food, which is the sort of thing likely to leave an impression in administrative documentation. One serious candidate was suggested by Wiggermann, who proposed a link between the disproportionate number of sheep inspections conducted on XII.20 and a major festival in that month (Wiggermann 2008b: 560). Building on this idea, Cancik-Kirschbaum and Johnson among others have noted that the date XII.20 seems to have been occasion for settling up a number of different accounting matters in the Assyrian administration and have suggested a link to the cultic calendar (Cancik-Kirschbaum and Johnson 2011-2012: 40). More generally, a

heuristic sorting of the published Middle Assyrian corpus by the month and day of the month to which each is dated reveals an enormous spike on XII.20, as is shown by the following graph:

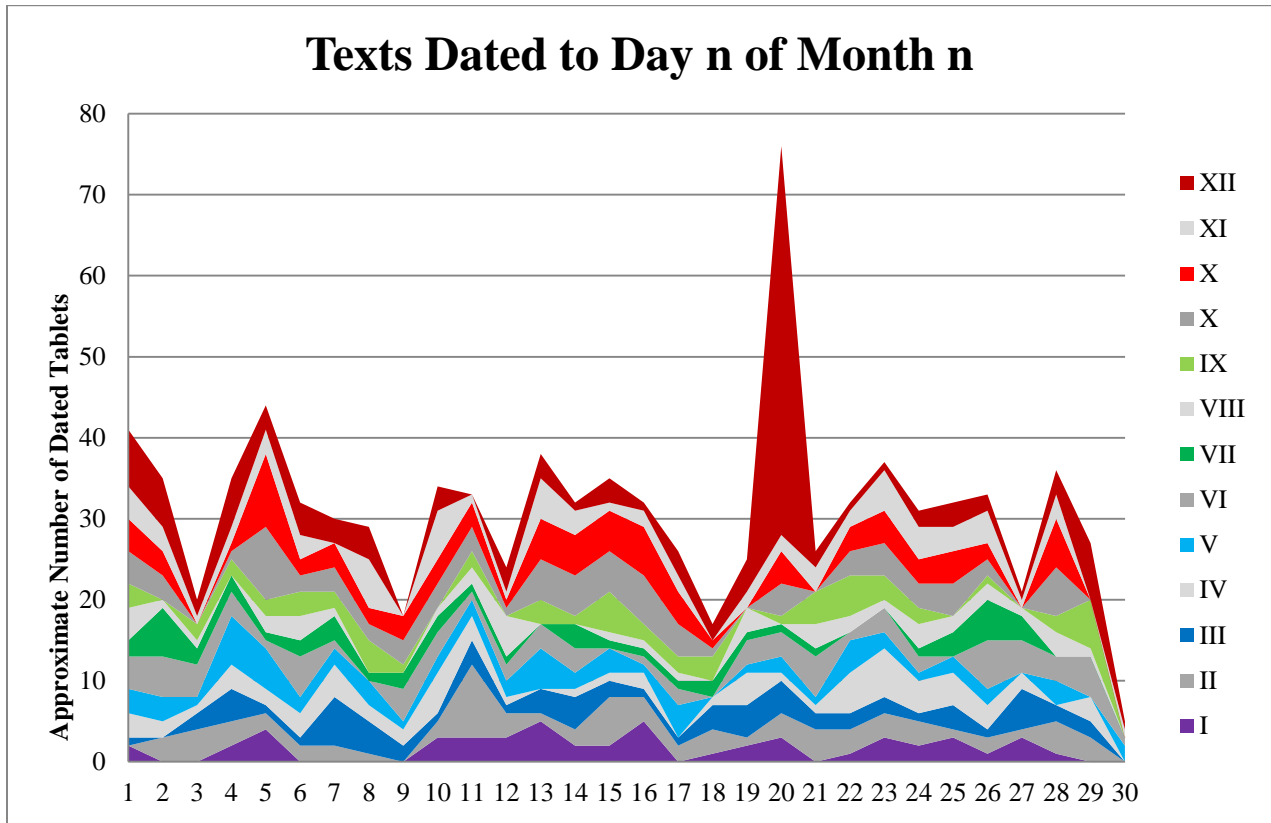


Figure II.2-9: Texts in the Middle Assyrian Corpus by Date

Before we explore the link to a possible annual festival, it will be useful to outline what we know about the XII.20 event. It is best attested in texts dealing with inventorying livestock⁴⁹, the formal division of harvested grain (*piširti karue*)⁵⁰ and other matters involving grain⁵¹. It also shows up in a few texts involving wool delivery⁵² and textile manufacture⁵³. Most importantly, it

⁴⁹ BATSH 9 3, BATSH 9 7, BATSH 9 8, BATSH 9 9, BATSH 9 12, BATSH 9 19, BATSH 9 23, BATSH 9 24, BATSH 9 26, BATSH 9 35, BATSH 9 43, BATSH 9 48, BATSH 9 51, BATSH 9 52, BATSH 9 53, KAJ 289, Tsukimoto 1992 A

⁵⁰ BATSH 9 60, BATSH 9 73, BATSH 9 74, BATSH 9 75, BATSH 9 76, BATSH 9 78, BATSH 9 81

⁵¹ BATSH 9 65, BATSH 9 66, BATSH 9 68, BATSH 77, BATSH 9 79, BATSH 9 88, BATSH 9 90, BATSH 9 93, BATSH 18 46, BATSH 18 47

⁵² Arnaud 1991: no. 103

seems to have been the occasion for adding and removing individuals from the writing board system. Thus we find in the text MARV 2 17, an enormous summary of rations given to several thousand workmen, virtually all the preserved accounting periods end on XII.20, including workmen from two of the writing boards. The three preserved entries that can be shown to have ended at a different date are six *šalimpayû* “architects” and their wives (82-85), sixty *šābē še bēt nupāre* “men of the workhouse” (86-90), and eighty Kassites (91-94). The text does not indicate any of these groups were part of the writing board structure. In fact, we have other reasons to think they were not.

This is most straightforward for the Kassites. MARV 1 1, another large summary of rations for thousands of people, shows separate provision structures for Kassite deportees as opposed to the writing boards. The *bēt nupāre* seems to have been a type of prison in this period (see CAD s.v. *nupāru* A in *bīt nupāri*).⁵⁴ It may well have had a separate provisioning system.⁵⁵ Finally, the architects appear together with their wives. References to women are otherwise quite rare for the writing board system, which seems to have generally supported only adult men.⁵⁶ However, support for whole families was the norm in the M 8 archive, and one suspects that the architects were normally paid through it or a similar institution.

If the men levied on the writing boards were dismissed on XII.20, then one might expect new ones to be formed soon after. Indeed KAV 156 seems to describe exactly that, with several named individuals being entered (*šaṭir*) on the army’s rolls (though not explicitly the writing boards), on XII.21, the very next day.

⁵³ BATSH 18 47, Röllig 2002: no. 5, Röllig 2002: no. 6

⁵⁴ e.g. Aynard and Durant 1980 no. 1. Jakob 2009 79 suggests a similar institution existed at Harbe.

⁵⁵ The unfortunately damaged text MARV 4 100 appears to be describing this system, although the details are hard to recover.

⁵⁶ Another example of a woman apparently rationed via the writing boards occurs in KAJ 245, but this is the only clear example known to me in the published Middle Assyrian corpus.

Thus we have compelling evidence for a major administrative event occurring on XII.20. However, the distribution of these texts yields more information. While most of the texts involving this event come from Dūr-Katlimmu, MARV 2 21, KAV 156, and KAJ 289 all come from the capital, showing that the event occurred at least in those two cites. Given their separation, it seems reasonable to assume that the event occurred throughout the Assyrian state. Indeed, Ismail and Postgate 2008 8: 10-12 refers to an offering of seven sheep in the eastern provinces on day 20, which may be another attestation of the event outside the kingdom’s major urban centers, though this is only speculation.

While the event may have had a broad geographic distribution, its temporal distribution is more circumscribed. The bulk of the texts come from the last half decade of Shalmaneser I’s reign and the first two decades of Tukulti-Ninurta I’s. Moreover, they show a consistent pattern. This is clearest in the texts describing the formal division of the harvest. These texts can be easily and unambiguously identified by the presence of the phrase *piširti karue* “division of the grain heap.” Fully datable texts of this genre are attested back to the eleventh year of Shalmaneser I. The dates are given in the following table:

Text	Month	Day	Eponym	Regnal Year
BATSH 9 6	IX	29	Mušallim-Aššūr	Shalmaneser I.11
BATSH 9 70	XI	8	Ina-pī-Aššur-lišlim	Shalmaneser I.14
BATSH 9 63	X	14	Aššur-dammeq mār Abī-ilī	Shalmaneser I.18
MARV 3 4	XII	10	Lullāyu	Shalmaneser I.21
MARV 2 23	XI	5+x	Aššur-da’issunu mār Lullāye	Shalmaneser I.22
BATSH 9 60	XII	20	Aššur-kēttī-īde	Shalmaneser I.24
BATSH 9 64	II	13	Ubru	Shalmaneser I.30
BATSH 9 85	II	16	Ubru	Shalmaneser I.30
BATSH 9 86	XII	15	Ubru	Shalmaneser I.30
BATSH 9 81	XII	20	Adad-bēl-gabbe	Tukulti-Ninurta I.4
BATSH 9 73	XII	20	Libūr-zānin-Aššūr	Tukulti-Ninurta I.6
BATSH 9 74	XII	20	Aššur-nādin-āple mār šarre	Tukulti-Ninurta I.7

Figure II.2-10: Harvest Texts from the reigns of Shalmaneser I and Tukulti-Ninurta I

BATSH 9 75	XII	20	Urad-ilānī	Tukulti-Ninurta I.8
BATSH 9 76	XII	20	Abattu mār Adad-šamšī	Tukulti-Ninurta I.10 or 11
BATSH 9 78	XII	20	Aššūr-da'ān	Tukulti-Ninurta I.12
MARV 5 83	(broken)	28	Abī-ilī	Tukulti-Ninurta I.21

Figure II.2-10 (cont.): Harvest Texts from the reigns of Shalmaneser I and Tukulti-Ninurta I

These texts obey a marked pattern. They gradually slide later in the Assyrian calendar until they end up in Months XII-II. Then around the accession Tukulti-Ninurta I they become fixed at XII.20 for more than a decade. The cattle inspection texts obey a similar pattern, with virtually every text between Shalmaneser I's 27th year and Tukulti-Ninurta's 15th dated to XII.20. The handful of texts involving wool and weaving is consistent with this distribution as well. Note that MARV 5 83 indicates that the date of the harvest texts had ceased to be fixed by Tukulti-Ninurta's 21st year.

In contrast, the texts involving personnel come from the years Aššur-da'issunu (KAV 156) and Salmānu-šuma-ušur (MARV 2 17), that is, they both pre-date and post-date the other XII.20 texts. This distribution is consistent with the following model. Originally, the date XII.20 was used as the end of an administrative period for the writing board system. At the accession of Tukulti-Ninurta I these documents were being written around Month XII, which was at that point equivalent to Babylonian Month V and so a comfortable space after the peak harvest season in Babylonian Month III. It was decided at that time to tie the process to the changeover in the writing boards system on XII.20. Thus a state-wide reckoning of accounts came to be on XII.20.

It is possible that intercalary months ceased to be added at this time as well, as part of single effort to reform the fiscal calendar. If we assume that months were intercalated regularly before the accession of the Tukulti-Ninurta I then the *piširti karue* texts from Shalmaneser I's reign would all fall nicely in Babylonian Months II-VII, with the main concentration in Babylonian Months III-V, right around the end of the harvest season. In contrast, allowing for

continual rotation would place *piširti karue* texts from his first two decades in Babylonian Months V-XI, well after the harvest. This is laid out in the following table:

Text	Assyrian Month	Year	Babylonian date with no intercalation	Babylonian date with intercalation before 78.1
BATSH 9 67	X	77.8	XI	III
BATSH 9 69	IX	77.11	IX	II
BATSH 9 87	XI	77.14	X	IV
BATSH 9 70	XI	77.14	X	IV
BATSH 9 71	XI	77.14	X	IV
BATSH 9 63	X	77.18	VII	III
MARV 3 4	XII	77.21	VIII	V
MARV 2 23	XI	77.22	VII	IV
BATSH 9 60	XII	77.24	VII	V
BATSH 9 84	XII	77.30	V	V
BATSH 9 64 ⁵⁷	II	77.30	VII	VII
BATSH 9 85	II	77.30	VII	VII
BATSH 9 86	XII	77.30	V	V

Figure II.2-11: Harvest Text Dates with and without Intercalation

Regardless of whether intercalation ceased with this reform, there does not seem to have been any intercalation in Tukulti-Ninurta I's reign and the resulting seasonal creep moved the dates closer and closer to harvest time. By the end of Tukulti-Ninurta I's first decade or so the main harvest no longer consistently took place before XII.20 and the system had to be abandoned.

In contrast, personnel enrolment was not, strictly speaking, dependent on the seasons, though the availability of labor probably was. Hence, the writing board changeover continued to happen on XII.20. Unfortunately, the documentation becomes sparser at the end of Tukulti-Ninurta's reign, and when it picks up again under Ninurta-apil-Ekur the XII.20 event seems to have vanished. There is, however, a single notable exception. Two large *gināu* summary tables are dated to XII.20.Saggiu. These are two of only a handful of such documents to be dated, and

⁵⁷ BATSH 9 64 and BATSH 9 85 are anomalous texts which both appear to deal with the details of storing grain. Note that the other two texts from that year are dated to Babylonian Month VIII as we would expect.

the only ones with the phrase *tuppu urkittu zakkâtu* to bear dates. Hence, it is possible that the *Gināu* Agency still did much of its account settling on XII.20. In particular, this may have been the day that the Agency cleared its writing boards, since the phrase *tuppu urkittu zakkûu* seems to refer to that activity (I.3). However, for want of additional dated texts this must remain only conjecture.

Thus, there was a major administrative event on XII.20, likely originating from a practice involving the writing board system. As that practice was pegged to a precise lunar calendar date, its placement cannot have been closely related to seasonal phenomena, as shown by Reculeau (2011: 169-172). Even if we were to put its origin in an early period when intercalation was practiced, the date would slide about 10 days forward in twelve-month years and about 20 days backward in intercalated thirteen-month years. Put more simply, the precise calendar date of any seasonal event would wobble.

However, if the event were pegged to a particular event on the Assyrian cultic calendar, then there would be no wobble. Any rite scheduled for XII.20 would always fall on exactly XII.20. We can offer three possible candidates for what this cultic event might have been. The most conservative approach would be to assume that the changing of the writing boards was its own small festival. In a sense this is true by default, for any cultic act pegged to a particular calendar date can be seen as a one-day festival on that day. A more constructive approach would be to tie it to the monthly day 17 ritual for which there is considerable evidence in the archive. The ritual continued through at least day 18, and we could posit that the XII.20 reckoning was done at the end of the festival or perhaps set to be a day or two after it ended. In favor of this, we might note that the loan summary MARV 6 42 includes one loan made *ana ūm 20-šu ša Abu-šarrānī* “for his day 20 of Month XI” (37). This expression seems to refer to a festival on day 20

of another month, suggesting that there may have been a minor monthly festival on day 20, which could easily be seen as the tail end of the day 17 festival.

A still more adventurous approach would be to posit an annual festival in Month XII. This would be a much bigger event on which to hang such a big administrative hat, which makes the reconstruction quite appealing. Unfortunately, there is no especially compelling evidence for a festival on this date in the Agency's records. For the time being I have tentatively taken the middle ground and tied the festival to the day 17 offering of Month XII, allowing that the connection may have been loose, and that there may have been special additions to the festival that month.

2.3.3 The Month IX Festival

In contrast to the ambiguous evidence for a major annual festival in Month XII, there is reasonably good evidence for a major annual festival in Month IX. The clearest evidence for this ritual is the text Donbaz 1992 A 842. This text lists bread and beer given for various ritual purposes during the period IX.16-22 at the order of Ninurta-tukul-Aššur, acting king of Assyria.⁵⁸ This festival seems to have involved a commemoration of deceased members of the royal family. Thus, the offering on day 20 in A 842 involves the *bēt šarrānī* “house of kings,” a sort of mausoleum for the ruling family (Donbaz 1992). More strikingly, the text Donbaz 1998 A 1123 refers to offerings made on IX.20 for two of the king's sons who had died on campaign in Babylonia. Donbaz has suggested the text refers to a burial in Babylonia, though the text itself is

⁵⁸ Interestingly, the Neo-Assyrian festival referred to as *qurše Mullissu* “The wedding[?] of Mullissu” seems to have occurred at roughly the same time of month, lasting at least from day 17 to day 21 (SAA 7 183, SAA 7 184, SAA 7 185, SAA 7 186). It is possible that this festival is a descendant of the Middle Assyrian Month IX ritual, but this is rather speculative and it may only be a coincidence.

ambiguous (Donbaz 1998: 183). Regardless of the exact details of the ritual, once again we find the date IX.20 linked to the commemoration of dead members of the royal family.

We find traces of the same festival in the texts of the *Gināu* Agency. Here the offering logs are not as clear as for the monthly festivals, but they do support the idea of an annual festival. In MARV 6 27 the Agency went to great pains to coordinate the delivery of small amounts of bread on IX.19-24. The offering log MARV 9 19 records that, after an extended period of reduced offerings, the offerings returned to full strength on IX.16 and continued at that level for some time afterwards. Similarly, in MARV 6 65 the palace oil offerings, which at this point had been stopped for more than a week, were resumed for IX.18-21 before stopping again. Both texts suggest something special about the days that warranted increasing the offering level. Moreover, just as with the other offerings that have been discussed so far, this offering could be done with *u'u pašiu* “white barley” (MARV 6 8). The unusual two-day disbursement text MARV 7 84 drawn up on IX.22 may also somehow be related to the festival, but the exact connection remains opaque.⁵⁹

There seems to be another reflex of this ritual in the building inscriptions of Shalmaneser I from the Aššur temple. These inscriptions frequently bear dates, a number of which tend to cluster around the start of Month IX.⁶⁰ In principle this could be related to seasonal fluctuations

⁵⁹ Two small disbursement summary texts have data about Month IX (MARV 5 29, MARV 6 33), but the relevant passages are too damaged to locate a potential disbursement intended to cover offerings during the festival.

⁶⁰ The dates are as follows:

Text	Date
A.0.77.8	II.x
A.0.77.10	IV.10
A.0.77.1a	VIII.(no day)
A.0.77.4	VIII.(no day)
A.0.77.2	VIII.20

Figure II.2-12: Dates on Shalmaneser I's Building Inscriptions

in the availability of labor. As noted above, it is possible that intercalation allowed the Assyrian months to keep pace with the seasons in Shalmaneser I's reign, and so we cannot rule this out. However, the Month IX festival offers another viable explanation. It seems reasonable to think the king was taking pains to complete the projects before the festival. The exact mechanics of how building inscriptions were dated in this period are not clear, so we cannot say for certain whether the date reflects when the building work began or when it was completed. It seems more likely it referred to the completion of the project, in which case the king would be repeatedly finishing up major building operations before the festival with a few weeks to spare. If, however, the dates do refer to the start of the project, one could understand that the king was rushing through some last minute repairs before the festival, which would still explain why they cluster a few weeks from the start of the festival. We do not have good estimates for the time required for such projects, but if they were of small scope and the workforce numbered in the thousands like those that worked on Kār-Tukulti-Ninurta, a few weeks for a complete project would not be impossible for a motivated builder.

Just like the XII.20 event, the Month IX festival seems to have been used as an occasion for settling administrative accounts. This could involve livestock. Thus we find the cattle inventories BATSH 9 40 and Ismail and Postgate 2008 4 both dated to IX.15. More striking is the evidence from the M 6 archive, which comes from around the end of Aššur-dān I's reign. This archive deals with the receipt of *nāmurtu* gifts over a period of about a year running from XII.1.Aššur-šēzibanni to XI.13 of the following year, Sîn-šēya. However, if one sets aside the XI.13 text as an outlier, the latest remaining texts are from IX.22. In fact, a full six texts in the

A.0.77.1b	VIII.26 ⁷
A.0.77.3	IX.(no day)
A.0.77.9	XII.(no day)

Figure II.2-12(cont.): Dates on Shalmaneser I's Building Inscriptions

archive date from the period of the festival, IX.16-22. The most compelling evidence, though, is that a large summary account for Mutta, one of the two key figures of the archive, runs from III.11[?] to IX.22. This strongly suggests that the date IX.22 marked the end of an administrative period within the archive.

In keeping with livestock inventories, the festival could also coincide with wool disbursements (on IX.16; Tsukimoto 1992 B). Likewise we find changes in dairy production. In KAJ 182 a governor is obligated to deliver a *marsātu*-pot of milk every day during the period IX.18-XI.25.Aššur-kittī-īde. The same governor had been obliged to deliver a 10 *qa* pot of milk daily since VII.17 of the same year (KAJ 184), so the starting date might have been chosen simply because it was two months after that, but that would not explain the end date of XI.25, which is not an integer number of months later. That date, though, is the day before the start of the day 26 festival for that month. If the end date can be linked to a special offering on the cultic calendar, it would make sense that the starting date was as well, in which case the festival would be the Month IX festival. We even find the *alahhinus* of the *Gināu* Agency settling their large-disbursement tabs with the Agency on IX.14[?] (MARV 5 13) and IX.20 (MARV 9 108). However, unlike the XII.20 event, apart from the cattle inventory texts none of these genres are well enough attested in the sample to be certain they were not drawn up during the festival only by chance. Yet, as they parallel better attested administrative actions in the XII.20 event, it would not be unreasonable to think some were intended to be concurrent with the Month IX festival.

Finally, just as in the XII.20 event, the Month IX festival could be linked to the writing board system. We find the writing board of Sîn-ašarēd associated with birds sacrificed in a

temple on IX.17 (KAJ 247). We also find the *tartennu*, an official linked to the writing boards in this period (Jakob 2003: 194), involved in garment distribution on IX.21 (MARV 10 36).

Taken together, these various lines of evidence give us good reason to think that there was a major annual festival which started on IX.16 and likely involved offerings for the dead. The festival was also used as the occasion for various administrative acts including account settling, but nothing as elaborate as the XII.20 event. Since it is the best attested annual festival, I would suggest that this festival was the occasion for which the inscribed jars were made. This was *the tākultu* of the Aššur temple.

2.4 Occasional rituals

So far we have reconstructed the daily offering provided by the Agency, and also some of the monthly and annual festivals that filled the Assyrian cultic calendar and sometimes influenced the Agency's activities. There is still one issue though. It is conceivable that the Assyrian state performed some rituals at irregular intervals rather than on a fixed cycle. Indeed, we have evidence that the Assyrian state could sponsor rituals to benefit particular (perhaps sick) living individuals⁶¹, contribute to funeral expenses⁶², make ritual celebrations for military victories⁶³, etc.⁶⁴ For convenience we will refer to such rituals as “occasional” rituals. It is reasonable to think that the Agency was also affected by these or perhaps—if the rituals were small enough—even financed some of them.

⁶¹ For instance, the M 6 archive contains at least six references to *tēliltu* “purification” rituals conducted for various women (A 295, A 2601, A 2614, A 3184, A 3188).

⁶² e.g. MARV 2 22: 4-5 where the state contributes oil for an offering on behalf of a dead *šangû* priest.

⁶³ For instance MARV 2 22: 1-3 appears to refer to an oil offering made in celebration of the king's victory against the Mušku in the land of Hanigalbat.

⁶⁴ MARV 2 22 appears, in fact, to be a list of various irregular oil offerings financed by the Assyrian state, for each offering giving the amount used and a short description of the occasion for which it was made.

The problem is that occasional rituals are generally hard to spot in our records. Since we are often ignorant of when things like personal illnesses and major military victories happened, these occasional rituals will be effectively random from our perspective. Given all the other factors which influenced when the Agency did and did not make a full *gināu* offering, there is simply too much noise to spot occasional rituals from just information on when disbursements or one-off offerings were made. If the Agency's contribution to an occasional offering was simply a full *gināu* offering, then the offering will be invisible unless the Agency made an explicit note of it.

However, there do seem to have been a few instances when the *Gināu* Agency contributed to an occasional ritual by sponsoring a special offering distinct from the normal *gināu*. Since such rituals used unusual amounts of various supplies, they are relatively easy to pick out in our documentation.

Here our best starting point is a series of six texts in which the minor *alahhinu* is issued an amount of barley ending in the digit 26. These are summarized in the following table:

Text	Amount Received by Minor <i>alahhinu</i>
MARV 1 11 and MARV 7 24 ⁶⁵	626 <i>qa</i>
MARV 10 87	726 <i>qa</i>
MARV 6 18	$x+26$ <i>qa</i>
MARV 8 96	$x+126$ <i>qa</i>
MARV 9 106	226 <i>qa</i>

Figure II.2-11: Disbursements Ending in 26

These disbursements are quite striking since the *alahhinus* were generally issued grain in even multiples of 50 *qa* (Appendix B). Since the 100-*qa* digit differs from text to text, we can posit that the disbursement had two components, one of the form $n_1 \times 100$ *qa* and the other of the form

⁶⁵ These two texts refer to the same disbursement made on VII.2.Mudammeq-Bēl.

$n_2 \times 100 + 26 qa$. It seems reasonable to think that this second strikingly un-round figure was intended to cover an occasional offering. This amount cannot have been larger than 226 *qa*, the smallest amount attested in our texts.

To these six texts we can almost certainly add MARV 5 16, where the minor *alahhinu* receives 286 *qa* of barley. In that text the major *alahhinus* receive unusually sized disbursements of 1010 *qa*, and it does not seem a great stretch to think that the minor *alahhinu*'s regular disbursement was likewise not an even multiple 100 *qa*, but something of the form $n_1 \times 50 + 10 qa$ to which a second disbursement of the form $n_2 \times 100 + 26 qa$ was added.⁶⁶

But we can tie still more texts to this offering. Presumably the final offering was composed of finished bread. This introduces a bit of imprecision since the amount of bread which could be produced from a given volume of grain could vary a bit depending on the efficiency of the milling and on how much of the grain was used to pay the millers. Presumably the Agency arrived at the figure of $n_2 \times 100 + 26 qa$ by taking the amount of bread needed for the occasional offering and estimating the amount of barley needed to make that. However, it is conceivable that at other times it used a slightly different estimate. After all, the six texts we cited above all date to a short period of perhaps half a decade from the year Aššur-mudammeq to the year Mudammeq-Bēl. Fittingly, in MARV 9 107, a text from Aššur-dān I's reign, we find a disbursement of 528 *qa* made to the minor *alahhinu*. It does not seem a great stretch to think that the Agency arrived at this figure by estimating the grain needed for the occasional offering with a figure 2 *qa* higher than in the later texts.

On the other side, MARV 7 21 refers to the minor *alahhinu* being reimbursed with $x+120 qa$ of grain for bread which he had delivered. We can explain this text by assuming that the

⁶⁶ Most likely the figure should be decomposed as $3 \times 50 qa + 10 qa + 126 qa$.

minor *alahhinu* covered the offering in question out of his own funds and was reimbursed by the Agency. Since it was his money on the line, he seems to have economized a bit, using 6 *qa* less than the usual amount allotted for the offering.

We can venture one step further. In MARV 9 110 132 *qa* of white barley are issued to the executive staff in order to perform the *sīsīt ile* “calling of the god.” In this text the major *alahhinus* receive only 11 *qa* each, while the minor *alahhinu* receives 55 *qa* and three outside bakers receive a total of 44 *qa* for a combined total of 132 *qa*. Thus, we have a ritual requiring a curiously un-round amount of grain in whose preparations the minor *alahhinu* is disproportionately involved. It is attractive to see this as the same ritual we have been discussing, but with estimated grain usage raised by 6 *qa*.

This text, in turn, lets us draw in one last text into our reconstruction. In MARV 5 36 the minor *alahhinu* and three outside officials tried to make an offering of 85.5 *qa*, although they came up 6.5 *qa* short. This looks rather similar to the arrangement described in MARV 9 110, though without the major *alahhinus* involved. Moreover, using the Agency’s usual conversion figure of 63%, 85.5 *qa* of bread would have required about 136 *qa* of barley, roughly the same amount as the 132 *qa* of barley used in MARV 9 110.

Tying all these threads together, we can posit that the minor *alahhinu* was frequently tasked with producing an offering of exactly 85.5 *qa* of bread. This usually required between 120-136 *qa* of grain, depending on how efficient the milling process was. At the most economizing the conversion factor was about 72%, while in other times it could have been as low as the 63% figure normally achieved in producing the regular offerings. Based on MARV 9 110, the ritual may have been called the *sīsīt ile* “calling of the god,” but it is possible that that phrase referred to the day 26 festival during which that particular instance of the ritual was to be

performed and not the ritual itself. For simplicity we will call the ritual the “126 *qa*-ritual” since the allotments of 126 *qa* made to cover it are perhaps its most distinctive feature.

If we look at the dates of the texts we find that the 126-ritual tended to be conducted in the period around the new moon, a few days before or after the beginning of a new month. In MARV 9 107 the disbursement came as part of a sum to be used in the period between X.28 and XI.6. We also find disbursements made for the ritual on V.30 (MARV 6 18) IX.1 (MARV 5 16) VII.2 (MARV 1 11 and MARV 7 24), and VII.25 (MARV 9 110). However, the ritual was evidently not conducted exclusively in this period since a disbursement for it was also made on VI.21 (MARV 9 106). If we turn our attention to months, we find that the ritual was conducted in Months V, VI, VII, VIII, IX, and XI.⁶⁷ Taken together, it seems that our ritual really was occasional, not being tied to any particular day or month.

But the 126 *qa*-ritual is not the only occasional ritual we can spot in our archive. MARV 5 7 refers to providing beer *ana bēt ili ēkalle* “for the palace temple” (14) for 47 days, at an average rate of about 40 *qa* per day. Since *gināu* beer regularly made its way to the palace, it is conceivable that the beer in question was part of the normal *gināu* beer. However, the text refers to accounts being settled *ana pī kiširte ša kunukke ša Ezbu-līšer rab gināe* “according to the word of the binding document of the seal of Ezbu-līšer the *gināu* chief” (16-18). This unusually formal measure suggests that this is not the regular beer, but a special expense being temporarily met by the Agency.

Similarly, the Agency seems to have sponsored large oil offerings on a few occasions. MARV 6 31 refers to a series of oil offerings made over a period of at least seven days to various deities including Aššur and Ninurta. Similar offerings occur in MARV 6 76, which deals with

⁶⁷ MARV 10 87 is dated to Month VIII although the day number is broken.

only two days, strangely several months apart. Some of these can get as large as 20-25 *qa*, around twice the Agency's normal daily oil expenditures. Thus these cannot be an itemization of the Agency's normal daily offerings.

We thus have a total of three rituals which might be described as occasional rituals financed by the Agency. Of these the beer provided to the palace and the occasional large oil offerings are both attested over quite short periods. The former is known from a single text, while the latter practice is confined to a period of a few years during the *maddattu* crisis. It is thus attractive to see both offerings as a form of virement. The offerings were normally supplied by a different agency, and the duties were temporarily transferred to the *Gināu* Agency as an emergency measure. In contrast, the 126 *qa*-offering is attested over a span stretching from reign of Aššur-dān I well into Tiglath-pileser I's reign and appears in at least nine texts. It is the only occasional ritual which the Agency seems to have financed with any regularity. Since it was infrequent and very small, it would not have made an appreciable dent in the Agency's grain budget.

3 Conclusions

For all the Agency's complicated efforts to secure supplies for the *gināu* offering, the offering itself was quite simple. On an ideal day the offerings would involve 100 *qa* of plain *miṭru* bread, 100 *qa* sweetened *haršu* bread, and about 140 *qa* of beer. To these would be added 1 *qa* of plain honey, 35 *qa* of fruit, and about 6 *qa* of plain oil. As best we can tell, over the three quarters of a century covered by the archive, the Agency always had this ideal daily offering as its goal. While all manner of elaborate confections and obscure ingredients could be used in Middle Assyrian offerings, the Agency seemed quite content with its simple menu. Apart from

the occasional introduction of wheat bread we find no serious efforts made to change what was supposed to be offered. What changes we do see all can be understood as reductions to the offering schedule forced upon the Agency by supply problems.

When the offerings were complete they were fanned out for a multitude of small offerings all over the capital. Some were conducted in the Aššur temple itself, others in other temples, and some, apparently including that made to Aššur himself, in the royal palace. After the offerings had been made, small amounts were given out as rations to the Agency's executive staff and a few associates. With these small portions removed, the remainder was taken to the palace. What the king did with enough blessed bread and beer to feed 190 men must remain an enigma. That amount could have fed a decent portion of the palace staff, or been portioned out into ceremonial gifts for the great men of the capital.

In this parade of simple and constant offerings we can also make out traces of a more varied Middle Assyrian cultic calendar. There were monthly festivals beginning on days 5, 17, and 26, which often influenced the Agency's emergency planning during periods of shortage. There was also a great annual festival in Month IX, and perhaps another such festival in Month XII tied a major administrative event that one might call, with a bit of anachronism, the end of the Assyrian fiscal year.

We can also make out traces of a few occasional offerings that were sometimes funded by the Agency, but apart from the 126 *qa*-ritual handled by the minor *alahhinu*, these occasional offerings were generally few and far between. On the whole, then, the cultic life of the *Gināu* Agency was largely a matter of counting days. Counting individual days on which *gināu* offerings were made allowed it to estimate its expenditures. Counting days of the month allowed it to be prepared for the major monthly festivals, and counting months prepared it for the major

annual festivals. It is paradoxical that the Agency was so concerned with counting out days of full offerings and tracking festivals and yet never explicitly stated what was involved in a full offering or listed the dates on which festivals were to occur. One is reminded of the lines from James Richardson,

*No hand is slow enough, really,
to catch a stone:
the long forest burns
and grows and burns before the jostled stone
like roiled water settles clear again
to its root and its prayer and its home.*
(Richardson 2004: 10) .

The Agency was too busy arranging for the offerings a few days out to ever have time to stop and record for posterity a systematic account of what exactly it was doing on all the days it had to count out. The Agency's pace of operation was simply too quick to capture such a stable reality.

II.3: Sources Relating to Expenditures

*Tradition says they were the paperweights of a lord
whose messages rotted beneath them.
So they think hard.*

*The old remember being flowers
but the young ridicule them and remember fire.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

In the previous two chapters we reconstructed how the Agency turned the supplies it received into finished offerings. But, of course, those offerings and the men who made them are long gone. Our reconstruction is based on the parts of that process they chose to write down on clay tablets. Naturally, we have touched on the various written sources about expenditures in the previous two chapters, but we have given no systematic explanation of how the Agency documented its expenditures. But producing documentation was, in a broader sense, part of the expenditure process. If our model of the Agency explains only the processing of foodstuffs and the making of offerings, but not the writing of tablets, it does not capture the full scope of the Agency's expenditures. What is more, without a coherent explanation for how and why the tablets were produced, we run the danger of optimizing our interpretations over small groups or even individual tablets rather than globally. As discussed in the introduction, this greedy algorithm approach tends to systematically overestimate the complexity of the documentary system and the agency that produced it. It also greatly impedes our ability to perform quantitative analysis. Such problems would then carry over into the analysis of expenditure processes derived from these tablets and the whole model would begin to falter. If we do not tie up the loose ends of the tablets, large chunks of the model might unravel.

¹ (Richardson 2004: 8)

At first glance the most striking quality of the Agency's expenditure documentation is how unsystematic it is. There is an impressive variety about it, with only a few neatly defined genres. In this situation a model built on the formal features of the tablets would be hardly parsimonious, for our model would have nearly as many categories as the documents it was made to classify. In effect, it would just be a cumbersome form of relisting our data. Since we cannot rely on formal categories intrinsic in the tablets, we must supply our own to make sense of this mass of inscribed clay.

Now, as we outlined in the last two chapters, the process by which the Agency produced and distributed foodstuffs was a quite circumscribed affair. If we can tie the tablets to the part of the process that generated them, then the process itself should provide a relatively parsimonious framework within which we can bring order to the texts. Thus, our categorization will be functional. This is not to say that the interpretation of the tablets somehow follows logically from the system of expenditures we have reconstructed. That would beg the question since the expenditures model relies on the tablets. Rather, the model for the expenditures was optimized with a view to provide a parsimonious explanation for the extant tablets in addition to making sense of the expenditure process itself.

As mentioned in the introduction, our strictest optimizing constraint for the Agency's use of documents is the assumption that its members did not compulsively record information simply to record it. For our purposes we take it as a given that they were men who found writing helpful for conducting some of their activities and not compulsive recorders. As we will see, the expenditure documentation is quite consistent with this principle. We find that many activities were not regularly documented. When things were written down, it seems the Agency more often than not was content with a single level of documentation. What Cancik-Kirschbaum describes

as second level documentation, i.e. documents based on other documents, (2012: 25-26) does occur, but it does not seem to have been a regular part of the Agency's accounting procedures for expenditures. Third level or higher documentation is essentially unknown; summarizing summaries was unsurprisingly not high on the Agency's list of priorities.

But enough of theory; let us turn to the texts. Our documents can be divided into three broad functional categories. First, there are those texts which deal with disbursements made from Agency funds, at the start of the process of making offerings. This is by far the largest category and so I have broken it down into those which deal with grain and those which deal with other commodities. A second group of texts deal with how already processed foodstuffs were used for offerings. The final group involves obtaining and perhaps rationing the personnel who worked for the Agency.

1 Grain disbursement texts

When grain arrived at the Agency, it might be used immediately or put in storage. In either case, though, the grain was not about to offer itself. It had to be disbursed to the executive staff for processing, and this transfer was the occasion for composing disbursement texts. These documents kept track of who had received what so that the Agency could have some idea about what finished products it might expect each official to produce. Most of the time the disbursements were made to finance the *gināu* offering, and I have treated these as a group. However, we do find the occasional disbursement made for some other purpose, and I have grouped these together in a separate subsection.

1.1 Regular disbursement texts

The *Gināu* Agency used two different systems to issue grain for the *gināu* offering on a regular basis. Sometimes the Agency would issue small disbursements at frequent intervals, with no disbursement sufficient for much more than a week's operations. The other approach was to issue large disbursements to the grain officials that could be expected to last as long as three quarters of a year. These are very different approaches to distributing grain. Not surprisingly, they generated rather distinct types of documentation. The choice of which system to use depended largely on the size of the Agency's reserves at the moment, but that is in turn tied into the events of the major crises that afflicted that Agency and is best discussed in that context (see III.1).

1.1.1 Small disbursement system

Under normal circumstances, the Agency would document small disbursements by drawing up a text that listed all the individuals who received disbursements on a given day. Anywhere from one to a dozen different people might appear on one tablet receiving their disbursements. We never find evidence of two small disbursement texts being drawn up on the same day, and it seems likely that this was not normally, if ever done. Rather, the Agency tried to economize on the number of tablets it had to produce by putting all disbursement-related information into a single tablet on a given day.² This same desire to avoid unnecessary tablets would also explain why several texts describe other administrative actions that occurred alongside that day's disbursements (e.g. MARV 5 24, MARV 5 49, MARV 5 57, MARV 9 32). If information could be added to the day's disbursement tablet with only a few lines of text, there

² One finds a similar approach used very frequently in the M 6 archive, where the writer often took great pains to fit every cattle transaction for a given day or even several days onto a single tablet.

was no sense in drawing up an entirely new tablet to deal with the matter. Indeed, the Agency found ways to insert a wide variety of different types of supplemental information into this basic small disbursement text format.

Before we look at the types of information that were thus inserted, there are three more preliminary considerations. First, Maul has suggested that the *gināu* supervisor cancelled the text after inspecting the finished *gināu* goods made from the grain by drawing or scratching an X across the surface (2013: 568). While this is an appealing proposal, if this procedure was in widespread use we would expect all, or at least a large portion of the small disbursements to be cancelled. Unfortunately, Maul only produces three examples from the about 90 extant small disbursement texts (MARV 5 21, MARV 6 24, MARV 9 116). A more systematic investigation shows that the procedure was quite rare and cannot have been a regular part of the Agency's accounting practices (see III.3).

Second, it is not impossible that information was jotted down in informal notes on tablets or writing boards to be entered into a tablet at the end of the day. We do indeed have tablets in the archive that were obviously written with a minimum of care (e.g. MARV 7 41), but none matches up with information on a small disbursement text. Thus, if they did keep information on notes before reentering it onto a single tablet, they were uncharacteristically thorough about disposing of the old notes. In the interest of parsimony then, we will assume that such notes were not a regular part of the documentary process either.

Third, it is conceivable that, on some occasions when the Agency issued disbursements, it economized even further and drew up no tablets at all, recording the relevant information on a writing board or simply committing it to memory. A text may only have been necessary if the appropriate official or officials were not there to personally authorize it. This would explain why

we never find a complete sequence of small disbursement texts for any serious length of time. If such sequences existed it would seem natural to store them together. Indeed, we find something rather close to this situation in the M 6 archive (III.2). Hence, the tablets would be thrown out together and we would expect at least one nearly complete sequence of a month or two to have survived.

The only texts that shed light on this issue are a few summary texts drawn up in the year Mudammeq-Bēl, which summarize apparently all the small disbursement texts drawn up in a single month. We can thus see all the small disbursements that were recorded in a given period of time. In MARV 5 29 the major *alahhinus* receive 1300 *qa* of grain each between the first and twelfth day of the month. That works out to be slightly above the 1100 *qa* of grain each necessary to put on a full *gināu* offering daily from days 2-12. The recorded small disbursement clearly was sufficient to cover the whole period and so we do not need to posit additional unwritten disbursements.

Yet, the daily averages for the major *alahhinus* that we can derive from the other two reasonably well preserved monthly summaries (MARV 5 29, MARV 7 24) seem to be considerably lower, though the damage to both tablets makes certainty impossible.³ These documents may reflect periods of reduced offerings or several larger disbursements may have been included in their now broken sections. This would save the complete recording hypothesis. But, even if these documents were well preserved and had small disbursements neatly accounting for the full amount of grain needed, it would hardly be compelling. It is possible that small disbursements were always documented in the year Mudammeq-Bēl, but not in other years. As the year was in the middle of major staff fluctuations and the transition to an entirely new

³ In MARV 7 24 the extant entries work out to 57 *qa* per man per day. In MARV 7 48 only a total of 300 *qa* are given out to the major *alahhinu*'s between day 3 and day 14.

alahhinu team, it is not a leap to think that the Agency kept unusually detailed records. We would need comparable data from other years to show that small disbursement texts were always drawn up. For the moment, the problems are insuperable and it does not seem possible to tell if small disbursements were always or even often committed to writing.

1.1.1.1 No supplemental information

On many occasions small disbursement texts record no supplemental information. They give amounts, names, and usually (though not always) the date and commodity in question as well. Some are also explicitly described as an *iškāru* “work assignment” (see II.1). In our archive a full 42 of the 82 individual small disbursement texts that are preserved are of this plain variety.⁴

1.1.1.2 Information about the source

A number of small disbursement texts add information about the source of the grain being given out. In virtually all of them there is something highly irregular about the grain’s source. This is not surprising. If the Agency was in the habit of regularly recording grain sources in its disbursement texts, then more than half its small disbursement texts would not lack this information. When grain came from its usual sources there was apparently no need to add this information into the disbursement texts.

On two occasions we learn which province provided the grain for a disbursement, and in both cases there are irregularities with the shipments. In MARV 3 29 the grain officials receive

⁴ MARV 5 11, MARV 5 16, MARV 5 18, MARV 5 21, MARV 5 22, MARV 23, MARV 5 33, MARV 5 43, MARV 5 48, MARV 5 50, MARV 5 63, MARV 6 4, MARV 6 11, MARV 6 15, MARV 6 41, MARV 6 60, MARV 6 83, MARV 7 20, MARV 7 38, MARV 7 47, MARV 7 49, MARV 7 59, MARV 7 61, MARV 7 70, MARV 7 85, MARV 7 90, MARV 7 95, MARV 7 97, MARV 8 48, MARV 8 61, MARV 9 11, MARV 9 22, MARV 9 31, MARV 9 34, MARV 9 41, MARV 9 100, MARV 9 103, MARV 9 104, MARV 9 111, MARV 9 114, MARV 10 85, MARV 10 91

grain from the province of Šūdu *adi rubbêšu* “including its interest” (8).⁵ In MARV 1 25 a shipment was distributed to grain officials but later found to be under volume. As a result, additional grain had to be provided from the province to make good the difference. For shipments disbursed immediately on arrival without entering the Agency’s storage facilities, the boatman is sometimes named in the text (II.1).

Several other texts note that the grain being disbursed came from two of the Agency’s long-time associates, Siqqi-Aššur-ašbat and Aššur-baissunu, whose activities have already been discussed in the previous chapter.⁶ In a similar vein, MARV 8 9 notes that the grain officials had to take out a loan to cover the disbursements described in the text.

Still other texts describe grain received from places that do not normally appear on the *gināu* lists. In MARV 9 96 we find 3800 *qa* of grain received from the otherwise unknown town of Abiti. Twice in the year Mušēzib-Aššur grain was received from the equally obscure town of Barekete, once in the curious amount of 92 *qa* (MARV 5 54, MARV 9 32). In MARV 6 71 the unusual amount of 73 *qa* of grain came to the Agency via the son of a high official. Based on this loose parallel and the fact that at least one provincial governor’s son is known to have been a *haziānu* (MARV 3 32), this text may represent another irregular shipment from a small town.

Finally, three notes about unusual sources are tantalizingly enigmatic. There is a quantity described only as “the barley of Ippitte,” apparently the former *līmu* of that name (MARV 6 12: 9-10).⁷ Another text refers to the *u’e ša maddatte ša nusāhē Ea-šarru* “grain of the gift of the

⁵ On the practice charging interest on shipments see I.2.

⁶ Siqqi-Aššur-ašbat: MARV 6 19, MARV 6 24
Aššur-baissunu: MARV 5 65, MARV 6 81, MARV 7 12, MARV 7 86.

⁷ As discussed in the edition to that text, this phrase cannot refer to grain from the eponymy of Ippitte, *pace* Jeffers (2013: 132-133).

*property tax*⁷ of the god Ea-šarru” (MARV 7 96: 4-5). Finally, MARV 8 79 appears to specify that part of its grain was taken from an unusual source, although the source itself is lost in a break. The administrative realities they refer to cannot be recovered with complete certainty, but their extraordinary nature seems beyond doubt. We can say that these, like the other references to sources in the texts, are consistent with irregular activities being involved. If the Agency received supplies through normal channels without incident, this information did not normally make its way onto the small disbursement texts.

1.1.1.3 Information about the transfer itself

Some of the small disbursement texts also include information apparently about the actual transfer of the grain. Some of these are seemingly banal details. Six texts refer to the transfer happening in the *bēt gināe*.⁸ This is more interesting than it might seem, since the Agency generally did not store grain in the *bēt gināe* (II.1), but the details of the various administrative arrangements in play are best left to the editions of the individual texts.

Similarly, a few texts mention the time of day when the disbursement was made. MARV 1 11 and MARV 10 86 describe a transfer taking place in the morning, and MARV 6 20 and MARV 7 36 describe transfers conducted in the evening. We can understand this information as describing disruptions in the normal milling and baking cycle. It seems that the gods liked their bread fresh and that the actual baking was done on the day of the offerings. However, milling an appropriate amount of grain with Assyrian milling technology was a time-consuming affair easily requiring five hours with a full milling staff (II.1). This almost certainly had to be done on a previous day to have the flour ready for baking, and it is reasonable to think that the milling was normally done on the day immediately before it was baked. Thus, for the day 5 offerings one

⁸ MARV 3 76, MARV 5 24, MARV 5 76, MARV 6 12, MARV 7 36, MARV 9 116

would expect the grain to be disbursed on day 4. Indeed as discussed in II.2, barley disbursements intended for use on festival days were issued at least one day before. In contrast, when disbursements for festivals were issued as flour in MARV 7 56, milling time did not have to be built in and the disbursements were made on the day the offerings were to be made.

In this context the temporal notes make sense. If grain was received on a given day, one would normally expect a day's worth to be milled by the end of it. Yet, this hardly could be done if the grain was only disbursed at the end of the day, and so adding this note prevented a later reader from thinking that the grain was milled a full day before it actually was. Indeed, MARV 6 20, dated to the evening of day 3, involves enough grain for exactly one full day's offering and explicitly states that its grain is to be used for the day 5 offering, implying that it was milled on day 4. Presumably the evening disbursement in MARV 7 36 was noted for the same reason.

We can see the note about the morning disbursement in MARV 1 11 as the opposite phenomenon. The grain was issued early enough in the morning that it would be possible to have it milled and ready for use on the same day. Something similar seems to have happened in MARV 7 54. There, on day 6, the *alahhinus* received a total 3900 *qa* of grain with the laconic note *adi 200 qa.TA.ÀM ša ūm 6* "including 200 *qa* each of day 6" (9-10). This is twice the amount an *alahhinu* would normally receive for one full day's worth of operations. As argued in the edition of that text, this looks very much like the *alahhinus* went through a double portion of grain on day 6. It is quite attractive to see this as the Agency heroically milling and baking a complete offering for day 6 while at the same time milling all the grain for day 7 to get back on schedule.⁹

⁹ De Ridder has made the interesting suggestion that some of the terminology may reflect abnormalities in the shipping process (personal communication). One would normally expect a boat leaving a certain place at daybreak to arrive in the capital at a reasonably predictable time, and these notes could indicate that a shipment arrived at an

For other texts, reasons for including the supplemental information about the day's events are also not hard to find. Two texts refer to grain that had been received on the same day the disbursement was made, but apparently not used as part of it (MARV 5 49, MARV 5 57). One can explain these readily enough. One of these texts involved the *šakin māte*'s grain during the *maddattu* crisis and the other, from later in the crisis, only 200 *qa* in total with no source specified. It is quite likely neither payment was part of the regular *gināu* assessment system and so would not be recorded by the Agency's normal income recording methods. Yet, grain was coming into the Agency, so it made sense to record it somewhere, and by putting it into the next small disbursement tablet to be written the Agency could do this without generating an extra tablet. MARV 6 44 may be a less successful version of the same practice. The dated text perplexingly refers only to a single sum of grain that a brewer had received "previously" from a certain Bahue. One is tempted to think the scribe was waiting until he had more information that could be recorded on the tablet, but after a while gave up and wrote this curious tablet, but this can be no more than speculation.

The other pieces of information cover a variety of different scenarios. Three texts deal with small disbursements made from or alongside the main disbursements that day.¹⁰ In MARV 6 69 it seems not all the officials who were to receive disbursements from the boat that arrived were actually on hand, and so arrangements had to be made to get the grain to them. MARV 7 75 names the man, otherwise unknown in the Agency, who measured the grain. MARV 7 67 seems to refer to millers arriving alongside the shipment being disbursed. This is all potentially very useful information, so it is no surprise it was written down.

unexpected time of day. This theory cannot be ruled out, but it does not readily explain why the Agency needed to record the information except because it affected the milling-baking cycle. That would, of course, merge it into the explanation I have offered here.

¹⁰ MARV 6 18, MARV 6 80, MARV 7 77

1.1.1.4 Information about how the grain is to be used

A few texts contain notes about how the grain was to be used. Five of these texts deal with particular offerings they were to subsidize.¹¹ These texts come from within a four-year period when the Agency regularly provided offerings at reduced levels (III.1). As in other times, it seems that in this period on feast days offerings were increased to their ideal size. As a result, more grain had to be given out for the occasion and so this warranted a note about how it was to be used. In much the same vein, two other texts refer to the time frame during which the disbursed grain is to be used (MARV 7 91, MARV 8 26).

The other references to how grain was used are more varied. The early text KAJ 105 refers to grain issued to the Agency's brewers to make malt.¹² MARV 7 21 contains a virement section after its main disbursement in which the minor *alahhinu* is compensated for extra bread he had provided and the associated *alahhinu* Urad-Aššur receives a small loan. We also find the note discussed above about how the *alahhinus* used twice their normal disbursement in a single day (MARV 7 54).¹³ We can reconstruct the backstories for these arrangements with varying degrees of success, but it is difficult to generalize, apart from noting that irregularities loom large in most of them.

¹¹ MARV 6 20, MARV 7 48, MARV 9 110, MARV 10 89. If restored correctly, MARV 7 90 also refers to grain for a particular offering.

¹² That this text deals with the affairs of the *Gināu* Agency is beyond doubt. However, it is dated to the year Bēr-nādin-āple in the middle of Tukulti-Ninurta I's reign, making it much earlier than almost every document in the M 4 archive. It is possible that the text was produced by the Agency but was not part of the cache of documents which became the M 4 archive.

¹³ Eight additional small disbursement texts seem to have had additional information as well, but are too badly damaged to say much more. They are: MARV 6 23, MARV 6 51, MARV 6 68, MARV 6 79, MARV 6 84, MARV 8 11, MARV 8 64, and MARV 10 87.

1.1.1.5 Information on more than one day

In addition to adding in information about the disbursement's origin, use, and purpose, the Agency could also economize on tablets by recording disbursements made over several days in a single tablet. In general, this seems to have been done with disbursements that could be considered part of the same larger administrative act. For instance, MARV 5 25 summarizes disbursements on two different days with the note *2-šu ana iškārātēšūnu mahrū* "they received it twice for their *iškārus*" (16-17). Similarly, we find two small texts listing disbursements made to a single person on consecutive days, which it is not hard to see also as single disbursements made in installments.¹⁴ An additional text, MARV 8 8, gives two disbursements made in the same month, but the lines explaining the circumstances around each are too damaged to restore. Two other texts, MARV 8 12 and MARV 9 30, also described distinct groups of disbursements. Unfortunately, because they are heavily damaged it is unclear if the disbursements were made on the same or different days.

1.1.1.6 Formality of small disbursements

There is one other type of information the small disbursement tablets can convey. Through the presence or absence of certain formatting features they can indicate the level of formality associated with a disbursement. Most small disbursement texts lack most or all the usual trappings used to make Middle Assyrian texts legally binding, namely witnesses, envelopes, seals, and dates. Indeed, four of the texts are explicitly labeled as informal notes with the phrase *ana lā mašāe šaṭir* "written in order to not forget."¹⁵ Yet, given the large amount of grain that was distributed through the small disbursement system, one might expect there to be

¹⁴ MARV 7 53, MARV 7 84

¹⁵ MARV 5 65, MARV 6 12, MARV 6 51, MARV 8 95, MARV 9 103

more formal documentation. As the same issue will arise several more times in this chapter, a small excursus is warranted.

As I will show presently, the basic principles at work in the small disbursement texts—and in other expenditure texts—are that documents tend to incorporate formal elements only when they involve people from outside the Agency. Before we proceed, though, we must have a clear way of identifying people outside the Agency. For this one can use two things. One is the phrase *ina qāt* PN, where the name is not a member of the *Gināu* Agency executive staff. The other is the presence of the term *iškāru*, which, as discussed in II.1, seems to appear only in unusual circumstances, most of which involved outsiders in some fashion. Among the 89 basic small disbursement texts known, twenty fall into at least one of these categories.

Now, in Middle Assyrian texts most transactions between parties working for the state were not witnessed (Postgate 2003: 125). Thus we expect no witnesses to appear in the small disbursement texts, and we are hardly surprised that none do.

Envelopes are a different matter. The small disbursement texts are technically receipts, which often have envelopes in Middle Assyrian (Postgate 1986b: 13-16). Four small disbursement texts can be shown to have had envelopes among the published texts in our archive, though two are too damaged to be of much use.¹⁶ The two well-preserved texts both use the term *iškāru*,¹⁷ and one, MARV 6 24, also mentions that it was made *ina qāt Siqqi-Aššur-ašbat*, an official known to work outside the office. This is rather unlikely to be a coincidence.¹⁸

¹⁶ MARV 6 15, MARV 6 24, MARV 8 75, MARV 9 41

¹⁷ MARV 6 15, MARV 6 24

¹⁸ Suppose that whether or not a text has an envelope does not correlate with the presence of an outsider. Let us further suppose that portion of small disbursements involving outsiders in the surviving corpus is roughly equal to what it was in the original archive. Then the probability that both texts with surviving envelopes would happen to involve outsiders is $\left(\frac{20}{89}\right)^2 \cong 0.05$, that is, statistically unlikely.

With sealing the matter is more clear-cut. Nine of the texts can be shown to have been sealed. Of these, one is too damaged to be useful¹⁹, and six clearly meet the criteria given above for involving an outsider²⁰. Let us assume for a moment the two remaining texts do not involve outsiders, though we will see shortly there is good reason to think they do. Then if the presence of an outsider had no correlation with sealing, the probability of drawing at least six with outsiders would be only 0.0024.²¹ This is exceedingly unlikely. Hence it seems safe to conclude that for small disbursement texts there is a correlation between involving outsiders and being sealed.

Now let us return to the two sealed texts that do not seem to meet the above definition for involving outsiders. One, MARV 5 43, does in fact read like a normal disbursement, except that between the disbursements and the date two lines have been ruled off and erased. One suspects that these lines originally referred to something putting this text in the outsider category.²² Likewise, MARV 9 116 refers to an unusual *huburnu* storehouse. The large disbursement text MARV 7 2, written about month earlier, also involves the same *huburnu* storehouse, and is sealed. It does not seem a great leap to think both texts were sealed because of their connection with the use of the *huburnu* storehouse and that the use of this space involved outsiders.

¹⁹ MARV 9 41

²⁰ MARV 1 25, MARV 6 15, MARV 6 19, MARV 6 24, MARV 6 81, MARV 7 12

²¹ Ideally one would do a Chi-squared test to prove this correlation, but the data set is not large enough to do that. However, if whether a given sealed text happens to involve outsiders is random, then one can construct a binomial distribution. Assuming that the ratio of texts involving outsiders to those which do not among the texts that survive was roughly the same as that in the original archive, then the probability of having at least six texts involving

outsiders among the eight which were readable and sealed is given by the following formula: $\sum_{n=6}^8 \binom{8}{n} \left(\frac{20}{89}\right)^n \left(1 - \frac{20}{89}\right)^{8-n} = 0.0024$.

²² The exact phrasing that would have gone in the erased lines is not so clear. It does not match the usual *ina qāt* PN and *iškāru* terminology, which normally come before the final verb *mahir/mahrū* “he/they received.” The closest parallel known to me is MARV 7 86, which after the final verb of the disbursement *mahrū* “they received” has a two line paragraph ruled off reading *u’u ša bēt hašīme ša bēt kisalle* “barley of the *bēt hašīme* and the house of the courtyard” (15-16). That text indeed involves an outsider, though it is explicitly noted elsewhere on the tablet as well.

Neither MARV 5 43 nor MARV 9 116 can be definitively shown to have involved outsiders, but both could involve them. Thus, it seems simplest to assume that all sealed small disbursement texts somehow involved outsiders since there are no clear counter examples of sealed texts that did not involve outsiders. However, this remains not fully proven, and some other mechanism might explain the sealings on these two texts. What is clear is that texts that involved outsiders were far more likely to be sealed than texts that did not.

We find this same pattern again when we look at the way texts are dated. First, some texts have a formal date at the end, while others have one or more dates included in the main text, and a few have both. If the goal was only to record the date and that information was already in the main text, the scribe could spare himself several lines of writing by not repeating the information at the end. Rather, it seems that adding a date at the end was a general mark of formality, a sort of formal dating. In contrast, in informal texts the date information necessary to understand the texts information could be thrown in wherever one wanted. The distribution of the texts bears this out. Of the 16 reasonably well-preserved small disbursement texts with final dates, 13 can be linked with outsiders.²³ This is exceedingly unlikely to have happened by chance.²⁴ Hence whether a text was given a formal date at the end correlates strongly with whether outsiders were involved. There certainly could be other occasions when a scribe would write a formal date at the end of text, since it would not take an unbearably large amount of effort to do so. Yet, it is clear that such occasions were quite infrequent.

²³ Involve outsiders: MARV 1 25, MARV 3 29, MARV 5 16, MARV 5 57, MARV 6 15, MARV 6 19, MARV 6 24, MARV 6 69, MARV 6 81, MARV 7 20, MARV 7 86, MARV 9 96
Do not involve outsiders: MARV 5 43, MARV 9 11, MARV 10 85

Unclear: MARV 6 47, MARV 7 38, MARV 7 90, MARV 8 61, MARV 9 34, MARV 10 87

²⁴ Assuming again the probability of a text involving an outsider in antiquity was about 22/89, and using a standard binomial distribution, the probability that at most three texts would not involve outsiders in a randomly selected group of 16 is 0.0000033, that is, vanishingly small.

A second way to make a date more formal was to include a Babylonian month equivalence. The practice seems to have been an innovation of Tiglath-pileser I's reign, and makes its first clear appearance in the Agency's texts in the last months of his first regnal year.²⁵ How one understands the practice has serious implications of the study of Middle Assyrian chronology and so has been the subject of considerable debate. The most recent contributions in this debate have come from Cancik-Kirschbaum and Johnson (2011-2012) and from Jeffers (2013: 384-390).

Since only three small disbursement texts have this style of dating, we cannot derive statistically meaningful conclusions from only this text type. Yet, if we expand our sample to include all double-dated texts in the archive, we find that the same distribution clearly holds. In the published texts of the archive, there are seventeen texts that give a Babylonian month equivalence, although three are essentially unreadable apart from their dates.²⁶ Since the archive as a whole records a larger variety of administrative activity, outsiders often appear without the exact phrase *ina qāt* PN. Hence we must relax our definition slightly to include all texts where one of the parties involved is not a regular member of the Agency. Doing this we find that eleven of the fourteen readable texts definitely involve outsiders.²⁷ The remaining texts all deal with peculiar transactions where the involvement of outsiders, while not certain, is strongly implied. In one text, the minor *alahhinu* Kuttahhu returned to the Agency for a short stint several years after leaving it (MARV 5 43). Another refers to a large disbursement made from *maddattu* grain

²⁵ MARV 7 74, if correctly interpreted would put the first instance of this practice on an Agency texts in very first days of Tiglath-pileser I's first regnal year. However, the interpretation of this very damaged text is far from certain.

²⁶ Readable: MARV 1 25 , MARV 1 62, MARV 1 73, MARV 5 6, MARV 5 42, MARV 5 43, MARV 5 57, MARV 6 1, MARV 6 86, MARV 6 90, MARV 7 3, MARV 7 46, MARV 7 50, MARV 8 50

Unreadable: MARV 2 2, MARV 9 42, MARV 9 90

²⁷ *ina qāt* PN: MARV 1 25 , MARV 1 62, MARV 1 73, MARV 5 42, MARV 6 86, MARV 6 90, MARV 7 46, MARV 7 50

Outsider involved with other phrase: MARV 5 57, MARV 7 3, MARV 8 50

No explicit outsider involvement: MARV 5 6, MARV 5 43, MARV 6 1

(MARV 5 6), and a third summarizes out-of-phase payments made by named officials on behalf of various provinces (MARV 6 1 + MARV 6 17).

One might object though, that while the notions of outsider and insider are fairly straightforward in the small disbursement documentation, they may have been fuzzier in other contexts. In activities that regularly involved outsiders, like receiving incoming shipments, the Agency may only have given the “outsider” treatment to select individuals, and may have used largely arbitrary criteria to do this. Here we can appeal to the formal devices already discussed. As we have seen, the presence of a sealing correlates very strongly with the presence of an outsider in the small disbursement texts, and it would be reasonable to think that sealing a tablet was a general part of the “outsider” treatment, regardless of how the Agency decided who was in the class. Of the sixteen texts with double dates that are well enough preserved to tell if they were sealed, twelve indeed were sealed. The probability of this happening by chance is essentially zero.²⁸ Rather, sealing and a double date strongly correlate, and hence it would seem that both were used for the same general purpose, namely, formalizing a tablet, although one did not always have to use both. All this fits nicely with the idea that Babylonian month equivalences were largely used to formalize documents involving outsiders.

In conclusion, it seems that in an overwhelming majority of cases the Agency used its various means of increasing the formality of a tablet only when interacting with outsiders. When conducting affairs within the Agency such formality seems to have been dispensed with. It is not hard to find reasons why this might have been so. The executive staff of the *Gināu* Agency

²⁸ In the published texts of the archive as a whole, 81 texts were definitely sealed, and 333 definitely not sealed. Thus, the probability that a randomly chosen text would happen to be sealed is 0.191. If sealing does not correlate with the double dates, we can model the distribution of sealed texts among the double-dated texts with a binomial distribution. Doing so, we find that the probability of four or fewer texts being unsealed in a sample of 16 by pure chance is 0.00000198, that is, vanishingly small.

consisted of only six people and their supervisor, and the members of the group were in near constant contact with each other for decades. In that situation, formal legal documents would be superfluous for such small amounts of grain. An official who embezzled from a disbursement would have to answer his colleagues' embarrassing questions when there was a shortage in the offering cycle a few days later. More importantly, one doubts that the *gināu* supervisor needed the support of formal legal documents to take action against employees he suspected of malfeasance. Hence, increasing the formality of its internal documents would inconvenience the Agency without any tangible improvement to its operations. It can hardly be a surprise, then, that members of the Agency mainly went to the trouble of drafting formal documents when dealing with outsiders, whom they knew less well and had less authority over.

1.1.2 Large disbursement system

The other approach the Agency used to distribute grain was to issue large sums of grain intended to last for several months at a stretch. Done right this would require drawing up considerably less documentation than in the small disbursement system. Fewer than a dozen short documents might conceivably cover all the Agency's disbursements for a full calendar year. It is no surprise, then, that only 22 large disbursement texts have survived, roughly one-fifth the number of small disbursements.

The exact information presented in the large disbursement documents varied noticeably over time. The earliest of them that is well preserved comes from Ninurta-apil-Ekur's reign (MARV 5 28). The text gives the total grain used by each *alahhinu* over a 14 day period of an unnamed year and then gives instructions on disbursements to be made in the following period. Variations on this format would be used throughout the rest of the archive.

In the reigns of Aššur-dān I and Aššur-rēša-iši I the genre became more simplified.²⁹ These texts give only the date the accounts were settled, the amount of grain remaining in each grain official's possession, and what additional actions needed to be taken. That is, they give only the information essential for continuing short-term operations. Knowing exactly how much grain the grain officials had spent and how long it had taken them to spend it would undoubtedly have been useful for long-term planning and spotting fraud. But this information was not necessary to ensure the offerings could continue in the short term. What mattered for that purpose was not how much grain had already passed through the Agency but how much was currently available to spend.

This relaxed approach to record keeping proved inadequate to the challenges of the *maddattu* crisis at the start of Tiglath-Pileser I's reign. The full details of the crisis are best left to III.1, but for now it suffices to note that the Agency faced massive shortfalls in grain, forcing departmental and royal officials to intervene to keep it solvent.

This situation made new demands on the documentation. In general the Agency reacted rather haphazardly to grain shortages (III.2), but it seems the higher ups were now determined to make the process more regular. This required a considerable amount of long-term planning, and hence a system of documentation containing the information needed for long term planning. In particular, officials would need to know the rate at which the current full or reduced offering schedule was going through grain so that they could make adjustments to their operations and not run out of supplies prematurely or have to reduce the offerings more than absolutely necessary.

²⁹ Large disbursement texts from their reigns include MARV 3 61, MARV 5 13, MARV 6 6, MARV 6 25, MARV 6 30, MARV 7 41, and MARV 8 69. MARV 7 39 is also from this period, although it is not certain that it is actually a large disbursement text. The heavily damaged MARV 7 60 is likely also from this period.

The formatting changes under Tiglath-Pileser I provide this sort of information. The earliest large disbursement text from his reign, MARV 9 108, follows the same general format used under Aššur-dān I and Aššur-rēša-iši I. However, most of the documents written after it give the exact time period they cover, stating both the starting and the ending date. In MARV 7 42, dated to his second regnal year, this seems to have been the only formatting change.³⁰ However, soon we find documents recording not just the time covered, but also figures for the total amount of grain issued or used. MARV 5 40 lists the amount given and the amount remaining, and MARV 7 2 lists both figures as well as the amount used in that accounting period. MARV 6 48 gives the same three figures, although it does not give the period they cover. MARV 5 70 gives the amount actually used in a 138-day period.

Some of this information also shows up in texts that diverge more radically from the early large disbursement format. In the year Šadânāyu the Agency composed a large disbursement text covering the enormous span of 279 days (MARV 7 2). MARV 6 53 updates the information in that text, giving the total amounts of grain used and remaining a few weeks later. That much is straightforward. However, it seems that using a single tablet to record disbursements for the preceding three quarters of a year was considered excessively hands off even by the Agency's standards. As it turns out, the large disbursement text MARV 5 6, which involved the sizeable sum of 31800 *qa*, was composed during this account period. One might posit it was some kind of supplemental payment, but just the grain accounted for in MARV 7 2 would have been enough to ensure nearly complete offerings for the entire 279 day period. Likely the amount in MARV 5 6 was added into the total amount of grain handled in MARV 7 2.

³⁰ The extremely damaged MARV 7 18 seems to have been composed around this time as well, although the information about its accounting period has been lost.

Two other large disbursement texts use *iškāru* terminology. MARV 5 62 mentions that there was no remainder from the previous accounting period before noting the *iškāru* that was to be disbursed for the following month. MARV 9 8 likewise refers to one-month *iškārus* that had been given out.³¹

These documents are generally consistent in providing information about the absolute amount of grain the Agency was using and the amounts it was using in particular periods of time. This would be invaluable for long-term planning. Yet, they show a bewildering variety in exactly how that information was presented and which pieces were given. As the three texts from the year Šadānāyu show, there was not even consistency within a single year or accounting period about how exactly to record this information.

We can explain this variation as another manifestation of the Agency's distaste for paperwork. Since the Agency needed this additional information, it found various ways of adding it, just as it did with other information in the small disbursement texts. While cumbersome, this mixture of ad hoc text types conveyed all the necessary information.

One might object that if a person draws up enough texts conveying the same information it saves time and energy to standardize the format, and so a genre may well stabilize either because of conscious effort or simply from force of habit.³² Indeed, the basic format describing the amount remaining and its future use does seem to have stabilized already in the time of Ninurta-apil-Ekur, likely from this pressure. Yet, as the large disbursement texts were drawn up very infrequently even when used as the main accounting method, it is no surprise that this

³¹ Two other large disbursement texts from Tiglath-pileser I's reign, MARV 9 10 and MARV 9 69, are too damaged to meaningfully discuss their formatting.

³² On the pressures toward standardization in Assyrian legal documents more generally see Postgate (1997: 165).

pressure had little impact in the early years of Tiglath-pileser I when the new information was introduced.

Another source would also provide external pressure for standardization. If superiors were regularly consulting these documents or if they needed to be usable in specific legal contexts, a certain level of formality might be required, and this in turn might produce standardization. Evidently though, most of these documents were for use within the Agency and so do not obey such a format, although the information they contain may have been used to create such documents when the need arose.

Since none of these pressures toward standardizations seems to have been very strong, we would have to make a leap and assume that the Agency itself imposed regularity on the documents. Yet this regularity would mean extra work. Unnecessary information would have to be added to some texts in the interest of regularity, and frequent recourse would have to be made to a model text every time a new document was being written until the format was memorized. Since this extra work was, strictly speaking, unnecessary to preserve the information the Agency needed, its members did not take the time to do it. Thus, as with the small disbursement texts, the variety of information is paradoxically the result of the Agency's minimalist approach to documentation.

Two final considerations are in order before we leave this topic. One is the issue of formality. Given that the large disbursement texts often involve much larger amounts of grain than the small disbursements, one might expect them to be more formal. After all, with quantities so large it would be much easier for grain to go missing without drawing undue attention. As it turns out, the opposite seems to have been true. We do not have the volume of texts to generate statistics comparable to those for the small disbursements, but a look at the sealed texts is

instructive. Of the 26 large disbursement texts, only three are sealed. Of these, two (MARV 5 6, MARV 7 2) come from the year Šadānayu during the period that Agency was using a *huburnu* storehouse. While details of this incident are hard to recover, it seems to have caused the Agency to be unusually liberal with their sealing. MARV 9 116, a small disbursement text from the same period was also sealed despite having no clear reference to an outsider. The only other sealed small disbursement, MARV 9 69, is from a different year, but is too damaged to say anything about the reason for the sealing. This fits with the general notion that the large disbursement texts were informal internal documents.

The other consideration is potentially more troubling for our reconstruction. One might argue that the large disbursement and small disbursement systems were not really distinct, but were actually two levels of documentation for the same transactions. As it turns out, this is partially true. Just because large disbursements were being made did not mean small disbursements were completely stopped. Rather, the large disbursement system provided an additional way of coping with the disbursement process.

In three of the large disbursement texts we can show that disbursements continued to be made during the account period. As mentioned above, MARV 5 6 refers to enormous disbursements of 10600 *qa* being issued to each major *alahhinu* during the period covered by MARV 7 2. On a much smaller scale one finds the Agency's brewers receiving 400 *qa* of grain each in MARV 6 69, during the period of their account on MARV 7 42. Likewise Ša-Aššur-līšer received 600 *qa* of grain in MARV 9 11 during the accounting period described in MARV 5 62.³³

³³ In addition to these, ten texts are attested in the accounting period of MARV 5 70 during the eventful year Ibri-Šarre. Yet this particular text is simply a summary of cumulative expenditures. Strictly speaking it may be a type of

However, this handful of texts does not tell the whole story. If these texts were a regular part of the documentation, one would expect them to be better attested in the periods for which we have the most small disbursements. Yet, no more than two small disbursements texts are attested during the account period of a large disbursement text. Even for the extremely well attested year Mudammeq-Bēl we find only one large disbursement text (MARV 5 62), and it involves only brewers and has a single document that can be dated to its accounting period. This does not prove these texts were not a regular part of the documentation, but it does suggest it is possible.

What is more convincing is that in most of these periods we can also spot clear evidence of abnormally large disbursements. The enormous sum of 10600 *qa* per *alahhinu* in MARV 5 6 that occurs in MARV 7 2's accounting period is perhaps the most extreme. Yet even in MARV 7 2 itself, one finds one *alahhinu* with 2863 *qa* grain on hand, enough grain to continue operations for nearly a month at full capacity. For the period covered by MARV 7 42 one finds a reference to the brewers taking out 8000 *qa* of grain, enough to last over a month at full operating levels (MARV 7 7). For MARV 5 40 we find that a brewer still has 7210 *qa* of barley on hand, more than a month's supply even if he was doing all of the Agency's brewing. It would not be unreasonable, then, to think that the system was normally used when the Agency was making large disbursements, even if it continued to make small disbursements as well.

It is also probably no accident that the two cases where true small disbursements occur during one of the large disbursement's account periods involve only the brewers. As discussed in the previous chapter, providing grain for brewing was complicated by the time lag required for the brewing process and the tendency of the Agency to brew in large batches. It would make

summary text conveying the same information as the large disbursement texts. However, on account of similarity of format and content I have treated it with the large disbursements proper.

sense that, if the Agency had sufficient funds, the first officials to get large disbursement would be the brewers. This would give them the flexibility to be able to begin brewing whenever they felt it was necessary, without having to obtain additional grain from the Agency. Moreover, it freed the Agency from the administrative burden of working out how much grain it had to set aside for future brewing. It is perhaps not surprising that the Agency sometimes misestimated the grain needed and had to supply the brewers with additional grain, or found them with far too much at the end of a period. Since the Agency was making small disbursements to the *alahhinus* anyway, it was not a major problem to redirect some of that grain to the brewers as needed. When there was enough grain to start issuing large disbursements to the *alahhinus* as well, the Agency generally abandoned small disbursements all together.

In sum, while it cannot be entirely proven, there is good reason to think that the Agency did not regularly use both styles of documentation for the same disbursements, even if it might sometimes use both systems during a single time period. We can understand the large disbursement system as a tool. Where convenient the Agency would employ it, but unless the Agency was making reasonably large disbursements it was not especially helpful and so was not used. Conversely, just because the Agency had made some large disbursements did not mean it had to cease making small disbursements. If all the grain officials had large stores of grain at their disposal there was little reason to make small additions to this, but if an occasion came up there would be no reason not to do so.

1.2 Other grain disbursements

Most grain disbursed by the *Gināu* Agency seems to have gone through one of the two systems discussed above. However, there are a few examples of disbursements that do not fit into the system. As part of the reforms of the year Ibri-šarre, Ezbu-līšer gave out a quantity of

wheat, apparently to an outsider, for a purpose that is now lost (MARV 5 68). Two occur further oddities occur in the transition year Mudammeq-Bēl. In the unusually phrased MARV 9 106 the minor *alahhinu* Kuttahhu withdraws grain alongside the then retired major *alahhinu* Aššur-danninni. More opaquely, MARV 6 38 ends with a cryptic note involving either an otherwise unknown male name Rēmuttu or a gift. It also writes the titles of all the members of the executive staff, a practice which is otherwise virtually unknown in the archive. Both documents may be related to the personnel turnover in that year, but it is not possible to say more than that.

From a few years earlier there is the text MARV 5 26, which describes grain given out to the brewers for malting. This seems to have been a regular part of the brewing process since malted grain is issued to brewers in MARV 6 73. Why grain is issued to produce it only in this one text is unclear. The simplest explanation is that the brewers normally malted some of the grain from their regular disbursements, and that some unusual occurrence required more grain to be malted. What that occurrence might have been, though, is not recoverable.

Perhaps the most mysterious of these texts is MARV 7 81, which lists a series of thirteen names, most otherwise unattested in the archive, who are associated with quantities of an unnamed substance. No header or footer gives any information about the meaning of its contents or even the date. It does mention Siqqi-Aššur-ašbat and Urad-ūm-9, both of whom are attested elsewhere in the archive. Hence we cannot easily assume the document was mislabeled by the excavators or otherwise made its way into the archive erroneously. Finally, the two damaged texts MARV 8 62 and MARV 9 10 give hints that they described irregular operations as well, but little more can be said about them.

1.3 Second-order documents

As we saw above with the primary disbursement texts, the Agency took pains to minimize the amount of writing that needed to be done. Since the individual disbursement tablets contained all the necessary information for the Agency's continuing operations, in principle no additional documentation would be needed. The system might be a bit cumbersome if a large number of small disbursements were issued, but the Agency does not seem to have produced more than at most ten of these in any given month (II.1). A full year might produce perhaps 120 small disbursement texts. Even just stored together in a jar it would not be difficult to find a particular record as needed, and, if neatly filed, any desired information could be retrieved very quickly.

Therefore, if the Agency's only concern was carrying on normal operations there would be little need to draw up second order documents apart from some bureaucratic notion of completeness. It already had at hand all of the necessary information. Fittingly, the Agency does not seem to have drawn up such documents as a matter of course, in contrast with the summary tablets it regularly produced to keep track of its income (I.3). Rather, second-order documents were generally drawn up as a response to unusual circumstances.

Since they were created to deal with unusual circumstance, many of the second-order documents are *sui generis* and do not lend themselves readily to classification. Here I have organized them by the general type of information they contain, but this is, of necessity, an imprecise affair.

1.3.1 Amount spent

One common reason for the Agency to draw up a second order document was to work out just how much it had spent. This information is not essential for day-to-day operations. In the

short run the Agency needed to know how much grain it still had on hand, not how much it had already used. Still, there are several circumstances when that information would be useful. One would be to coordinate the production of different parts of an offering over a short period of time, as we find in two texts (MARV 5 17, MARV 9 107). To make bread, beer, and oil for the same day would require starting the beer considerably in advance of the bread and making special arrangements with an outside oil presser since the Agency did not have one on staff. When the Agency was operating at full capacity this would not be a problem. If each official processed a fixed amount each day, then on any given day a finished batch of the same size would be ready. However, when offerings were reduced or suspended matters would become much more complicated, necessitating texts like MARV 5 17 and MARV 9 107.

Another reason to track expenditures would be to more closely supervise what the grain officials were doing. One intuitive way to do this would be to keep monthly summaries of their activities, and indeed we have five texts summarizing disbursements in a single calendar month.³⁴ By chance we have four of the small disbursement texts on which these texts were based.³⁵ Hence they cannot be explained away as a different style of primary accounting document, but must represent another level in the small disbursement system. Yet, this was not a commonly used level. The three texts which have preserved dates come from Months VI, VII, and IX of the same year, Mudammeq-Bēl. On prosopographic grounds the other two texts can be dated to the same year, though sadly not to the missing Month VIII. This curious distribution

³⁴MARV 5 29, MARV 7 24, MARV 7 48, MARV 7 69, MARV 8 96

³⁵ The duplicated dates are:

VI.3.Mudammeq-Bēl (MARV 6 20 and MARV 7 48)
VI.14.Mudammeq-Bēl (MARV 6 11 and MARV 7 48)
VI.21.Mudammeq-Bēl (MARV 9 106 and MARV 7 48)
VII.2.Mudammeq-Bēl (MARV 1 11 and MARV 7 24).

could be chance as Mudammeq-Bēl is by far the best documented year in the archive.³⁶

However, this year also occurred during the chaotic transition from *alahhinu* team four to *alahhinu* team six. In the absence of comparable monthly summaries from any other period, it seems likely that this genre was developed to help with the transition. Old hands who had served the Agency for decades could be trusted to work with minimal supervision. Young men in their first or second year on the job might require rather more oversight, particularly when the roster changed as frequently as it did in the year Mudammeq-Bēl (Appendix C). When the officials had settled in, such summaries would be unnecessary and indeed they seem to have been abandoned by the time the year ended.

We find a similar summary genre employed in the year Ibri-šarre for rather different reasons. The clearest of these texts is MARV 6 33, which covers disbursements made in a two-month period, VIII-IX.Ibri-šarre. MARV 8 8, from Month II of the same year, covers at least two sizeable disbursements from that one month. In these texts the grain officials in question are all old hands, some with more than two decades' experience, and such a text can hardly have been needed for their training. However, this year saw a large number of administrative changes as the Agency was combined with its counterpart in the palace and put under much closer supervision (III.1). The Agency's new associates could not be assumed to be intimately familiar with its day-to-day practices and so they would benefit from having summary documentation to consult.³⁷ Moreover, it is quite possible there was increasing suspicion about the Agency's uncanny ability to remain insolvent despite frequent infusions of aid in this period. Hence, it would be desirable to keep closer tabs on its activities.

³⁶ Using the naïve assumption that the monthly disbursements were randomly distributed among the small disbursement texts that have survived, the odds that all of them would be from Mudammeq-Bēl are $\left(\frac{49}{105}\right)^4 \sim 0.047$, i.e. less than 5%.

³⁷ For similar reasons the agency also drew up tables of offerings in this year (III.1).

A somewhat similar situation occurred at the start of the *maddattu* crisis, where the *alahhinu* staff was temporarily disrupted and the Agency was forced to coordinate with other branches of government to find supplies and workmen (III.1). Not surprisingly, one finds another text summarizing expenditures from this time, MARV 7 7. This text has a unique format, recording not just quantities of grain and grain products entering and leaving the Agency's control, but also who measured the quantities. The badly damaged summary MARV 9 23, dated to the second year of the crisis, was likely composed for similar reasons.³⁸

Finally, two texts appear to summarize disbursements made to just one individual over several months. The better preserved, MARV 8 75, deals with the brewer Tišpakiya and seems to have been written during the troubled year Ninuaya. MARV 5 73 comes from another troubled year, Ša-urki-Berê, and follows a similar format. The name of the individual involved is lost but one suspects that it also involved a brewer though this cannot be proven. Under conditions of extreme shortage like those well documented in the year Ninuaya, it would make sense to keep careful track of what grain had been given out. This practice would be even more valuable when dealing with brewers. One could not simply issue them grain the day before they were to use it as one could with *alahhinus*. As a result, even a small offering for one day might require multiple disbursements, all several days before the actual offering to be made. Sudden changes in the planned offering levels or unexpected income would only add to the complication. It is no surprise then that the Agency sometimes found it convenient to summarize in one place all the disbursements a brewer had received.

³⁸ Two additional but fragmentary summary texts, MARV 7 40 and MARV 8 29 involve *alahhinu* team four and could plausibly date to Ibri-šarre or one of the earlier years in the *maddattu* crisis, although exact circumstances behind both texts seem, for the moment, unrecoverable.

1.3.2 Amount on hand

How the Agency spent its grain was not the only matter for which it might need to compile a synthetic document. Because grain officials sometimes drew disbursements directly from arriving ships (II.1), it might not be clear to the *gināu* supervisor exactly how much grain each official had on hand at the height of the shipping season. Even if they dutifully filed small disbursement texts as each shipment was received, to arrive at cumulative figures for each official would require a considerable amount of calculation. We find three texts that deal with those calculations. MARV 7 19 provides cumulative figures itemized by source for each of the *alahhinus* and one brewer. MARV 3 6 catalogs a number of irregular disbursements the executive staff had received and ends with instructions on when they are to begin using the supplies. A third text, MARV 6 34, lists all the grain which the major *alahhinu* Mār-Šilliya had received or was expecting to receive in the near future, although it does not arrive at a cumulative total.

MARV 3 6 was composed during the worst part of the Liptānu crisis and is filled with administrative irregularities. It is hardly surprising that the Agency felt it important to organize this information into a neat summary text. The other two texts are not dated and so it is harder to speak about the circumstances that caused them to be composed.

1.3.3 Amount received

If the practice of receiving grain directly from incoming shipments made it difficult to know how much grain an official had on hand, it also made it difficult to know just how much grain had been delivered. The Agency needed to know that figure to keep track of which provinces still owed payments for the year. One could arrive at such a figure by carefully working through all the relevant small disbursement texts, or by making sure each arriving

shipment was entered into the Agency's writing boards before it was disbursed. Yet, in particularly complicated situations the Agency would simplify the process by drawing up summary texts giving information on a number of these direct disbursements.

Under Tiglath-pileser I we find three texts which accomplish this purpose by simply listing the relevant small disbursements one after another.³⁹ MARV 6 24 duplicates the shipment recorded on MARV 9 14: 1-14, indicating that they were indeed a separate level of documentation. This general format makes them quite similar to the monthly summary texts discussed above. Nevertheless, MARV 6 36 covers shipments from two months, and both it and MARV 9 14 seem to have started late in the month. It seems unlikely they were drawn up on a monthly basis.⁴⁰ The best preserved of them, MARV 9 14, gives a grand total of grain received, and the others may have as well. This would provide a rough estimate of the grain the Agency had on hand, though without the itemized totals for individual *alahhinus* we find in other summary texts.

A much earlier text, MARV 7 15, likewise records the disbursements of a number of individual shipments, but uses somewhat different turns of phrase. MARV 7 43 deals with a series of irregular grain payments from various named individuals and tells how they were disbursed among the staff. This variance suggests that this type of text was not drawn up regularly for the duration of the archive but only from time to time. Whenever the need was felt for such a document the scribe did not go thumbing through the old records to find out how it had been done the last time, but simply thought up a convenient format and used that.

A related text, MARV 8 46, lists several very small, undated shipments that were distributed and then gives their sum. These were likely part of a single unusual grain delivery

³⁹ MARV 6 36, MARV 8 3, MARV 9 14

⁴⁰ The remaining text, MARV 8 3, is too damaged to say on what day it began.

since all the shipments seem to have been loaded with the same unusual measuring procedure, but we can say little more. The much earlier text MARV 8 63 seems to have done something similar, listing four separate disbursements made largely from the grain of a certain Šallī-lāmur, possibly on a single day. As with MARV 7 15, the exact phrasing of the texts is quite different, suggesting that the genre was not in continuous use.

1.3.4 Amount borrowed

Emergency loans and gifts of grain caused additional accounting difficulties for the Agency. Borrowing grain could require drawing up formal loan documents, but these are best left to the discussion of administrative loans in the Agency in III.3. Since the Agency might borrow from a number of different sources, it would require considerable calculation to learn the total amount of emergency grain it had on hand to distribute, even if it had good records of all the individual loans. Thus two texts, MARV 9 112 and MARV 8 68, calculate the total amount of grain received from a variety of irregular sources. Here, we find the cumulative sums borrowed are roughly multiples of 10,000 *qa* (20080 *qa* and 9650 *qa*). These are the sort of round figures we would expect to see if the Agency set a goal amount it needed to borrow as even multiple of 10,000 *qa* and then went hunting around the administration until it obtained roughly that sum. However, with only two data points, this must remain a conjecture.

Another text, MARV 5 37, refers in its extant portions to a single large loan received from “the Assyrians” and a number of high ranking officials. Finally, MARV 6 40 lists two sets of loans that had been taken out to supply the *gināu* but not yet repaid. Indeed, the grain officials had not yet finished using the grain received from the latter set of loans.

Taken as a whole then, the second-order grain disbursement documents are a motley group. There are a few coherent genres, like the monthly summaries of Mudammeq-Bēl, but

most texts form a genre unto themselves and defy easy classification. In those cases where we have good information on the broader administrative context, the texts can generally be linked to administrative irregularities and crises. Even if the occasional second-order document was motivated purely by an uncharacteristic enthusiasm for red tape, it is clear that second-order documents were not a regular part of the Agency's accounting system for grain expenditures.

1.4 Conclusions about the grain disbursements

If we step back, the picture so far is quite encouraging. The grain disbursement texts are by far the most numerous of those discussed in this chapter, so they should provide the best resolution and indeed they are consistent both with our hypothesis of minimal red tape and with the reconstruction of the Agency's expenditure activities offered in the previous chapters.

On the first point, the grain disbursement texts are by and large informal documents for internal use. They are not red tape, but eminently practical documents. The only major exception is those disbursement texts that involved interactions with outsiders, but this too is practical. In dealing with outsiders the Agency could not always rely on the same close bonds of trust and authority that operated inside it. There was a chance it would need to take legal action or defend itself from such action, and for this purpose formal documents would be quite useful to have on hand.

More importantly, it has been possible to find a suitable place for nearly all the grain disbursement texts in our model of the Agency's expenditure process. There are plenty of small administrative irregularities that cannot be taken as definitively solved, but there is nothing that cannot be plausibly explained. In contrast, there are no indications of major expenditures that we have missed.

2 Other Disbursements

When we leave the grain disbursement texts the ground becomes less firm. The other genres in our archive are much more poorly attested, and the resolution offered by some 150 texts far exceeds what one can get with a dozen, not matter how careful one's analysis is. Even so, we can find a plausible place for these texts in our reconstruction of the Agency's expenditures and also maintain the principle that texts must be written to serve some administrative purpose.

2.1.1 Oil pressing

As discussed in the preceding chapters, the high volume of grain handled by the Agency caused grain-related matters to dominate the documentation. Sesame disbursements appear only infrequently and show considerable variety over time. We can detect three radically different ways in which the Agency recorded how its sesame was pressed into oil over the course of the archive.

In the time of Ninurta-Apil-Ekur the Agency worked with a certain Siyutu. The Agency regularly used sealed contracts in its interactions with him, which suggests he was not a regular member of the Agency (MARV 3 20, MARV 8 60). He also seems to have loaned the Agency sesame and oil (MARV 5 8). It is possible his services were only called upon in exceptional circumstances and that he normally pressed oil for other clients. His tenuous links to the Agency would explain why the Agency had to pay him wages in MARV 3 20, something not otherwise attested anywhere in its archive. Indeed, he may have been a subordinate of the palace supervisor Nuskaya, since in MARV 8 60 he confiscates Agency grain to repay a debt owed to Nuskaya at the latter's order.

In the reign of Aššur-dān I one finds sesame disbursements listed alongside those of the grain officials.⁴¹ What is striking is that while the grain officials are named, the oil presser is always referred to by title in these texts. If the Agency had a regular relationship with a particular oil presser, one would expect him to be referred to by name rather than his title, which in any case would be obvious since he was receiving sesame. Likely the Agency continued the practice of drawing up formal contracts to have its oil pressed. However, the extant texts from this period are not these contracts, but rather planning texts that happen to involve oil. To ensure the upcoming offerings would be fully supplied what mattered most was that the sesame was being pressed, not who precisely the *gināu* supervisor had contracted to do it. Therefore, only the fact that sesame was in the hands of an oil presser was recorded. If the Agency wanted to know who that was, it could consult the formal contract.

Things seem to have changed by the time of the oil presser Mār-Āpie, who worked with the Agency in the later years of Aššur-rēša-iši I and the first decade or so of Tiglath-pileser I. In contrast to his predecessors, who seem to have been dealt with by formal contract like outsiders, he was closely integrated into the Agency. The Agency had two different approaches to dealing with him that were analogous to the small and large disbursement systems used with the *alahhinus*. One was to issue him *iškārus* of 150 *qa* of sesame each.⁴² Unlike Siyutu, Mār-Āpie seems to have been on close enough terms with the Agency that formal contracts were not needed. Rather, the four texts dealing with his *iškāru* take the form of informal notes, having no sealing and not even giving a timeframe for when the oil was to be pressed. This situation is very similar to the much more numerous small disbursement texts. Each *iškāru* would produce at least

⁴¹ MARV 5 17, MARV 8 26, MARV 9 107

⁴² The pertinent texts are MARV 5 9, MARV 6 61, MARV 7 78, MARV 7 79. He always receives either 150 *qa* or 300 *qa* of sesame. In the former texts *iškāru* appears in the singular, while in the 300 *qa* texts it is in the plural. This would seem to imply that each individual “*iškāru*” he received was 150 *qa* in size.

30 *qa* of oil, enough to last the Agency about 3 days at the usage level described in MARV 7 1.

A simple explanation for this practice is that, as with beer, it was more efficient to press in larger batches, and that 150 *qa* was the smallest amount that Mār-Āpie's equipment could conveniently process at one time. Hence, rather than commissioning inefficient pressings for individual days, the Agency just commissioned full batches of oil as needed.

In addition to these short *iškāru* texts, the Agency at least once drew an account text for Mār-Āpie analogous to those used for the grain officials in the large disbursement system (MARV 7 32). The rationale for the switch remains unclear, though it is noteworthy that at least one of the small *iškāru* texts (MARV 7 78) can be dated to the same year the account was written, Mušēzib-Aššur (the month and day are unfortunately broken).

It seems Mār-Āpie's professional relationship with the Agency was not exclusive. In MARV 6 87 a certain Akukī the oil presser drew sesame from an Agency shipment. The text is not dated, but it mentions Šūzub-Sîn, one of the *alahhinus* active at the start of Tiglath-pileser I's reign. This places it in the same time period as Mār-Āpie's activities.

As with the grain disbursements, when the need arose the Agency also drew up summary documents for its sesame and oil expenditures. We have three such documents. MARV 5 8, written during the year Marduk-aha-ēres at the height of the Liptānu crisis, records a host of small debts for sesame, honey, and oil which the Agency had contracted with various individuals and repaid in oil. MARV 3 9, from the same year, summarizes a number of irregular sesame sources with which the Agency seems to have repaid those creditors (III.1).

The last text, MARV 7 1, is likely from the year Bēl-libūr. It is perhaps the most informative summary text the Agency ever produced. Facing a major shortage in sesame income the Agency worked out the amount it would need per day to pull off respectable, though slightly

reduced offerings. This involved a number of unusual calculations and complicated administrative arrangements, but the details of these are better left to the edition of that text.

2.1.2 Honey and Fruit

For honey and fruit the extant texts are too few to make many generalizations. Only three published texts deal with what might be regular honey disbursements (MARV 6 47, MARV 7 34, MARV 7 66). All are short and laconic, and the first two are damaged in crucial lines. There does not seem to be much in the way of consistent formatting between them, and some or all may have been drafted for special purposes now obscure to us. At least one more unpublished honey disbursement is known, but little information is available on it.⁴³ The aforementioned MARV 7 66 is also the only published fruit disbursement known for the archive. Given this paucity of texts and the small quantities of fruit and honey used in the offerings, it is quite possible that honey and fruit disbursements were not regularly documented. This would make sense since both could be used “as is” without further processing, and most of our knowledge about grain comes from texts about processing it rather than the distribution of the final products. If we looked at only those grain texts dealing with finished bread and beer, the picture would not be so different.

Thus the paucity of these types of disbursements fits with our reconstruction of the Agency’s expenditures and its posited distaste for unnecessary tablets. The varied methods used to outsource the Agency’s oil pressing likewise show the higher fluidity one would expect in relations without contractors as opposed to the more fixed relationships among individuals within the Agency. The resolution is not as good as the grain texts, but the general outline is still much the same.

⁴³ A 1008. The text is discussed in passing in Donbaz 1998: 179.

3 Offering texts

When one considers the impressive volume of texts the Agency devoted to grain processing, it is striking how little its members wrote about the finished grain products and the offerings for which they were produced (Freydank 2011: 432-433). It is hard not to think they did not regularly record such information on tablets.

Once again we can see this as a result of the *Gināu* Agency's distaste for unnecessary paperwork. Things were generally recorded because they were either difficult to remember or they required formal documentation for possible legal action. As we will see, neither condition would have provided a compelling reason for the Agency to keep track of all offerings made with its supplies.

Let us turn to the first point, memorability. As noted in II.2, the size and composition of an ideal daily *gināu* offering did not change for the entire duration of the archive. It is simply not that hard to remember that the same thing happened today as happened every day for the last fifty years. It is much more parsimonious to mark only variations from this ideal norm. We have good evidence the Agency did just that, though it is probably overstating the case to infer that all shortfalls were clearly recorded (Gaspa 2011a: 246).

The need for legally actionable documentation would perhaps be a more compelling motivation. However, it is not hard to think that over the course of half a century of daily operations the Agency and the cultic specialists who used its offering goods had found a way to streamline the process so that they did not have to draw up formal receipts every day. Compounding the problem, most of the leftovers from the offerings made their way to the palace and it is conceivable that the king and his agents exercised fairly close oversight over the cultic side of things. If the king or his trusted deputy decided the offering goods were inappropriate

they could take direct action against the Agency. On the other hand if the higher-ups were satisfied, no one in the kingdom would be in a position to challenge their decision, even if it was never recorded in a formal document. Hence, the proximity of the offerings to the king would also limit the utility of legal documentation.

Yet, the situation is not hopeless for the Agency often had to reduce its offerings and the particular sizes and dates of the reductions were not easy to remember. This generated the genre I have termed “offering logs.” Less frequently crises brought about changes in the size and distribution of the offering goods, and perhaps the mechanics of how they left the Agency’s control. This too was difficult to remember and the Agency, unsurprisingly, composed texts to help keep matters straight. Finally, we find documents that were produced to keep track of a few small rituals financed by the Agency as a form of virement and a few other miscellaneous ritual expenses.

3.1.1 Offering logs

3.1.1.1 Short period

Since the Agency’s job was to supply, not conduct the offerings, it is not surprising that logs of the amounts of finished product provided are by far the most common type of offering text. Some texts describe alterations to the offerings that were made over a short period of time. MARV 9 21 describes a shortfall in the offerings on one day. MARV 5 66 lists the amounts given on two consecutive days of reduced offerings followed by a note that offerings returned to full strength the following day. MARV 7 73 seems to cover some more serious irregularities lasting around a month, but its damaged state allows one to say little more. Finally, MARV 7 62 refers to substitutions made for the offering’s fruit component over several days.

Somewhat more complicated is the handful of texts with verbs in the present tense. It is tempting to see these as directions on how to cut back the offerings. Indeed, MARV 6 37, the clearest of these texts, even seems to include a second person present verbal form. However, the context in KAJ 306a and MARV 7 52 makes it quite clear that the durative forms refer to continuous actions performed in the past. Two additional texts (and possibly a third) seem to belong to the same genre, but are equally enigmatic.⁴⁴

What is most striking about these various short-term texts is that all but one (MARV 7 62), come from the reign of Ninurta-Apil-Ekur. The Agency likely invented the genre to deal with the shortages caused by the Liptānu crisis. It seems it was a cumbersome method, though, and was abandoned during the changeover in leadership at the end of his reign.

As a final note, there are two other difficult texts that seem to concern themselves only with the amounts of fruit, oil, and honey used in offerings (MARV 7 82, MARV 9 27). Their dates are lost and they do not show clear enough formal similarities to be conclusively put in the same group as the Ninurta-apil-Ekur short period offering logs, though that cannot be ruled out either.

3.1.1.2 Long Period

If offering failures were to become relatively common, keeping track of them with texts covering a few days each would quickly become onerous. As the failures became worryingly frequent toward the end of the Liptānu crisis the Agency had to revise its administrative practice, abandoning the short texts for ones covering long stretches of time. Already in Ninurta-apil-

⁴⁴ MARV 7 68, MARV 8 91. The extremely damaged text MARV 7 65 seems also to have been an offering log although it is too poorly preserved to determine whether it used present tense verbs or not or to work out the exact duration of the period it covered.

Ekur's last regnal year the Agency had started to draw up longer texts covering periods of up to a few months.⁴⁵

In the first years of the next king, Aššur-dān I, the Agency started drawing up enormous summary documents, often covering more than a year. MARV 2 14, the earliest of these texts, covers Aššur-dān I's first three regnal years. Four more texts in the genre are known, the latest coming from the year Hiyašāyu during Tiglath-pileser I's reign.⁴⁶

It may not be an accident that the introduction of the longer format texts coincides with the dismissal of Sîn-nādin-āpe from his position as *rab gināe* and other administrative changes in the Agency (III.1). The two types of text reveal a change in policy. In the short period texts, adjustments are made to the offerings on a daily basis. However, in the long-period ones offerings are made at full volume less frequently or given at the same reduced level for periods of several days or months. Such a policy requires a greater amount of planning and closer management, but once in place it is administratively far simpler than ad hoc reductions.

3.1.2 Itemized offerings lists

In addition to the logs which deal with the total amount of offering goods, there are three texts that give a breakdown of the individual offerings that composed the *gināu*. The most informative is MARV 6 35 + MARV 7 26. This text is prescriptive, listing the amounts of bread and beer (two types each) to be used in each of several dozen component offerings and ration payments which made up the *gināu*. A 981 +⁷ MARV 7 25 is much more damaged but followed a fairly similar format and came from around that same time, though not necessarily the same year. MARV 7 80 seems to have been a similar text as well, although its formatting is somewhat

⁴⁵ MARV 7 73, KAJ 306a

⁴⁶ MARV 6 7, MARV 6 65, MARV 6 66, MARV 9 19

different and it is extremely broken. The former two texts are too damaged to say much about why they were composed. However, the situation with MARV 6 35 + MARV 7 26 is much clearer. That text was composed on the same day the Agency was issued a large *maddattu* payment (III.1). It would seem that the same officials who arranged the emergency payment also decided the details of the *gināu* offering schedule that it would be used to fund.⁴⁷

In contrast to the two prescriptive tables, MARV 8 15 is descriptive, cataloging the total expenditures of an unknown commodity on various offerings over 37 day. The bulk of this seems to have been the daily *gināu*, but one can also detect a five day offering and a few one day offerings. Unfortunately, it was an informal note lacking any header or footer information, and so we can say little about when or why it was composed.

Four additional texts also itemize the food used in offerings, but for a much smaller selection of offerings. MARV 6 31 describes a handful of offerings of bread and oil made over the course of about a week. It seems to be a short-term log of the *gināu* offerings during a period of extremely reduced offerings. MARV 6 76 describes oil offerings made on two days months apart, and the damaged text MARV 6 59 seems to have described similar oil offerings.

MARV 5 7 and MARV 6 55 describe an arrangement where beer was given for use in the palace temple. MARV 6 14 records that an oil offering—likely the “palace oil” component of the *gināu*—was made at the palace for 73 days. Perhaps the most unusual of the group is MARV 8 56, which describes providing beer for offerings at Kār-Tukulti-Ninurta.

Apart from the offering tables, each text has its own unique format. The offering tables may have differed substantially in detail as well, though only one is well enough preserved to

⁴⁷ For a similar genre of prescriptive offering schedules dictated by higher authorities in Ur III times, see Zettler and Sallaberger (2011: 14-16).

yield any serious detail. Thus, it seems simplest to assume that under normal circumstances the *Gināu* Agency did not produce such documents, *contra* Gaspa (Gaspa 2011a: 245). Each was likely composed to deal with a particular problem that had come up. Indeed two of the texts (in radically different formats) are from the crisis year Ibri-šarre⁴⁸ and a third comes from the troubled year Šamaš-apla-ēreš⁴⁹.

3.1.3 Offering Virement

It is no surprise that supporting major temples and shrines consumed most of the *Gināu* Agency's time and resources. Yet, the Agency occasionally financed rituals for particular individuals as well. We can see this as yet another manifestation of virement in the Agency's activities. By their very nature these small irregular offerings were difficult to remember, and so they cast a surprisingly large shadow in the Agency's documentation.

In MARV 9 81 the temple gives 1 *qa* of bread *ana ape ana bēte* PN “for the funerary ritual of the house of PN” (5-7). Several other texts document a series of such small disbursements over several days.⁵⁰ A few other texts refer to small quantities of bread or beer given for reasons that remain opaque but do not explicitly mention rituals.⁵¹ The texts are all of roughly similar content, though they can vary somewhat in format. Some are explicitly marked as notes *ana lā mašāe šaṭir* “written to not forget.” The variation suggests that the Agency produced these texts less frequently than the reasonably standardized offering logs, but not so infrequently that the genre had to be entirely reinvented every time it was needed.

⁴⁸ MARV 6 35, MARV 6 76

⁴⁹ MARV 6 31

⁵⁰ MARV 5 32, MARV 7 74, MARV 8 20

⁵¹ MARV 7 57, MARV 7 87, MARV 8 92

A look at the dates shows all the texts are from around the tenure of Ezbu-līšer. This is probably an artifact of how the archive was created. As discussed in III.3, the older texts had already been purged at least once before the purge that created the M 4 archive. Ephemeral notes about a few *qa* of bread would have been some of the first things to go when the Agency was reducing its tablet inventory.

3.1.4 Miscellaneous

There are a few other texts dealing with aspects of the offerings that defy easy categorization. MARV 10 84 discussed large quantities of figs and grapes. MARV 10 64 refers to honey entrusted to the Agency for safe keeping, some of which was being issued to sponsor an *equ*-ritual of Bēlet-ēkalle. The text MARV 5 36 deals with complications in supplying the 126 *qa*-offering.

The texts MARV 3 16 and MARV 5 77 give quite detailed information on offerings, but neither has a preserved excavation number and they may not be from the archive. The offerings described in MARV 3 16 contain unusual items and are much too large to be the *gināu*. It too lacks an excavation number and probably deals with a monthly—or more likely yearly—festival financed by another agency. MARV 5 77 is more damaged, but also contains unusual offerings, and since it dates to the reign of Tukulti-Ninruta I, it would be anomalously early. It is not impossible that a few of these texts are from the Agency, but for now it seems safest to assume they were not. In the same vein, MARV 1 33 describes oil and a number of interesting baked goods otherwise unattested in the archive but lacks an M 4 excavation number and mentions a number people not otherwise known to have worked with the Agency. It too is probably best attributed to another archive.

Other texts describe wood (MARV 7 10) and stones (MARV 7 11), apparently for use in rituals. Finally, MARV 7 23 involves ritual matters, but is too damaged to place with any certainty. What is more, its excavation number is doubtful, and it may not have been produced by the Agency.

4 Personnel texts

The grain officials were not the only people who worked for the *Gināu* Agency. As discussed above, the Agency had a milling staff of roughly fifty men. A few documents in M 4 were drawn up to deal with this staff.

At first it might seem surprising that there were not more texts dealing with milling personnel. Two possible explanations present themselves. One is that the Agency kept track of the millers using running tallies on a writing board. The executive staff could list each miller and the amount of grain currently in his possession and regularly update the totals. As we already saw in I.3, the Middle Assyrian kingdom was no stranger to using writing boards for such purposes. The second explanation is that the milling staff's operations normally went unrecorded. As none of the teams had more than a dozen or so men, it would not be unreasonable for the *alahhinus* and brewers to keep tabs on all of them without any regular documentation. In favor of this, one might note that most of the documents about low-level personnel employed by the Assyrian state come from ration texts or texts dealing with annual production quotas. However, the Agency's millers drew rations from their work assignments. What is more, the yearly work quotas make little sense when the workmen are expected to produce identical amounts every day which can be easily checked. As a result, their day-to-day activities went largely unrecorded, just like many other laborers in the Middle Assyrian kingdom. For now, it is

not possible or, indeed, necessary to decide the matter. What matters for us is that we do not need to posit some large cache of personnel tablets that were lost in antiquity.

As for the few personnel texts that have survived, two list the various *gināu*-paying provinces and how many millers each had provided.⁵² MARV 5 34 appears to have listed the amount of grain currently in the possession of each of the Agency's millers, who in that text numbered at least 35 men. MARV 7 13, which lists numbers and *halzu* "fortress" names, could describe further personnel from the provinces, but that is doubtful at best.⁵³

Two other texts found in M 4 may also be rosters of Agency personnel. MARV 6 74 is apparently a roster of personnel including *hurādātu* "soldiers" and *aluzinnū* "jesters" given as *talpittu*. MARV 1 57 describes rations to a group of thirty-eight *zammārātu* "female singers." Find numbers show both were found in the archive, though given their otherwise unparalleled subject matter they may well be texts from another archive that by accident ended up in the *Gināu* Agency's storeroom.

A few texts also discuss grain disbursements directly to various groups of low-level staff. Two texts are fairly clear. MARV 6 75 describes issuing milling equipment to the Agency's millers. MARV 7 91, though very damaged, appears to describe work assignments for the various milling teams of the grain officials.

In addition to these, three other texts may deal with personnel. MARV 7 81 describes small payments made to ten poorly attested people (followed by three apparently important ones), who may have formed a milling team. MARV 9 113 is more damaged, but may also refer to disbursements made to individual members of a milling team. Another text, MARV 7 59,

⁵² MARV 5 60, MARV 6 64

⁵³ MARV 5 52 lists the names of forty-nine low-level staff members who are somehow delinquent (*muṭṭāu*), and may perhaps also refer to millers, but the attribution of the text to the archive is doubtful.

involves an *alahhinu* giving grain to a certain Nathāitu, otherwise unknown in the archive, but evidently a subordinate.⁵⁴ There is also one unfortunately quite damaged text, MARV 5 74, which deals with the sons of a number of grain officials, but without parallels it is difficult to say more than that.

5 Conclusions

There is something poetic in all this. The men who milled day in and day out to provide the gods with offerings—and those gods themselves—are nearly invisible in the Agency's records. Milling, baking, and presenting the offerings were so alive in the minds of their participants that they could hardly stop to write them down. It was largely the dry numbers of disbursements and offering levels that required the tablets to flow. This stream of documents flows nicely in the channels offered by our reconstruction of the Agency's expenditures and related activities. We need not invoke bureaucratic pathologies and wildly unbalanced levels of preservation to stop leaks. Rather, we need only the seven men on the executive staff using writing as a practical tool in their constant struggle to turn their incoming supplies into finished *gināu* offerings.

⁵⁴ She is perhaps related to the minor *alahhinu* Nathāu.

PART III: MANAGEMENT

III.1: The Crises

*They have been called the eyes
of the lost angels,
and it is true they remember
great lights, and a fall,
and that they seem to be waiting
for something to go away.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

So far, we have used a largely normative approach to investigate the *Gināu* Agency. We have looked at what the complete offering schedule was supposed to be and how the Agency went about supplying it. Yet, matters were not always so simple because the Agency suffered from endemic supply shortages, delays, and other administrative complications. For convenience we will refer to these complications as "crises." The effects of crises are so extensive in the preserved texts that it is impossible to isolate the Agency's ideal operations without taking them into account. Hence, I have made frequent references to them in the preceding chapters.

But the crises deserve to be looked at in their own right. Most of our documentation comes from crisis years, and it is possible that there was nearly always some type of "crisis" going on, a point to which we will return in the next chapter. To write them off as anomalies may well be writing off virtually all of the Agency's activities.

Here we will take two approaches to the crises. In this chapter we will look at the best documented crises in the archive and try to reconstruct an outline of the events involved. The most severe of these were the Litpānu crisis at the end of Ninurta-apil-Ekur's reign, the Da''ānī-Ninurta crisis in the middle of Aššur-dān I's reign, and the *maddattu* crisis of Tiglath-pileser I's first decade on the throne. The smaller accession crisis occurred when Ninurta-apil-Ekur seized

¹ (Richardson 2004: 14)

the Assyrian throne, and the short but intense Ninuaya happened two decades into Tiglath-Pileser I's reign and is the last major event recorded in our archive. We will attempt to localize the source of the shortages and then look at the Agency's reaction to the problems. In the next chapter we will see what generalizations we can make about the causes of the crises and how the Agency managed these crises.

Given the fragmentary and laconic nature of our sources, reconstructing the crises will necessarily be somewhat imprecise and involve some educated guesses. Undoubtedly these reconstructions will be incorrect in some matters of detail, but even with errors of detail they yield a general outline of events that is valuable for our purposes. To speak in the Agency's terms, our grain may come with considerable amounts of chaff, but it seems better to have a bag half full of grain than no bag at all. Future scholarship will hopefully sieve out some of this chaff. A schematic table of the crises is present below:

Reigning King	Crisis	Duration
Ninurta-apil-Ekur	Accession crisis	c. 2 years
	Liptānu crisis	c. 9 years
Aššur-dān I	Da'ʿānī-Ninurta crisis	c. 17 years
Ninurta-Tukulti-Aššur and Mutakkil-Nusku	(No attested crises)	
Aššur-rēša-iši I		
Tiglath-Pileser I	<i>Maddattu</i> crisis	c. 10 years
	Ninuaya crisis	<1 year

Figure III.1-1: The Major Crises in the Archive

1 The reign of Ninurta-apil-Ekur

The events of the reign of Ninurta-apil-Ekur are some of the most dramatic in the history of the Middle Assyrian kingdom. Although he was a member of the royal family, when he seized the throne it was the broadest shift of kingship within the royal family in Middle Assyrian times. For generations his family had served as grand viziers and vassal kings of Hanigalbat, keeping

tabs on Assyria’s Syrian empire (see Cancik-Kirschbaum 1999b). These momentous years were not without their impact on the *Gināu* Agency. As we will see, the Agency suffered two serious financial crises during Ninurta-apil-Ekur’s reign. The first, which we will term the “accession crisis” was precipitated by the civil war and Babylonian invasion which brought the usurper to power. The second, which we call the “Liptānu crisis”, seems to have been caused by invading Mušku raiders who temporarily crippled the northern half of the kingdom. For the reader’s convenience, the eponyms for the relevant years are laid out in the following table:

Regnal Year	<i>līmu</i> ²	<i>Gināu</i> Supervisor
Enlil-kudurrī-ušur.5	Haburrāru	Aba-lā-īde
Ninurta-apil-Ekur.1	Ninurta-apil-Ekur	
Ninurta-apil-Ekur.2	Lab’u	
Ninurta-apil-Ekur.3	Aššur-šuma-iddina	
Ninurta-apil-Ekur.4	Saggiu	Aba-lā-īde/ Sîn-uballiṭ
Ninurta-apil-Ekur.5-7	Bēr-nāšir	Sîn-uballiṭ
	Marduk-šumu-līšer	
	Uzibu	
Ninurta-apil-Ekur.8	Salmānu-zēra-iqīša	Sîn-nādin-able
Ninurta-apil-Ekur.9	Liptānu	
Ninurta-apil-Ekur.10	Salmānu-šumu-līšer	
Ninurta-apil-Ekur.11	Erīb-Aššur	?
Ninurta-apil-Ekur.12	Marduk-aha-ēreš	
Ninurta-apil-Ekur.13	Pišqīya	?
Aššur-dān I.1	Aššur-dān I	?
Aššur-dān I.2	Atāmar-dēn-Aššur	Adad-iqīša
Aššur-dān I.3	Aššur-bēl-li’te	Adad-iqīša [?]

Figure III.1-2: Chronology of the Reign of Ninurta-apil-Ekur

² The eponym sequence for Ninurta-apil-Ekur’s reign is based on the sequence offered by Bloch (2012c: 276-311). Bloch did not offer a definite sequence for years 5-9 of Ninurta-apil-Ekur. Based on MARV 6 2 he argued that the year Salmānu-zēra-iqīša came soon before the year Liptānu and that both occurred when Sîn-uballiṭ was *gināu* supervisor (Bloch 2012c: 284-285). The other three years for which Sîn-uballiṭ was in office (Bēr-nāšir, Uzibu, Marduk-šumu-līšer) were not mentioned in texts after he left office, but matters related to the years Salmānu-zēra-iqīša and Liptānu continued to be mentioned as late as the year Aššur-dān I four years later. Hence, I have taken those two years to be the last two years that Sîn-uballiṭ was in office. As will become clear, they also integrate nicely into the crisis that was underway under his successor Sîn-nādin-able. The ordering of the previous three years is unclear. The first three years of Aššur-dān I’s reign are sequenced using the assumption that the offering log MARV 2 14 describes events in three consecutive years.

1.1 The accession crisis

When Ninurta-apil-Ekur took the throne, a certain Aba-lā-īde had already been serving as *gināu* supervisor for some time.³ As Bloch has shown, he retained his office into the first part of the year Saggiu (Bloch 2012c: 288). The documentation which remains from the end of his tenure is too sparse to put together a coherent picture. We get only hints of what must have transpired.

If later sources are to be believed, there was no shortage of interesting events in those years. We learn from the Assyrian king list that Ninurta-apil-Ekur returned from Babylonian exile to seize the throne (Glassner 2004: 136-143). From Babylonian Chronicle 25 we learn further that he was accompanied by the Babylonian king and Babylonian army which defeated the Assyrian army in battle (Glassner 2004: 282-283, ll.3-8). In the aftermath the Assyrians are said to have handed over their defeated king Enlil-kudurrī-ušur to the Babylonians, at which point Ninurta-apil-Ekur presumably took the throne (Glassner 2004: 282-283; see also Bloch 2012c: 236n. 114). Admittedly the sources are late, and perhaps the story grew in the telling. Still it is likely that Ninurta-apil-Ekur's seizure of the throne involved considerable disruption within the kingdom.

We can find traces of this in the documentation from Aba-lā-īde's tenure. MARV 3 34 informs us that Aba-lā-īde had given the Agency some 27050 *qa* of his own grain *ša ana batiqte ša gināe ša bēt Aššur innakkilu-ni* "which was consumed at the cessation of the *gināu* of the Aššur temple" (5-8). The text is dated to V.5 of the year Haburrāru, which seems to have been

³ According to Bloch's chronology (2012c), the following five years in which Aba-lā-īde held office must have been before the accession of Ninurta-apil-Ekur: Adad-bān-kala, Adad-rība, Aššur-balāssu-ēreš, Bēr-kēna-šallimmī, and Haburrāru. Since Ninurta-apil-Ekur's predecessor, Ellil-kudurrī-ušur reigned only five years and served as eponym of his own first regnal year, at least one of these years must be placed before that ruler's accession, giving Aba-lā-īde a minimum tenure of six years before Ninurta-apil-Ekur took power.

the last year of the ill-starred Enlil-kudurrī-ušur (Bloch 2012c: 300). This is the sort of thing we would expect to see if a Babylonian invasion had massively disrupted the Agency’s supply network.

It apparently took some time for the new king to put matters back in order. MARV 5 35 lists the *gināu* shipments received in the new king’s first regnal year. Admittedly, we only have the top part of the tablet, so we do not know all of the provinces that were once listed on it. To compound the problems, it is not possible to reconstruct the leftmost digits of many of the numbers. Still we can see that many provinces made no payments at all of certain commodities. Moreover, we can extract honey payment amounts for the first seven provinces. These are presented in the following table:

Province	Amount of Honey Paid	% of Nominal Honey Assessment
Arbela	86 <i>qa</i>	45.7%
Kilizu	0	0
Halahhu	194 <i>qa</i>	107.8%
Talmuššu	40 <i>qa</i>	51.95
Idu	40 <i>qa</i>	51.9%
Katmuhhu	90 <i>qa</i>	48.1%
Šūdu	60 <i>qa</i>	90.9%

Figure III.1-3: Honey Payments in MARV 5 35

We have everything from slight overpayment to complete default, but the median payment is only 51.9%. This is hardly conclusive proof that total commodity receipts were about 50% in that year, but we can certainly say that it was not a good year. Apparently the Agency took out some irregular grain loans to cope, for we find two references to grain loans linked to the year Ninurta-apil-Ekur in MARV 6 40. Interestingly, if Bloch’s reading of the date is correct, MARV 6 40 would have been written seven years after Ninurta-apil-Ekur’s accession. It would be quite

a crisis indeed if it was still impacting the administrative record a full seven years later.⁴ In the next year, MARV 3 28 tells us that Aššur province, whose *gināu* supplies came from the far west of the kingdom, had not fully paid its sesame and honey assessment for the year Lab'u, but it is hard to generalize from information about a single province.

The picture changes in the year Saggiu. We last hear of Aba-lā-īde in Month IV of that year (MARV 3 28). This would fall in Babylonian Month II, shortly before the start of that year's delivery season. By Assyrian Month X a certain Sîn-uballit had been installed and the documentation becomes richer. One suspects that he took the liberty of purging the Agency's archive after his installation, keeping little other than some debt notes he hoped to collect on at a later date.

Things started off reasonably well for the new *gināu* supervisor. We have two full tables of *gināu* payments received in that year (MARV 5 1, MARV 5 2), but their interpretation requires some comment. MARV 5 1 records the paid *gināu* of the year Saggiu, while MARV 5 2 records payments made in the year Saggiu for the *gināu* of the year Aššur-zēra-iddina. The question is how do these two tablets fit together? Since the grain amounts are the best preserved on both tablets, we will focus on them. In the year Saggiu, the Agency only received 133110 *qa* of grain toward that year's assessment, about two thirds of its nominal income. It also received 116790 *qa* of grain toward the arrears from the previous year, about 60% of its nominal revenue. Adding these figures together we find that the Agency's total received grain in the year Saggiu amounted to 125% of its nominal grain income. Admittedly, things may have been less good with the other commodities, but at a bare minimum the Agency received a total income 83% of its nominal honey revenue and 54% of its sesame and fruit in the year Saggiu. Likely the real sesame figure

⁴ At the end of the year the Agency engaged in a strange livestock swap with a certain Adiye. This is probably unrelated to the crisis, but one cannot be certain.

was considerably higher since seven sesame entries were too damaged to be restored and so were left out of the total, but the fruit figure is close to the real one since only two fruit figures cannot be restored. The general picture that emerges is that, except for fruit, the Agency was on a fairly secure financial footing in the year Saggiu.

The question is, if the provinces made a good showing in paying their *gināu* assessments that year, why did the Agency treat it like two consecutive bad years?⁵ One approach would be to assume that Aššur-zēra-iddina was a very bad year indeed and that the provinces were trying to pay down their arrears, a rather frequent phenomenon in the archive. However, a close look at the phrasing casts doubt on this. The text's colophon does not use a variation of the phrase *muṭṭāu ša līme PN (mahāru)* "(to receive) arrears of the year PN" which is how the other full tables normally refer to payments towards arrears.

Instead, it describes its contents with the phrase *ana līme Aššur-zēra-iddina mār Salmānu-apla-ušur uppuš kamer* "which were reckoned and included with (the *gināu* assessments incurred in) the year Aššur-zēra-iddina son of Salmānu-apla-ušur" (MARV 5 2: 27-29). We find almost identical terminology in MARV 5 12, which notes about a payment from Šūdu province that *ana līme Ātamar-dēn-Aššur uppuš* "was credited toward the obligations of the year Ātamar-dēn-Aššur" (10-11). In this particular text what had happened is that the two shipments intended to repay Šūdu's arrears contained more grain than the province owed and so the remainder was credited to the current year, Ātamar-dēn-Aššur. We also find similar phrases in the shipping logs MARV 1 56 and MARV 5 55. The phrasing is used twice in those texts to describe an accidental

⁵ Jakob has also noted the discrepancies in the provinces listed on the two tablets (2005-2006: 325). Bloch solved the problem by postulating two different years named Saggiu (2010b: n. 34). He subsequently argued instead that the date of MARV 5 1 is not to be restored as Saggiu (2012c: 286-287n.27).

overpayment of arrears which was credited to the current year, just as in MARV 5 12.⁶ As argued in the edition of MARV 5 55, the remaining attestations are used to indicate that shipments received after the start of the new calendar year were still being credited to the year Salmānu-aha-iddina.

What these examples all have in common is that they deal with what are essentially bookkeeping problems, not actual non-payment. In one scenario the problem was an overpayment which had to be credited against a different obligation. In the other, the problem was that shipments intended for one year's obligation continued to trickle in during the first months of the next year. That is to say, the delivery cycle and the calendar year had become out of phase.

This latter phenomenon fits quite well with the situation described in MARV 5 1 and MARV 5 2. We have what is essentially a full year's worth of supplies delivered in a single year—that is, de facto full payment—but some of it is artificially credited to obligations from the preceding year. It seems very likely that the year Saggiu also suffered from phasing. For convenience the data are summarized in the following chart. The size of the red bar corresponds to the percentage of that year's *gināu* assessment paid in the year Saggiu. The blue bars indicate where payments were made toward the year Saggiu in a commodity but not toward arrears from Aššur-zēra-iddina. These, in principle, should have been paid in the year Aššur-zēra-iddina itself. For simplicity I have excluded all those rows which are damaged on one of the tablets.⁷

⁶ MARV 1 56: 54-55, MARV 5 55: 7-8.

⁷ Provinces omitted from both tables are given in brackets.

		Assessment of Aššur-zēra-iddina	Assessment of Saggiu
Arbāil	g		
	h		
	s		
Kilizu	g		
	h		
	s		
	f		
Halahhu	g		
	h		
	s		
	f		
Talmuššu	g		
	h		
	s		
	f		
Idu	g		
	h		
	s		
	f		
Katmuhhu	g		
	h		
	s		
	f		
Šūdu	g		
	h		
	s		
	f		
Taidu	h		
	s		
	f		
Amasakku	f		
Kulišhinaš	h		
	s		
	f		
Aššur	h		
	s		
	f		
The Upper Province ⁸	h		
The Lower Province	h		
	s		
	f		
Turšan	g		
	h		
	s		
	f		
Libbi ale	g		
	h		
	s		
	f		

Figure III.1-4: Phasing in the Years Aššur-zēra-iddina and Saggiu

⁸ The entry for the Upper Province combines data for Šadikannu and Uššukannu provinces. Note that the fruit totals are anomalously large and have been left out of the table.

Ninua	h			
	s			
[Kurda]	h			
	s			
	f			
Apku	h			
	s			
	f			
Addarik	h			
	s			
	f			
Karānā	h			
	s			
	f			
[Šibanibe]	h			
	s			
	f			
Hiššutu	h			
	s			
	f			
[Šīme]	h			
	s			
	f			
Husananu	h			
	s			
	f			
Kalhu	g			
	h			
	s			
	f			
[Ša-šilli]	h			
	s			
	f			
[Šumēla]	f			

Figure III.1-4 (cont.): Phasing in the Years Aššur-zēra-iddina and Saggiu

But bookkeeping peculiarities are not the focus of the present chapter. What interests us now is what caused this phasing. Now, in MARV 1 56 and MARV 5 55 we can easily blame the phasing on the annoyances of using a lunar calendar without leap months. In the year Salmānu-aha-iddina the Assyrian months were two months behind their Babylonian counterparts. This would put the start of delivery season (Babylonian Month III) at the start of the Assyrian calendar year. Considered in isolation this seems quite convenient. But, as noted in the edition of those texts, what seems to have happened there is that the Assyrian calendar year had drifted so far against the seasonal calendar that its associated delivery season actually fell in the next

calendar year. The Agency found it convenient to ignore this pedantic accounting problem and ascribe the late payments received at the start of the new year to the previous one.

For the year Saggiu, though, it is not so simple. The months simply do not work out. The delivery season in Saggiu would have been in Assyrian Months VI-IX, so early in the year that all the in-season shipments and all but the very latest stragglers would have arrived before the new year began. We must look elsewhere for an explanation. Here it is fruitful to recall that our heuristic analysis of MARV 5 35 suggested that the Agency received about half of its nominal income in that year, and that the Agency had been in financial freefall in the previous year. I would suggest that the crisis around Ninurta-apil-Ekur's accession was the culprit.

During that crisis provinces had not paid their full assessments. They made good this amount with their income from the next year, but making those payments left them with insufficient supplies to cover the entirety of the current year and so the cycle repeated. As MARV 5 1 and MARV 5 2 account for 125% of the Agency's nominal grain income, it would seem that they were gaining ground, at least in that commodity, and might have worked their way back into phase in a few more good years.

Now, there are three provinces which are omitted from MARV 5 2 (the Aššur-zēra-iddina tablet), but which made payments on MARV 5 1 (the Saggiu tablet): Libbi-āle, Šīme, and Turšan. Since they made payments for the year Saggiu, according to the principles outlined in I.1, it would seem that they had no remaining obligations for the year Aššur-zēra-iddina. The implication would then be that they were in phase with the payment cycle. Libbi-āle and Turšan are two of the three southernmost provinces, and Šīme was close to the capital, so it is tempting to link this to the fact that the Babylonian army which installed Ninurta-apil-Ekur came from the south. One might posit that the new king was able to restore administrative order in some of the

southern provinces quite quickly with the aid of his allies, but that restoring order in more distant parts of kingdom took more time.

Regardless of the exact details, it would seem that by the year Saggiu the Agency was back on a firm financial footing. This footing, however, was not firm enough for the Agency to pay back all the loans it had taken out during the crisis. A half decade later in the year Salmānu-zēra-iqīša we find that the Agency still had outstanding debts incurred during the accession crisis.

The next three years, Bēr-nāšir, Uzibu, and Marduk-šumu-līšer, cannot be easily sequenced (Bloch 2012c: 285). Uzibu and Marduk-šumu-līšer are only attested in isolated virement loans, and we can say little about them.⁹

At first glance, the sources for the year Bēr-nāšir appear to be more forthcoming. Apart from a virement loan (MARV 3 52), we have three texts dated to this year, all of which have unusual characteristics of the sort that often show up in crisis periods. But we can make sense of them quite easily with the rather more prosaic explanation that the Agency was short of writing board space that year (see I.3). We could posit that the frame or one of its hinges broke and the whole writing board needed to be sent out for repairs or replaced, but that is only one of many scenarios that would result in a temporary reduction in available writing board space.

The exact cause need not concern us too much. What we know is that sometime before IV.24 the Agency summarized all the shipments then on its writing board on the tablet MARV 9 80. The amounts are small, but delivery season would not have started that year until Assyrian Month VI (=Babylonian Month III). We need only posit that the summary was made a month or so before the deliveries started to arrive in earnest. Writing board space continued to be a problem for some time after that. We have tablets cataloging shipments arriving on IV.24

⁹ Uzibu (MARV 3 25); Marduk-šumu-līšer (MARV 3 22).

(MARV 6 29) and IV.25 (MARV 6 57), and two similar texts without preserved dates that likely come from the same event (MARV 6 63, MARV 9 98). The numbers give the impression that the Agency was operating at a decent level of solvency, but we do not have enough data to be more precise. What we can say is that the system was not broken, even if the writing board used to record it might have been.

1.2 The Liptānu crisis

1.2.1 Year by year

1.2.1.1 Prelude: the year Salmānu-zēra-iqīša

We finally have enough information to bring the Agency's finances back into focus in the year Salmānu-zēra-iqīša. The web of events beginning would coalesce into the Liptānu crisis that wracked the Agency for nearly a decade. For the reader's convenience the basic chronology of these crisis years is repeated in the following table:

Ninurta-apil-Ekur.8	Salmānu-zēra-iqīša
Ninurta-apil-Ekur.9	Liptānu
Ninurta-apil-Ekur.10	Salmānu-šumu-līšer
Ninurta-apil-Ekur.11	Erīb-Aššur
Ninurta-apil-Ekur.12	Marduk-aha-ēreš
Ninurta-apil-Ekur.13	Pišqīya
Aššur-dān I.1	Aššur-dān I
Aššur-dān I.2	Atāmar-dēn-Aššur
Aššur-dān I.3	Aššur-bēl-li'te

Figure III.1-5: Chronology of the Liptānu Crisis

When the lights come back on we find the Agency in acceptable, but far from perfect financial health. By III.Salmānu-zēra-iqīša the offerings were being entirely cut off for a few days, and restored at one quarter strength for a few days more (MARV 7 68). Obviously, offering stoppages would not be a symptom of sound financial health, but the dates in the texts

correspond to Babylonian Month XI. This puts the shortages several months after the end of the delivery season, when the Agency's finances would have been quite vulnerable.

What is more troubling is that we find similar, though less severe offering reductions while the next delivery season was still in progress in Assyrian Month IX (=Babylonian Month V) (MARV 6 37). Two months later in Assyrian Month XI (= Babylonian Month VII) we find the Agency supplementing its income with loans (MARV 6 40). This suggests it was not just a matter of supplies being a bit tight at the end of a delivery season, but serious underpayment.

It is in light of these shortages that we should approach the pair of *gināu* tables which have survived from this year, MARV 9 12 and MARV 6 5.¹⁰ In these texts, we find that Agency received 80% of its grain, 72% of its honey, 63% of its sesame, and 65% of its fruit. Now, in the year Saggiu we found similar partial payment levels in the *gināu* tables. Those seem to have been an artifact of bookkeeping, with half the year's revenues artificially assigned to the previous year. One might posit the same scenario here, but then we cannot explain the offering reductions made even before the delivery season had ended. This was not simply a bookkeeping issue. The financial problem that confronted the Agency was serious and very real.

MARV 6 21 gives us more information. There we learn that two high officials, the *šakin māte* Aššur-dēnī-dīn¹¹ and the future *līmu* Salmānu-šumu-līšer, had provided the Agency with a large quantity of supplies including at least 43300 *qa* of grain *kīmu pāhāte ša Ibašši-ilī* "in place of the provinces of Ibašši-ilī" (22'). Based on the following footer these payments were *gināu muṭṭāu ša līme Salmānu-zēra-iqīša ša ina līme Liptāne mahru-ni* "gināu arrears of the year Salmānu-zēra-iqīša which were received in the year Liptānu" (26''-27''). Thus, it would appear

¹⁰ The fragment MARV 6 32 is not included in this discussion because it appears, rather unusually, to contain the same information as the much better preserved MARV 9 12.

¹¹ He holds this title in MARV 3 31.

that several provinces were having difficulty making payments and had to have their assessments supplemented with other state revenues.

The plot thickens though. In MARV 6 2, composed after the accession of Aššur-dān I several years later, six provinces still have unpaid arrears from the year Salmānu-zēra-iqīša. This means that any sort of out of phase payment arrangement had broken down by the end of the year Salmānu-zēra-iqīša at the latest. Therefore, the debts accumulated in that year were real debts, not bookkeeping peculiarities. But we find something much more striking if we look closely at the numbers. MARV 6 2 contains arrears figures for both the year Salmānu-zēra-iqīša and the year Liptānu. We also have a pair of *gināu* tables extant for both years so we can check the arrears numbers from the tables against MARV 6 2's numbers. For the year Liptānu things work as we would expect: the arrears figures in the tables are all the same size or larger than the figures in the later text MARV 6 2. We need only posit that some of the arrears had been paid down in the space of several years between the year Liptānu and the accession of Aššur-dān I. But when we look at the figures for Salmānu-zēra-iqīša, we find that some of the figures in MARV 6 2 are higher than the arrears in the tables.¹² Taken at face value, this would mean that

¹² The arrears figures for Salmānu-zēra-iqīša for the two sources are summarized in the following table. The values in MARV 6 2 that exceed the figures from the tables are given in bold.

	Grain		Honey	
	MARV 6 2	Tables	MARV 6 2	Tables
Arbela	6000 [?] <i>qa</i>	6030 <i>qa</i>	x+13 <i>qa</i>	73 <i>qa</i>
Kilizu	0	0	0	0
Idu	0	1360 <i>qa</i>	15[?] <i>qa</i>	0
Halahhu	27610[?] <i>qa</i>	6910 <i>qa</i>	154 <i>qa</i>	58 <i>qa</i>
Husanānu	11710 <i>qa</i>	11710 <i>qa</i>	88 <i>qa</i>	88 <i>qa</i>
	Sesame		Fruit	
	MARV 6 2	Tables	MARV 6 2	Tables
Arbela	1800 <i>qa</i>	0	330 <i>qa</i>	230 <i>qa</i>
Kilizu	0	-100 <i>qa</i>	170 <i>qa</i>	170 <i>qa</i>
Idu	440[?] <i>qa</i>	400 <i>qa</i>	x <i>qa</i>	0
Halahhu	1540 <i>qa</i>	540 <i>qa</i>	x	160 <i>qa</i>
Husanānu	680 <i>qa</i>	880 <i>qa</i>	360 <i>qa</i>	360 <i>qa</i>

Figure III.1-6: Comparison of Arrears for the year Salmānu-zēra-iqīša

the provinces had not only failed to pay down their arrears, but had somehow managed to take back some of what they had already paid. Not only had they not filled in the hole, they were actually still digging it.

Here the arrangements described in MARV 6 21 provide an elegant explanation. We can posit that the emergency payments described in the readable portion of that text were not the only ones of their kind that year, and indeed, the now unreadable portions of that text likely dealt with further such arrangements. I would suggest that emergency payments were originally credited directly to the accounts of particular provinces, as the language of MARV 6 21 seems to imply. At some point afterward it was retroactively decided to undo this and make provinces responsible for repaying the emergency payments as well as any other outstanding arrears.

Even with emergency payments included, the figures are not especially inspiring. They give hints that the source of the problems was in the northeast. Worst hit was Katmuhhu, which paid only 68% of its grain and trivial amounts of other commodities. Idu paid only 68% of its grain and 48% of its sesame, while Halahhu paid 75% of its grain and no more than 65% of anything else. Arbela's payments took a smaller but noticeable hit. Only Talmuššu and Kilizu made it out relatively unscathed. This fits with what we see in the other documents. MARV 6 2 deals with five of the northeast provinces, Arbela, Kilizu, Talmuššu, Idu, and Halahhu, and it seems that the first four of these were the "provinces of Ibašši-ilī" for which arrears payments were made in MARV 6 21 (see edition of MARV 6 2, MARV 6 21).

Taking this all together then we can say several things about the year Salmānu-zēra-iqīša. First, by the end of the year the phasing between the delivery and payment cycles had ended. The debts were now real debts and not legal fictions. Second, a number of major northeastern provinces, especially Katmuhhu, had taken major financial hits. The Agency had tried to

temporarily solve the problem by soliciting outside emergency payments to cover the arrears. For the moment the damage was limited, but things were about to become much, much worse.

1.2.1.2 The hammer falls: the year Liptānu

If the northeast provinces had quickly recovered after the events of the year Salmānu-zēra-iqīša, the Agency might have succeeded in its efforts to plaster over the problems with external funds and we would be none the wiser. But the crisis did not abate. Instead it became ever graver.

As we learn from the table pair MARV 5 67 and MARV 6 9 + MARV 8 24, the Agency received only 39% of its grain, 46% of its honey, 34% of its sesame, and 38% of its fruit in the year Liptānu. The effects were most dramatic in the northeast. Katmuhhu had gone into complete default and was joined by Halahhu and Idu, with Talmuššu not far behind. In the south Turšan had also nearly stopped paying and Nineveh and Libbi-āle's resources had been completely diverted from the Agency's coffers. As if this were not enough, it seems that the problems in Katmuhhu had begun to make communications difficult with the Euphrates provinces.

Ominously, even several of the *birtus*—normally paragons of solvency—had small arrears. To cope with this unusual turn of events, the Agency drew up a table of arrears just for the *birtus* (MARV 5 64). As we will see shortly, most of the *birtus* would soon join Katmuhhu in complete default. At this point, the Agency still had enough supplies to make a few small virement loans (MARV 3 49, MARV 3 60), but the situation was bleak.

As we learn from MARV 6 21, outside funds collected in this year covered some of the losses, but this does not seem to have been a viable long term solution. Things were very bad indeed. Perhaps because of the Agency's financial woes the *gināu* supervisor Sîn-uballiṭ was replaced in the following year by Sîn-nādin-āle.

1.2.1.3 Chaos

1.2.1.3.1 The year Salmānu-šumu-līšer

With the accession of Sîn-nādin-iple our sources become quite sparse. No full tables can be securely placed in the first three years of his tenure. From MARV 5 10 we learn that the Upper Province had gone into complete default, and that Šūdu, Taidu, and Amasakku had been reduced to only token payments. Aššur and Kulišhinaš may have still continued payment, though Reculeau and Feller 2012 49 (if properly understood) suggests that those two provinces were also in poor financial health around this time.

When we turn our attention to the epicenter of the crisis in the northeast, our only information comes from a contract the Agency drew up on V.17 obligating a certain Uznanu the boatman to pay 400 *qa* of the grain of Katmuhhu's *gināu* within forty days (MARV 3 14). The Agency seems to have considered it likely that he would be unable to pay. The text thus has both named witnesses and a clause explicitly stating that the grain would accrue interest after a certain date, both of which are generally not used in the Agency's archive (III.3). Apart from that text the only other document from that year is a virement loan (MARV 3 31). It is somewhat ominous that although the borrower is the *šakin māte*, the text insists on repayment within the extremely short interval of three days rather than the laxer conditions usually used with high ranking officials. This is consistent with the Agency operating on an extremely tight budget. With its finances in freefall, the Agency could not afford to let any supplies out of its sight for very long.

1.2.1.3.2 The year Erība-Aššur

The evidence is a bit more forthcoming in the year Erība-Aššūr. Based on MARV 5 10 we can say that payments from most of the *birtus* had now effectively stopped. Apart from that

our information is once again confined to loan documents. For the first time in the archive we find the Agency drawing up lists of outstanding debts owed to it (MARV 7 5, MARV 6 42), rather than being content with the individual loan documents. Afflicted by severe shortages, the Agency needed to know exactly how much of its supplies were on loan. These were not efforts to save on drafting loans; the individual loan recorded in MARV 3 14 was incorporated into both summaries. More strikingly, the two summaries contain four overlapping debts. The Agency did not simply draw up a supplemental tablet but went through the extra labor of making an entirely new summary only a few months after it had drawn up the first tablet.

Fortunately for us, this practice means we can tell which loans on the first summary were repaid between the drafting of the first summary in Month IV and the second on IX.25. Two loans made to boatmen to cover part of Katmuhhu's grain arrears went unpaid, as did honey lent to the governor of Kār-Tukulti-Ninurta and honey lent to the *mušākilu* of Erība-Aššur. Yet, matters were not entirely hopeless; three other debts on the tablet seem to have been repaid. Three more debts were contracted and apparently repaid in the interim (MARV 3 32, MARV 3 51, MARV 7 92), and at least five more new debts remained outstanding (MARV 6 42). This web of small transfers itself was probably not out of the ordinary. We just see them better here because the Agency had started drawing up summaries. One should note that we only have the original documents for one of the at least twelve distinct loans in the summaries.

What is significant for us, though, is that only two of the loans involve grain, and both of these seem to be efforts to transfer unpaid debt from a province to a boatman. Thus, it would seem that Agency did not have a large enough grain stock to make loans. The unusual summary MARV 5 51 confirms this impression. Here we find that the Agency had borrowed some 1730 *qa* of grain from the *rab ēkalle*, and had been slowly paying it back in installments over the

course of the year. If the Agency itself had to borrow grain, it certainly was in no position to lend it.

Indeed, by the end of the year its honey supplies were also faltering. Starting sometime before Month IX the Agency began taking out a number of small virement loans of honey and possibly oil as well from various private individuals (MARV 5 8). This works out to Babylonian Month IV, and so it would seem that Agency's honey supplies were running low even as the new delivery season was underway.

1.2.1.3.3 The year Marduk-aha-ēreš

The sources are again sparse in the year Marduk-aha-ēreš. The offering log MARV 8 91 covers events in Months V and VI (= Babylonian Months XI and XII). The text is too damaged to give much detail, but it is clear its contents were quite complicated. This suggests that the Agency was hard pressed for funds when it was written.

The new delivery cycle saw one of the most curious events in the archive. Around Babylonian Month I (= Assyrian Month VII), the Agency seems to have come into possession of an enormous sum of sesame and sesame oil. On VII.15 it repaid the numerous honey loans it had taken out in the previous year in oil (MARV 5 8). A few days earlier, on VII.9, one of the Agency's creditors seems to have taken sesame directly from one of the Agency's incoming shipments to clear the debt it owed him (MARV 8 60). As we learn from MARV 3 9, some of this new-found sesame wealth seems to have come in the form of jars of finished oil given to the Agency as payments toward the arrears of the year Erība-Aššur.

Interestingly, the text also notes that some of the sesame *ana talpitte šēlû* "was taken up for a *talpittu*-payment" (MARV 3 9: 2). The term *talpittu* seems to describe otherwise undocumented discretionary payments in Middle Assyrian texts, and so the line likely refers to

an irregular transfer from Agency funds (see Postgate 2013a: 143-144). Perhaps this discretionary payment was the source of the sesame used to pay down the Agency's debts in MARV 5 8, but this can only be speculation. The exact interpretation of this part of the text, and indeed much else in MARV 3 9 is unclear. What the text does make clear, though, is that the Agency was involved in some highly irregular sesame transactions. This makes sense, since on its normal income the Agency could not afford to both pay off its honey loans with sesame oil and have enough sesame remaining to conduct the offerings at full strength.

Given its sudden sesame solvency, it is no surprise that Agency could loan it out (MARV 3 50) and contract outsiders to help press it (MARV 3 20). Evidently its grain position had recovered somewhat as well, for the Agency was able to give out a private grain loan on XI.19 (MARV 3 48). The Agency also consolidated the fruit and sesame debts of the Habriüre sub-province of Arbela in Month X (MARV 3 30).

1.2.1.3.4 The year Pišqīya

In the year Pišqīya our sources become more illuminating, and the picture they reveal is quite gloomy. By Assyrian Month II (= Babylonian Month VIII), the Agency had begun to run low on supplies. MARV 3 6 catalogs a number of irregular grain payments with which the Agency intended to fund operations from II.21+x onward. Moreover, starting at the end of Month I the Agency had begun to draw up offering logs again, indicating that offerings had to be carefully rationed (MARV 7 73, KAJ 306a). It continued to draw these up at least sporadically through Month V (=Babylonian Month XI) (MARV 9 21, MARV 5 66).

That shipment seasons seems to have gone unusually well. The first section of MARV 6 82 appears to be an arrears table for Pišqīya and so we can again get a picture of the financial health of the kingdom's different regions in that payment cycle. Happily, it appears that the

northeastern provinces were now paying the vast majority of their grain, honey, and fruit assessments, although many of them nearly or totally defaulted on their sesame payments. But things were far from perfect. Šūdu, the Lower Province, and Libbi-āle had met little of their grain assessments for the year. Furthermore, from MARV 5 10 we know that in the west Šūdu, Taidu, Amasakku, and the Upper Province remained in complete default.

This delivery season clearly brought some relief, for after it we no longer find records of reduced offerings and by Assyrian Month X the Agency was even able to make a small loan of grain to the *rab ēkalle* (MARV 3 42).

1.2.1.4 Resolution

1.2.1.4.1 The year Aššur-dān I

As we saw above, things had begun to improve by the end of Aššur-dān I's accession year, Pišqiya, but the recovery was slow going. MARV 2 14 informs us that by III.16.Aššur-dān I offerings were reduced to half strength and continued to be reduced further in the following months until by V.2.Aššur-dān I the offerings had stopped entirely. Assyrian Month V in that year was equivalent to Babylonian Month X and so it seems the Agency had once again run out of supplies well before the start of the next delivery season.

At first glance the delivery season of the year Aššur-dān I would seem to have been quite poor. MARV 6 82, if properly understood, indicates that the Agency had received only 50% of its nominal grain income, 49% of its honey, and 43% of its sesame (though 89% of its fruit) during the delivery season of the year Aššur-dān I. But all is not as it seems. MARV 2 14 appears to indicate that offerings were resumed at normal levels after the delivery season of the year Aššur-dān I and were only reduced almost a year later in Month VI of Ātamar-dēn-Aššur (=

Babylonian Month XI). Even then, the reduced offerings were considerably above half strength and so considerably larger than the revenues in MARV 6 82 would allow for.

Likely we are once again seeing phasing between the payment cycle and the delivery cycle. It seems that around the accession of the new king the Agency made a concerted effort to bring order to the financial chaos that had reigned in the previous few years by systematically consolidating and collecting old arrears. As an apparent preliminary to these efforts, a new *gināu* supervisor was appointed around this time. We last hear of Sîn-nādin-āple holding office on XII.13.Marduk-aha-ēreš, and he seems to have vanished on a trip to Šīme shortly afterwards.¹³ By Month II of Aššur-dān I's second regnal year at the latest, he had been replaced as *gināu* supervisor by a certain Adad-iqīša (MARV 5 5: 11; Bloch 2012c: 80-81n.89).

The new administration began to consolidate and eliminate arrears from the last decade, generating an impressive number of summary documents. One step was to draw up a combined arrears table for Pišqīya and the current year (MARV 6 82). The Agency also drew up a table of outstanding arrears from some of the Habur provinces that had been cut off (MARV 5 10). In addition, it composed a table summarizing the arrears of some of the central and northeastern provinces from the years Salmānu-zēra-iqīša and Liptānu (MARV 6 2). The unusual itemized table of deliveries from Talmuššu and Idu provinces MARV 5 3 was likely part of the same

¹³ Bloch has suggested that he was sent into exile based on a debt for Šīme province with the note *mehir tupe ša ana hūle Sîn-nādin-āple ilqiu-ni* (MARV 5 12: 13-14), which he translates “Copy of a tablet, which one took on the way of Sîn-nādin-āple” (Bloch 2012c: 80n.89). As *hūle* is not in the bound form, and a singular form with an impersonal sense is not otherwise known to me it is perhaps better to translate it as “copy of the tablet which Sîn-nādin-āple took on a journey.” Whether this journey was a simple trip to Šīme province to help collect its arrears or Sîn-nādin-āple going into exile is less clear in the text, but the broader administrative context favors the former. If he were going into exile, it would be odd for him to take a debt note with him. One might argue that he ended up with it by accident, but if that had happened then one doubts the Agency would have made a copy of it. Alternatively, one might argue that he had been made governor of Šīme, since Aba-lā-īde and Ezbu-līšer seem to have held provincial governorships concurrently with the office of *Gināu* supervisor (I.2), but in at least one text Sîn-nādin-āple is explicitly described as a brewer, which would seem to make this unlikely. What we can say though, is that since it was using the copy in the summary, the Agency evidently did not expect to get the original back anytime soon. I would suggest that Sîn-nādin-āple was dismissed or died before returning from his mission to Šīme.

enterprise, though the text is frustratingly coy about which obligations its payments were intended to meet. The badly damaged text Reculeau and Feller 2012 49 appears to record similar deliveries on behalf of Aššur and Kulišhinaš, though its dating and interpretation are much less certain.

Almost certainly the missing extra supplies that allowed for nearly complete levels of *gināu* offerings came from payments made toward arrears. Indeed, after the year Aššur-dān I we never again hear about arrears from the years Salmānu-zēra-iqīša and Liptānu. It would seem that the debts in question were either paid off completely or written off as uncollectible.

1.2.1.4.2 The year Ātamar-dēn-Aššur and beyond

Making methodical progress, in the next year the Agency turned its attention to collecting arrears from the year Marduk-aha-ēreš (MARV 5 5, MARV 5 12). Progress seems to have been rapid. By the time MARV 5 12 was composed it seems only three provinces still had outstanding arrears from that year. Of these one province paid off its arrears entirely and another had its small remaining arrears for the year forgiven, leaving only a single province with arrears.

There seem to have been some slight complications during the delivery season this year since offering levels were reduced in Babylonian Month II and remained reduced well into Babylonian Month IV, but the amount of the reductions was not great (MARV 2 14). In the next year, Aššur-bēl-li'te, offerings were again reduced around Babylonian Month X, hitting about half strength in Babylonian Month XII when MARV 2 14's accounting period ends. The table MARV 5 4 may record arrears from the year Aššur-bēl-li'te, as discussed in the edition of that text. If so, then the Agency received at least 61.7% of its grain, 46.4 % of its honey, 58.8 % of its sesame, and 40 % of its grain. If we assume many provinces were still partially or entirely out of phase the total amount received could be considerably higher. What we can say is that the

Agency's finances were not in catastrophically bad shape after the delivery season that year when most of these in-phase supplies presumably arrived.

It seems that as the Agency's financial situation came back to some semblance of normalcy, the new *gināu* supervisor Adad-iqīša took the opportunity to clean out the Agency's archive and put the documents related to the Liptānu crisis and its immediate aftermath into long-term storage. Happily this set in motion the chain of events that allowed those documents to survive into modern times. Unhappily, the same fate did not befall the documents composed immediately after the purge, and after the year Aššur-bēl-li'te the record goes completely dark for some time.

1.2.2 Summary of the crisis

As presented above, the Liptānu crisis might seem to be a bewildering mass of financial detail, but if we step back and allow ourselves some speculative leeway, we can make out the outlines of a single coherent crisis. Sometime in the year Salmānu-zēra-iqīša, the finances of Katmuhhu province collapsed. Whatever had taken down that province was contagious, and in the subsequent years it took a toll on most of the kingdom's rich northeastern provinces. Perhaps in an attempt to stave off the problem, four of these provinces were grouped together under the authority of the governor Ibašši-ilī.

The contagion also spread west. Katmuhhu's western neighbor, Šūdu, and the adjacent Taidu and Amasakku provinces also went into default. The Upper Province was also afflicted, and likely Aššur and Kulišhinaš as well.

At the same time, some of the large southern provinces also went into financial freefall. Perhaps the kingdom's Babylonian neighbors had decided to intervene once again in its

succession, or perhaps resources from the kingdom's core were being redirected to help stabilize the north. We cannot say.

However, we have an attractive candidate for the northern contagion. In an inscription describing his accession year, Tiglath-pileser I mentions that Katmuhhu province had been invaded by 20000 *Muškaya u 5 šarrānīšu ša 50 šanāte māt Alzi u māt Purulumzi naš bilti u maddatte ša Aššur bēliya iṣbatu-ni* “20000 Mušku and their five kings who for fifty years had held the lands of Alzu and Purulumzu, which (formerly) brought the tribute and gifts of Aššur, my lord” (RIMA.0.87.1.62-66, see Jeffers 2013: 309-310). The king subsequently defeated the invaders in a battle on Mt. Kašiyari in the northwest of the region, presumably not far from Alzi and Purulumzi (70-88).

If Aššur-dān I reigned for 46 years, as we have used in our calculations throughout this work, then his accession would have occurred some 64 years before Tiglath-pileser I's campaign. Allowing the later king a bit of poetic license in choosing the exact number or date to count from, we could easily place the Mušku invasion alluded to during the Liptānu crisis.

That the Mušku were indeed a problem at that time is borne out by the text MARV 2 22, which is dated to the year Ragiššānu, sometime in the reign of Aššur-dān I (Bloch 2012c: 290n.33). That text refers to an oil offering that was *ina ūmi šarru šābē Muškaye ina Quba ša birāte ša Hanigalbat idūku-ni ina bēt Aššur ina šēpī ilānī tabbuk* “poured out at the feet of the gods in the Aššur temple when the king slew the Mušku men in Quba among the *birtus* of the land of Hanigalbat” (1-3). Since that text must date after the resolution of the Liptānu crisis, it would seem that the Mušku continued to be a problem well into Aššur-dān I's reign. One might even speculate that the final resolution did not take place until the middle of Aššur-dān I's

second decade of rule, about fifty years before Tiglath-pileser I's accession, but this takes us too far afield.

For the Liptānu crisis itself, we can posit the following scenario. Sometime in the year Salmānu-zēra-iqīša, a Mušku invasion began in the north of Katmuhhu and from there rapidly worked its way into the northeast and northwest of the kingdom. A second prong may have tried to force its way into the kingdom from the northwest through the Upper Province, either crippling the province or at least forcing its resources to be redirected to stopping the invaders rather than paying *gināu*.

After several years of chaos the new king Aššur-dān I was able to at least temporarily turn the tide in his accession year, Pišqīya. When the smoke finally cleared the rich northeastern provinces and the Habur fortresses had been returned to Assyrian control, but the mountainous regions on the northwest fringe of Katmuhhu remained in the hands of the Mušku raiders. The reconstruction is not entirely provable, but it does nicely account for the trends we observe in the Agency's finances and nicely ties in historical events we would expect to have an impact on the Agency's operations.

Before we leave the crisis, one final observation is in order. It is conventionally thought that that the Hittite kingdom collapsed sometime in the first quarter of the 12th century BCE, an event normally linked in some fashion with invading "Sea Peoples" (see Singer 2000). It is beyond the scope of this dissertation to dive into the torrent of scholarship that has been produced about the Sea Peoples and the end of the late Bronze Age, but it is hoped the information from the M 4 archive might prove helpful to scholars engaged in those discussions.

Using Bloch's chronology (2012c), we find that the first tremors of the Liptānu crisis show up in around 1184 BCE. If the Liptānu crisis was indeed the result of a Mušku invasion

through the mountains from the northwest, it is quite attractive to see this Mušku invasion as an aftershock of the fall of the Hittite Kingdom. Without the Hittite Kingdom to keep such raiders in check they could continue unhindered into Assyrian territory. Indeed, depending on the exact date one chooses for the abandonment of Hattusa, it is possible that the Hittite capital's end and the Mušku invasion of Assyria were only a few years apart and part of the same large invasion.¹⁴ The Upper Province, which had until a few years before been the kingdom's frontier with the Hittites was likely well-fortified and prepared to cope with the onslaught. On the other hand, Katmuhhu, a quiet province far from any major power was evidently unprepared for a major attack and so collapsed catastrophically when the invasion hit.

2 The Da'ānī-Ninurta crisis

After the third year of Aššur-dān I, our records become much sparser. We must wait almost a half century until Ezbu-līšer began his tenure as *gināu* supervisor to find a comparable density of documentation. But we are not entirely in the dark. We have two small clumps of documentation from the middle of Aššur-dān I's reign that paint a picture of financial troubles in his middle years. To the two major clumps we can add a number of other isolated documents from Aššur-dān I's reign that seem to fill in some of the gaps. Given our poor knowledge of the eponym sequence in these years, many of the precise details must be taken with a grain of salt, but the picture that emerges does seem right in its general outline.

Since we have to reconstruct the eponym sequence as we go, we will not proceed in strict chronological order. Rather, we will examine the two coherent clusters of texts first before finding plausible places in which to add the other isolated tablets. As it turns out, the two clumps of documents appear to come from a single large crisis. Since this crisis reached its nadir in the

¹⁴For instance, the last dated text from Emar, a longtime Hittite vassal, is from 1185 BCE (Singer 2000: 25).

year Da’’ānī-Ninurta, after which the state was unable to even name a new eponym for more than three years, we will refer to the whole affair as the “Da’’ānī-Ninurta crisis.” A summary of the tentative eponym sequence that we will reconstruct is given in the following table. For convenience the more tentative parts of the reconstruction are marked with a gray background.

Group order	Regnal year	<i>līmu</i> ¹⁵
Uncertain	Aššur-dān I’.22 [?]	PN [?] (MARV 9 6)
	Aššur-dān I’.23 [?]	Sikildu [?]
Group I Certain	Aššur-dān I’.24 [?]	Aššur-iddina
	Aššur-dān I’.25 [?]	Rīš [?] -Ninurta
	Aššur-dān I’.26 [?]	Pa’uzu
	Aššur-dān I’.27 [?]	Sāmidu
	Aššur-dān I’.28 [?]	Da’’ānī-Ninurta
	Aššur-dān I’.29 [?]	Da’’ānī-Ninurta (2)
	Aššur-dān I’.30 [?]	Da’’ānī-Ninurta (3)
	Aššur-dān I’.31 [?]	Da’’ānī-Ninurta (4)
	Aššur-dān I’.32 [?]	Da’’ānī-Ninurta (5)
Likely	Aššur-dān I’.33 [?]	PN [?]
	Aššur-dān I’.34 [?]	Rīš-Aššur [?]
	Aššur-dān I’.35 [?]	Sarniqu [?]
	Aššur-dān I’.36 [?]	Habakar [?]
Group II Certain	Aššur-dān I’.37 [?]	Tāhulu
	Aššur-dān I’.38 [?]	Tāhulu (2)

Figure III.1-7: Chronology of the Da’’ānī-Ninurta Crisis

2.1 The Aššur-iddina group

The key to tying together the first group of texts is the curious document MARV 6 39. In it men from the town of Paruna bring a *maddattu* of honey *ana gināe ša Aššur ša Libbi-āle ša 4 šanāte* “for the *gināu* of Aššur of the Inner City, (for a period) of four years” (12-13), which was received by the *tuṣšarru ša bēt tuṣṣāte* “scribe of the tablet house” (14-15). This is hardly business as usual. This text is the only time in the entire archive we meet the “scribe of the tablet

¹⁵ This period has been received little attention in the chronology literature. The rationale for reconstructing the eponym sequence is discussed below.

house,” and indeed, it is the only time in the entire published Middle Assyrian corpus that the town of Paruna appears.

The appearance of the term *maddattu*—itself an oddity in its own right—offers an explanation. In the early years of Tiglath-pileser I, the Agency received supplementary funds referred to as the “*maddattu* of the Assyrians,” which were clearly separate from the Agency’s regular income (see below). It would make sense that the *maddattu* here was a similar supplementary payment. As we will discuss below, this text likely predates the creation of the “*maddattu* of the Assyrians” and probably refers to irregular tribute from Assyrian vassals. This would explain why we otherwise never hear of Paruna; it was not an Assyrian province or sub-province that regularly made *gināu* payments, but a tributary kingdom. It would also make sense that the Agency would call upon the services of the outside “scribe of the tablet house” to deal with this unusual revenue stream. Perhaps most compellingly, it would explain why the text refers to the payments with the term *maddattu*, which is regularly used to describe tribute in the royal inscriptions.

We can posit that the central authorities temporarily redirected tribute from the town of Paruna to the Agency to help it through a financial crisis, or perhaps imposed an entirely new obligation on the town for the same end. As we will see shortly, the Agency was in desperate need of such supplemental honey sources at this time. Happily for us, MARV 6 39 lists four consecutive years in which these payments were made, likely in chronological order. Moreover, as it happens, we have additional texts from all but one of those years.

For the first year, Aššur-iddin, we have a table of received *gināu* payments, whose totals are preserved (MARV 5 14). What we learn from it is interesting. The Agency had received

about 68% of its nominal grain income that year, but had fared much less well with the other commodities, receiving 32% of its honey, 30% of its sesame, and under 45% of its fruit.

In grain payments the only fully delinquent province was Libbi-āle. Most provinces paid at least a respectable portion of their assessment. However, in non-grain commodities there are a number of delinquent provinces and they obey a clear geographic pattern. All of the *birtu* provinces pay close to their full assessments. They are joined by Arbela, Kilizu, and Halahhu, which pay most, but not all of theirs. Apart from these, Addarik and Hiššutu paid part of their minor commodity assessments as well, but the remaining provinces seem to have paid nothing in any of them. Thus we have two largely contiguous regions paying minor commodities, the Euphrates system provinces, with neighboring Šūdu and Addarik, and four provinces in the northeast (Arbela, Kilizu, Halahhu, Hiššutu). The central and southern portions of the kingdom were near default. Clearly there was something rotten in the state of Assyria.

About the next year, Rīš²-Ninurta, our sources are unfortunately silent, but we are well informed about the year after it, Pa'uzu. For this year we have a complementary pair of full *gināu* tables MARV 2 21 (received) and MARV 9 1 (outstanding). From them we find that the situation had improved slightly from two years before. Although the Agency was now receiving only 62% of its nominal grain income, it was receiving 51% of its honey, 46% of its sesame, and between 35%-46% of its fruit. The geographic distribution remained much the same, except that the northeastern cluster of solvent provinces were now joined by Katmuhhu, Idu, and Kalhu, which had begun to pay portions of their minor commodity assessments. The partial table MARV 7 93, also dated to the year Pa'uzu, indicates that Agency was paying close attention to shipping in the northwest and along the Lower Tigris, but it is too damaged to recover much other useful information.

In the last year covered by MARV 6 39, Sāmidu, matters took a dramatic turn for the worse. Here we must briefly note that although this is the last year in the sequence provided by MARV 6 39, MARV 9 19 indicates that this year was followed by the year Da'ʾānī-Ninurta, allowing us to continue the sequence a bit further. An unpublished text from that year, A 854¹⁶, appears to describe the Agency's attempt to deal with a major grain shortage, much like the grain summaries that would be composed during the later *maddattu* crisis, but until it is published we can say little more about it. But the offering log MARV 9 19 is clear enough. The colophon of the text refers to the *batiqtu ša gināe* “the cessation of the *gināu*” (48-49). The text itself details periods where the offerings were drastically reduced or entirely absent beginning on VII.4.Sāmidu and continuing through X.14.Da'ʾān-Ninurta, a period of about 15 months. Clearly something had gone very wrong. In fact, the text records two intervals in which foodstuffs from the Agency were given *ana mārē šarre* “to the sons of the king” (39-49). One suspects that the palace had to be in rather dire financial straits to pull significant amounts of grain from a catastrophically destitute *Gināu* Agency.

But this text can perhaps tell us more. Conspicuously, the reductions in the first part of the text always start and end on the same day of the month. This looks suspiciously like an attempt at regular long-term planning. However, the pattern is broken when the offerings were discontinued entirely on VI.30[?]. The offerings were resumed and discontinued several more times in the next few months, but now they follow no obvious pattern. These are summarized in the following graph of the cumulative volume of bread and beer provided each day (in *qa*)¹⁷:

¹⁶ Donbaz 1998: 179-180.

¹⁷ To avoid a lacuna in the middle of the graph I have somewhat arbitrarily restored the exact bread amount in lines 12-15 as 20 *qa*. This has the advantages of both being a round number and fitting nicely in the trend of gradually increasing bread offering levels. It is very likely the actual offering number was near that amount. However, the exact number of 20 *qa* should not be taken as anything more than a guess at the exact value.

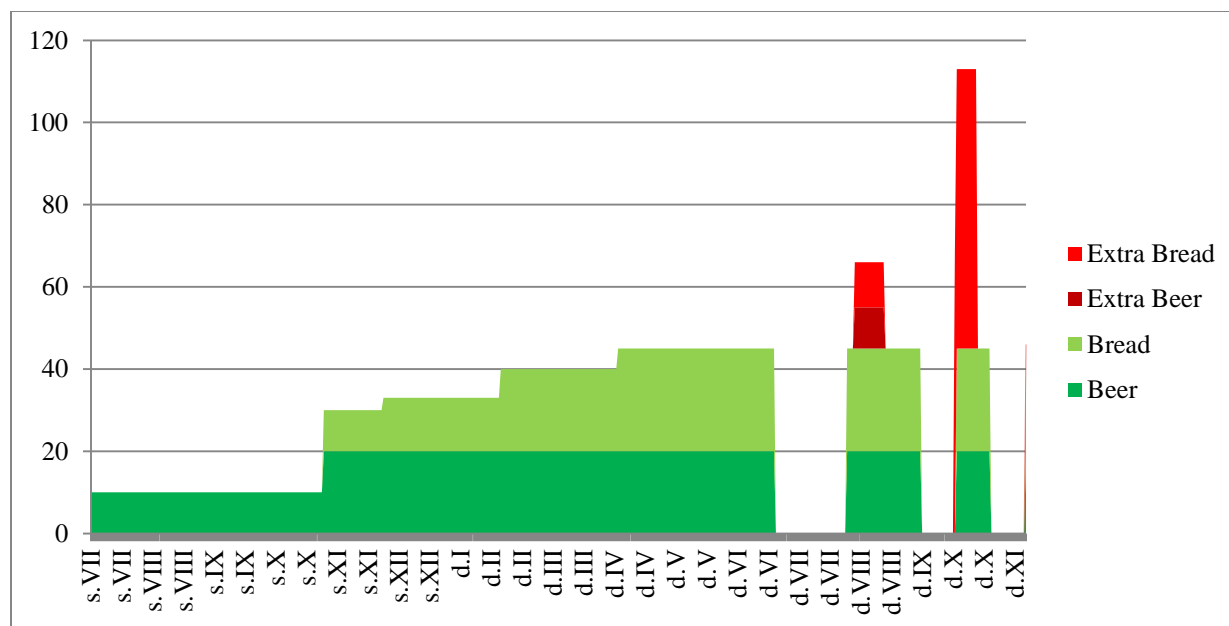


Figure III.1-8: Offering Levels Attested in MARV 9 19

We can model this situation quite well by assuming that the Agency began the text’s accounting period with a small reserve supply of grain which it was carefully rationing. This ran out on VI.30⁷. After that offerings were resumed whenever a shipment showed up and lasted until the supplies ran out. This also nicely accounts for the two extra payments made to the “sons of the king” at the end of the text. The first extra payment started four days after the offerings resumed, and the second one day before it. We can model this by assuming that as soon as the central authorities got word the Agency had had received a new grain shipment they immediately took some of it to cover urgent short-term expenses.

In this interpretation, then, grain shipments would be arriving on VIII.7, X.4, and XI.10. It is tempting to try and line these up with the delivery season in Babylonian Months III-VI. To do this we need the Babylonian months to be seven months ahead of their Assyrian counterparts, putting the first delivery in Month III, and the last one in Month VI. In the reign of Aššur-dān I,

Note that the years Sāmidu and Da’ānī-Ninurta are abbreviated “s” and “d” respectively on the X axis label.

this would only have been true in his 28th and 29th regnal years. For simplicity we will go ahead and equate the year Da''ānī-Ninurta with his 28th regnal year. Needless to say, this whole procedure is imprecise to say the least, and one could shift the year Da''ānī-Ninurta (and all the years tied to it) a few years in either direction without doing great damage to the reconstruction.

The fortunes of the Assyrian state seem to have hit a nadir. For the next four years no new eponym was appointed at the start of the year, the longest period known without an eponym in the entire history of the Assyrian kingdom (see Bloch 2012c: 383n.103). Sadly, our evidence during this period is spotty at best. The offering log MARV 6 66 is likely to be dated to the first year after Da''ānī-Ninurta, and indicates that there were 49 days of full offerings in the 120 or so day period it describes. That works out to an average offering level of about 40%. However, if we have correctly placed the year Da''ānī-Ninurta in Aššur-dān I's reign, then the Babylonian months should be about seven months ahead. That would make the accounting period of the tablet last from the end of Babylonian Month II through the middle of Babylonian Month VI. That is to say, the text only refers to offerings during delivery season when we would expect the Agency's finances to be at their strongest. The average for the entire year in that delivery cycle could be as low as 13%.

In the second year after Da''ānī-Ninurta we find a sum of 850 *qa* of grain issued to the grain officials on one occasion (MARV 5 18). But we are not given the period for which the grain was intended to last, and the text's date works out to be at the end of Babylonian Month II. It could plausibly deal with the offerings at their lowest levels right before the new shipments arrived, or the offerings at near peak levels as the first shipments of the new cycle arrived. The fact that the complete offerings in MARV 6 66 began toward the end of Babylonian Month II would favor the second, more dismal interpretation. Of course, this tells us little more than we

would have guessed from the fact the kingdom as a whole had entered its second year without a new eponym.

But the process of selecting eponyms was eventually resumed, and with the return of the eponyms things started to look up for the Agency. In the fourth year after Da'ānī-Ninurta we find a large disbursement text (MARV 5 13). As discussed in II.3, the Agency tended to use the large disbursement system only when it had reasonably large amounts of supplies on hand. Frustratingly, the text's date works out to the middle of Babylonian Month III, once again in the thick of the delivery season, and so we cannot tell if the Agency's finances were now sound or if it had just received a few large shipments in a row.

2.2 The Tāhulu group

Ironically, our neat chronological sequence breaks down right when the Assyrian state resumed tidily nominating eponyms on a yearly basis. We must wait for the next failure in the eponym system to again have a neat sequence of years. This seems to have happened in the year Tāhulu. We have an offering log running from this year into its eponymless successor (MARV 6 65). The picture it paints is quite good on the whole. Although there was some trouble with the palace oil component of the *gināu* offering, the Agency was otherwise able to make complete offerings on 243 of the 307 days covered by the text's main accounting period.

A closer investigation, however, is somewhat more distressing. The data from the text is presented schematically in the following graph¹⁸:

¹⁸ The table does not give offering levels but rather designates offerings as *šalim* “complete,” *tadin* “given,” *kali* “withheld,” and *batiq* “cut off.” To display the data in the table we have assigned *šalim* a value of 2, *tadin* a value of 1, and the remaining terms, which both appear to refer to a complete cessation of offerings, a value of 0.

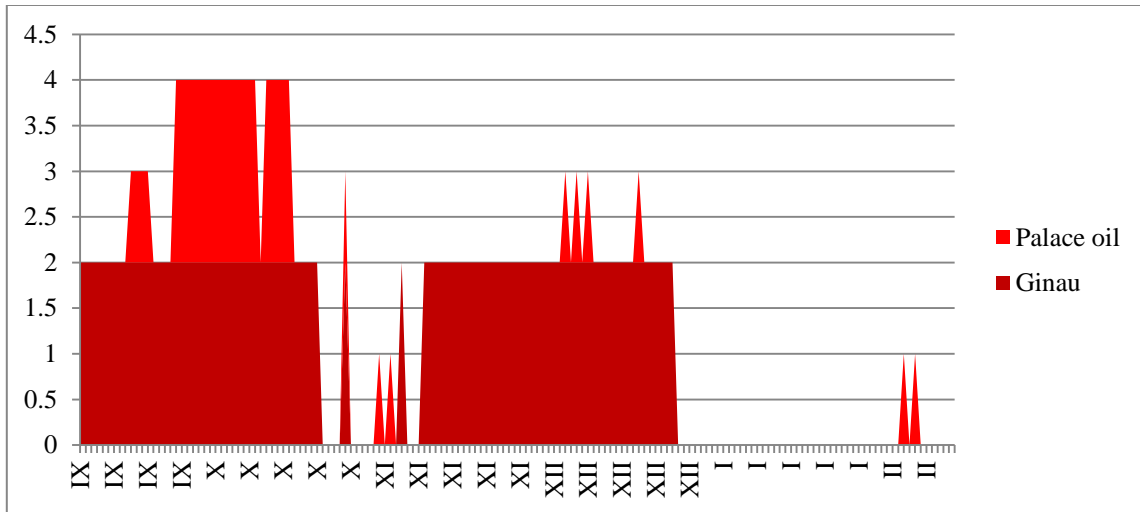


Figure III.1-9: Offering Levels Attested in MARV 6 65

We see that the Agency's finances were considerably set back in Months X and XI, and collapsed completely toward the end of Month XII. Evidently the same circumstances that prevented the selection of a new eponym also crippled the Agency's supply system.

As with the Da'ānī-Ninurta group, the Agency's financial stress can help us locate this year. It would be nice to have the gap in *gināu* offerings from X.22 to XI.9 occur in the high stress period immediately before the new delivery season, and the good period in Assyrian Months XI and XII at the start of the delivery season itself. To do this we need the Babylonian months to be about three months ahead of the Assyrian months. This would have occurred around Aššur-dān I's 36th and 37th regnal years. Incidentally, this lines up the two months of complete offerings with the two strongest months of the delivery season. For simplicity, and consistency with what follows, we will use the 37th regnal year rather than carrying a cumbersome date range through our calculations.

This puts the year Tāhulu fairly close to the end of the Aššur-dān I's reign. This is quite nice, since the *mašennu rabiū* Samnuha-ašarēd was active in both the year Tāhulu (KAJ 129) and

the year Sîn-šēya (MARV 3 46), which is known to have occurred at the end of Aššur-dān I's reign (see Bloch 2012c). Thus, placing the year Tāhulu around Aššur-dān I's 37th year only requires that Samnuha-ašarēd held his office for a minimum of 10 years. If we tried to push the year Tāhulu earlier, before the sequence created by MARV 6 39 and MARV 9 19, we would add at least a dozen more years to the minimum length of his career. Allowing that we probably do not have texts only from his first and last years, such a reconstruction quickly pushes the limits of how long we might expect a high official to hold his office. As with the year Da''ānī-Ninurta, none of the evidence for dating the year Tāhulu is incontrovertible, and it does not seem possible to arrive at absolute certainty in any reconstruction based on the currently available texts. Be that as it may, this dating seems the most workable and parsimonious dating that can be derived from what evidence we have.

2.3 Other crisis texts

2.3.1 The early group: MARV 9 6, MARV 9 9

Let us take stock of the situation. Between the end of the Liptānu crisis and the two sequences of crisis years just reconstructed we can account for most of the dated crisis documentation from Aššur-dān I's reign. Yet there are still a few outliers, and it is natural to wonder if they too can be linked to one of the sequences. First we will consider the two full *gināu* tables, MARV 9 6 and MARV 9 9. The date on the first tablet is broken, but the second tablet's header indicates that it refers to the received *gināu* of the year Sikildu.

This eponym cannot have held office in the period between the death of Tukulti-Ninurta I and the death of Ninurta-apil-Ekur, for the eponyms already placed in this period are sufficient to account for all of its years, even if they cannot all be sequenced yet (see Bloch 2012c: 408-409

and n.7). The eponym sequence for the end of Aššur-rēša-iši I's reign and the first few decades of Tiglath-pileser I are also full, and so our mystery year Sikildu must likely go somewhere in the reign of Aššur-dān I or, perhaps in the first part of Aššur-rēša-iši I's reign. Where it should go in that period is at first less clear. However, the numerical data provides a clue.

Let us look first at the totals. Admittedly some of the figures are damaged, but the preserved traces let us reconstruct figures of at least roughly the right size. What is striking is that the total amounts of each commodity paid are quite close to figures from the year Pa'uzu in the first years of the Da'ʿānī-Ninurta crisis.

Source	Grain	Honey	Sesame	Fruit	Average
MARV 9 6	70.4 [?] %	37.7%	20 [?] %	38.7 [?] %	41.7%
MARV 9 9	70.4 [?] %	38.9%	36%	36.4%	45.4%
Pa'uzu	65.4 [?] %	50.7 [?] %	46.3%	34.5 [?] %	49.2%

Figure III.1-10: Income Percentages in the Early Group

We can take this further. We can compare the amount paid by individual provinces in our two mystery tables and in MARV 2 21, the received table from the year Pa'uzu. We can do this rigorously by taking those provinces with readable entries on a pair of tables and computing the difference in the percentage of its annual assessment that was paid (for more on this procedure see I.1). Averaging across commodities we arrive at the following figures:

Text 1	Text 2	Grain	Honey	Sesame	Fruit	Average
MARV 9 6	MARV 2 21	15.4%	14.2%	15.6%	17.8%	15.7%
MARV 9 9	MARV 2 21	39.3%	23.7%	15.0%	2.7%	20.2%
MARV 9 6	MARV 9 9	25.1%	13.6%	4.2%	6.1%	12.3%

Figure III.1-11: Average difference in Attested Provincial Payments in the Early Group

These figures are all much lower than the 33.3% expected to arise by random chance.¹⁹ This suggests that the figures in the tables are indeed related. Looking at individual provinces we see some more noise, but the same general pattern. The following table gives the average difference in between the figures in MARV 2 21 and those in MARV 9 6 and MARV 9 9. Where with MARV 2 21 or both the other tables are irreparably damaged, the cell is left blank:

Province	Grain	Honey	Sesame	Fruit	Average
Arbela					
Kilizu					
Halahhu					
Talmuššu			88.3	0	44.2
Idu			67.9	84.5	76.2
Katmuhhu			7.5	23.7	15.6
Šūdu		54.5	0	100	51.5
Taidu			0	3.4	1.7

Figure III.1-12: Payment Difference by Province

¹⁹ The proof for this is as follows. For simplicity we will look at the case of a single commodity and normalize percentages so that 0% = 0 and 100% = 1. Suppose that the percentage paid by each of two provinces is a random variable uniformly distributed on the interval [0,1] and that we have n ordered pairs composed of one value from each province of the form (x_i, y_i). Then the expected value of the percentage paid is $E\left(\sum_{i=1}^n \frac{|x-y|}{n}\right)$. This is equivalent to $\frac{1}{n} \sum_{i=1}^n E(|x-y|) = \frac{1}{n} \sum_{i=1}^n \int_0^1 \int_0^1 |x-y| dx dy$

$$= \frac{1}{n} \sum_{i=1}^n \left(\int_0^1 \int_y^1 (x-y) dx dy + \int_0^1 \int_0^y (y-x) dx dy \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \left(\int_0^1 \left(\frac{x^2}{2} - yx \right) dy \Big|_y^1 + \int_0^1 \left(yx - \frac{x^2}{2} \right) dy \Big|_0^y \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \left(\int_0^1 \left(\left(\frac{1}{2} - y \right) - \left(\frac{y^2}{2} - y^2 \right) \right) dy + \int_0^1 \left(\left(y^2 - \frac{y^2}{2} \right) - 0 \right) dy \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \left(\int_0^1 \left(\left(\frac{1}{2} - y \right) - \left(\frac{y^2}{2} - y^2 \right) \right) dy + \int_0^1 \left(\left(y^2 - \frac{y^2}{2} \right) - 0 \right) dy \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \left(\int_0^1 \left(y^2 - y + \frac{1}{2} \right) dy \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \left(\frac{y^3}{3} - \frac{y^2}{2} + \frac{y}{2} \Big|_0^1 \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \left(\left(\frac{1}{3} - \frac{1}{2} + \frac{1}{2} \right) - 0 \right)$$

$$= \frac{1}{n} \sum_{i=1}^n \frac{1}{3} = \left(\frac{1}{n} \right) \left(\frac{n}{3} \right) = \frac{1}{3}$$

Converting back to percentages we arrive at the figure of 33%. Note that the expected value of the averages of any m such averages is $\frac{\sum_{i=1}^m E\left(\sum_{i=1}^n \frac{|x-y|}{n}\right)}{m} = \frac{\sum_{i=1}^m \frac{1}{3}}{m} = \frac{m}{m} = \frac{1}{3}$. Hence, provinces whose payments have no relation to each other would still be expected to have an average payment difference of 33% by chance alone.

Amasakku			71.2	59	65.1
Kulišhinaš			0	3.1	1.6
Aššur		78.4	4	32.6	38.3
the Upper Province		0	0	0.5	0.2
the Lower Province		47.7	95		71.4
Turšan			0		0
Libbi-āle			0	0	0
Nineveh		25			25
Kurda		0	0	0	0
Apku		0	0	0	0
Addarik		75.8	7.6	22.2	35.2
Karāna		0	0	0	0
Šibanibe		0	0	0	0
Hiššutu		50	0	0	16.7
Šimi	36	0	0	0	9
Husanānu	37.3	0	0	0	9.3
Kalhu	8.7	0	39.8	0	12.1
Ša-šille		0	0	0	0
Šumēla				0	0

Figure III.1-12 (cont.): Payment Difference by Province

Of the 24 provinces for which can arrive at some figure, we find that only 7 are above the threshold of 33.3%, while a full 17 are below it, with many provinces showing no change at all.

Taking this together, it seems that the kingdom's finances were quite similar in these three years. Perhaps the simplest explanation for this similarity is that the years in question were relatively close together. We can find further support for this idea by closely examining the tablet formatting. As we noted in I.1, most tables omitted rows where every numerical value was 0. Unusually, the two tables from the year Pa'uzu (MARV 2 21, MARV 9 1), did not follow this practice but included entirely empty rows. We find this same unusual practice in MARV 9 6. It is not impossible two separate scribes stumbled into the same practice at different times, but it seems rather simpler to assume that the tables come from a single change in accounting lasting a

few years. While the evidence is not ironclad, we have some reason to think that both MARV 9 6 and MARV 9 9 were composed not very long before or after the year Pa'uzu.

The final question, then is where should we place these two tables in our year sequence so that they will be close to the year Pa'uzu? The closest we can place the year Sikildu is either three years before or six years after (assuming the name was given to a year that began without an eponym). Given we have evidence for some dramatic financial changes in the years following Pa'uzu, a position before it seems preferable. Hence, I have tentatively assigned the year Sikildu to the year before Aššur-iddina. With MARV 9 6 we are on shakier ground. Although we can place the text near the years Pa'uzu and Sikildu, the eponym is not preserved. It could thus be a table from one of the already sequenced years, and we would have no good way of determining which. Rather than arbitrarily assign it to one of the sequenced years I have tentatively treated it as a separate year and placed it before the year Sikildu, but this is more out of concern to simplify our subsequent investigation rather than a considered judgment that this is the most likely reconstruction.

2.4 The late group: MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48, MARV 49 + MARV 7 6

Let us turn to two other unplaced tables, MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48 and MARV 49 + MARV 7 6. The former table was composed in the year Sarniqu and deals with arrears received in the year Rīš-Aššur. By the same line of argument we used above, both of these years should be placed somewhere in Aššur-dān I's reign or in the first decade or so after it. Similarly, the table MARV 6 16 + involves arrears received in the year Habakar, which must have occurred sometime in Aššur-dān I's reign (see already Llop 2008c: 23-24). Again, we cannot help but wonder if these two tables were part of the crisis.

That they deal with some manner of crisis is clear enough. Both tables record the payment of arrears from a previous calendar year. What is more, they both seem to come from a portion of a crisis where payments were regularly made out of phase since in both texts we find a major portion of one year's revenue being received a year late. But is it the same crisis? The numbers for individual provinces are too badly damaged to allow meaningful comparison, but we can get some traction with the sesame and fruit totals. The values are presented in the following table:

	Sesame	Fruit
MARV 6 16 +	$x+8000+x qa$	$5640 qa$
MARV 6 49 + MARV 7 6	$9500+x qa$	$6800 qa$

Figure III.1-13: Income Amounts in the Late Group

Reducing figures to their minimum restorable values and converting to a percentage of nominal yearly revenues we get the following figures:

	Sesame	Fruit
MARV 6 16 +	36.8%	42.8%
MARV 6 49 + MARV 7 6	43.8%	51.6%

Figure III.1-14: Income Percentages in the Late Group

The figures are not identical, but they are reasonably close, as we would expect in two years that were part of the same larger crisis.

Here a close reading of the tablet metadata can give us more information. MARV 6 16 + refers to arrears from a year whose name is lost, which were received in the year Rīš-Aššur. The tablet itself, however, is dated to the year Sarniqu. We will return to the reason for this curious dating in a moment. It suffices here to note that the year Sarniqu was likely the year following Rīš-Aššur. Now, MARV 6 49 + MARV 7 6 refers to arrears received in the year Habakar from a previous year whose name is broken. Only one sign of the name is preserved at all, and that is damaged. Freydank (2006: 219) and Bloch (2012c: 79) have restored the name as ${}^{mr}piš'-[qi-ia] =$

Pišqīya. As discussed in the edition of that text, the only attested years Pišqīya occurred at the end of Ninurta-apil-Ekur's reign and at the very end of Aššur-dān I's reign (see Bloch 2012c), and it is highly unlikely this text deals with arrears from either. If the year is to be restored as Pišqīya, it must refer to a third year of that name. Yet, the copied traces also are not so far from a SAR₄ sign, although there is no available photo on which to check this. I would suggest that this was in fact a SAR₄ sign, and that the year in question was Sarniqu. This would mean that only one year, Sarniqu, lies between the events described in the two texts, making them clearly part of the same crisis and giving us a coherent sequence of four years:

- (1) PN? (nominal year of payments recorded in MARV 6 16 + MARV 6 50)
- (2) Rīš-Aššur
- (3) Sarniqu
- (4) Habakar

We must then try and find a place for this four year sequence in Aššur-dān I's reign.

We know that the *mašennu rabi* Samnuha-ašarēd was active in the year Habakar (MARV 10 76). As mentioned above, he also held this office in the years Tāhulu and Sīn-šēya, and so it seems likely that this text is to be placed around the same time toward the end of Aššur-dān I's reign. We can get a similar result by looking more closely at MARV 6 16 +. That text refers to arrears paid in the year Rīš-Aššur but is dated to what was evidently the following year, Sarniqu. A simple explanation for this is that the end of the Assyrian calendar year fell slightly before the end of the delivery season. Thus, the great majority of shipments would have arrived in the year Rīš-Aššur, but a few would have arrived at the start of the next year. It would make sense to include this with the Rīš-Aššur deliveries, and so the Rīš-Aššur text was not drawn up until the delivery season had finished sometime early in the next year, Sarniqu. For this to work, we would need Assyrian Month I, the start of the new calendar year, to line up roughly with Babylonian Month VI, the end of the delivery season. That is to say, the Babylonian months

should be about 5 months ahead of their Assyrian counterparts. This should have happened around Aššur-dān I's 33-35th regnal years.

As it so happens, Aššur-dān I's 33-35th regnal years fit into the gap of about four years between the years from the Aššur-iddina group and the Tāhulu group. Therefore, I have tentatively placed our four-year sequence in that gap. There is some wiggle room here. Both the Aššur-iddina and Tāhulu groups can be slid a year or two in either direction without great damage to the arguments used to date them. We could also identify the first year of MARV 6 16 + as the fourth and final year without an eponym that followed the year Da'ʾānī-Ninurta. Indeed, we could even assume that the last year without an eponym was renamed as Rīš-Aššur before its end, and that first year in our group was the third year without an eponym. Given our limited evidence, there is no good way of deciding where to put the one or two extra years we can open on either side of our sequence. Hence, for simplicity I have assumed that the first year in MARV 6 16 + immediately followed and was distinct from the fourth year without an eponym which followed the year Da'ʾānī-Ninurta and that the year Habakar came directly before the year Tāhulu.

2.5 Summary of the crisis

In the spartan documentation from the middle of Aššur-dān I's reign, the outlines of a great crisis emerge. Sometime around Aššur-dān I's 23rd year, the Agency began to experience serious shortages of non-grain commodities. Unlike the Liptānu crisis discussed above, we cannot point a finger at major provinces in complete default. The worst offender among provinces of any size was Libbi-āle, but its payment record was bad in other periods as well. Thus, the underlying cause was probably not an invasion which would have clearly localized effects. The cause must have been something that would cause reduced yields in certain commodities across much of the

kingdom. The most obvious candidate would be short-term climatic changes, perhaps a drought or unusual temperatures.

Whatever its ultimate cause was, the crisis had become a little better by the year Pa’uzu, with honey and sesame income up 10-20% from their nadir in MARV 9 6, but the Agency was still receiving half or less of its income in non-grain commodities. Since shortages hit hardest in the non-grain commodities, it is not surprising that the central government redirected honey tribute to the Agency for four years to try and stabilize the situation (MARV 6 39).

This little recovery was short lived. One year after Pa’uzu, in the year Sāmīdu, we find offerings reduced to minuscule amounts (MARV 9 19). This seems to have been a kingdom-wide crisis. We find the central authorities pulling funds from the beleaguered Agency in the next year and that same year, Da’ānī-Ninurta, was the last year the state was able to name a new *līmu* for the next half decade. Happily, we have hints that the situation improved somewhat in those years without eponym (e.g. MARV 6 66).

When the dust had settled and new eponyms began again to be appointed, we find many of the provinces at least partially out of phase with the payment cycle, but paying. In the year Habakar, we find that the Agency was receiving 27.6% of its grain, 51% of is honey, 43.8% of its sesame, and 51.6% of its fruit one year out of phase. Now, if we assume the remainder was received in phase, we get payments figures rather close to those from Pa’uzu:

	Grain	Honey	Sesame	Fruit
Pa’uzu	65.4 ² %	50.7 ² %	46.3%	34.5 ² %
Habakar (reconstructed in-phase payments)	72.4 ² %	49%	56.2 ² %	48.4%

Figure III.1-15: Phasing at the End of the Crisis

This looks rather like the payments had got back up to the early crisis levels before the Agency switched its accounting procedure so that provinces paid down the previous year's arrears before paying their obligation for the current year. By the year Habakar it would seem that revenues were close to their nominal values, although the first-in, first-out approach caused nearly complete yearly payments to register as combinations of partial payments and arrears, very similar to what happened in the early years of Ninurta-apil-Ekur. Indeed, by the start of the year Tāhulu the Agency's finances were on quite solid ground, with complete offerings made on 243 of the 307 days for which we have records.

However, there was a precipitous drop off in offering levels at the end of the year Tāhulu. Once again, the problem seems to have afflicted the entire kingdom, for no new eponym was appointed at the start of the next year. After that our records break off for a while. To sum up, the Agency began the crisis in poor financial health and then suffered the consequences of at least two serious economic blows to the Assyrian state. About the precise causes of these problems we can say hardly anything.

Before we leave the crisis, there is one final document that we may be able to link to it. MARV 9 2 is a table involving arrears, in which some provinces seem to have been assessed more than one year's assessment. As argued in the edition of that text, this is most easily interpreted as the Agency dealing with the "year without a harvest" that the Assyrian calendar had to produce every three decades or so as the purely lunar calendar lapped the solar year. In the reconstruction above, by the year Rīš-Aššur the Babylonian months were five months ahead of the Assyrian months and so the end of the delivery season associated with that year's harvest would have been in Assyrian Month I of the next year. By the end of Aššur-dān I's reign the Babylonian months would have been about nine months ahead. Without a correction this would

make the delivery season for a given year start in Assyrian month XII, and end in Month III of the next year. While it can hardly be proven, I would suggest that the calendar adjustment in MARV 9 2 occurred sometime in the ten or so years between the year after Tāhulu and the end of Aššur-dān I's reign.

3 The matter of the *maddattu*

Our texts pick up again in earnest around the start of Tiglath-pileser I's reign. When the lights come back on we find the *Gināu* Agency once again embroiled in a multiyear crisis. Perhaps the most striking feature of the crisis is that on at least three occasions the Agency's funds were augmented by massive payments described as "the *maddattu* of the Assyrians." For convenience we will refer to the whole affair as the *maddattu* crisis.

Since this crisis occurred near the end of our archive, it is hardly a surprise that formal summary documents are few and more day-to-day documents are quite abundant. This reflects the standard dead archive distribution found in many places in the cuneiform record (see III.3). Still, the small scope of the surviving documents makes it more difficult to establish the outlines of this crisis than for the earlier crises.

Therefore, we will start our discussion by showing that there was indeed a crisis in Tiglath-pileser I's early years and that the large *maddattu* payments were external emergency funding intended to ameliorate the supply shortages. With these points established we can then turn our attention to sorting out the details of the crisis. For convenience, the years in which the crisis occurred and a few of the most important events in it are summarized in the following table:

Regnal year	<i>līmu</i> ²⁰	Major Administrative Events
Aššur-rēš-iši I.16	Berê	Beginning of crisis [?]
Aššur-rēš-iši I.17	Berê (2)	
Aššur-rēš-iši I.18	Berê (3) / Ninurta-nādin-apli	
Tiglath-pileser I.1	Tilgath-pileser I	First <i>maddattu</i>
Tiglath-pileser I.2	Ištu-Aššur-ašāmšu	Shipping dossier composed
Tiglath-pileser I.3	Aššur-šallimšunu	
Tiglath-pileser I.4	Šamaš-apla-ēreš	Arbela resumes payment
Tiglath-pileser I.5	Hiyašāyu	
Tiglath-pileser I.6	Ina-iliya-allak	Second <i>maddattu</i>
Tiglath-pileser I.7	Šadānayu	
Tiglath-pileser I.8 [?]	Aššur-mudammeq	
Tiglath-pileser I.9 [?]	Ibri-šarre	Third <i>maddattu</i> , combination with palace staff

Figure III.1-16: Chronology of the *Maddattu* Crisis

3.1 The shortages

In the earliest days of the crisis before Tiglath-pileser I took the throne, the surviving documentation is extremely limited, and it is difficult to pin down exactly how or even when the crisis began. From MARV 7 98, a list of various outstanding debts to the Agency, we learn that in some form the problems went back as far as the year Berê and seem to have been widespread, but the text is too damaged to say much more. MARV 8 78, which records a delivery from Šadikannu province in the year *ša urki Berê* (e.g. Berê (2)), does indicate that communications with the western provinces had not broken down, though that province seems already to have been a year behind its payment (Bloch 2012b: 65).

What is clear is that by Aššur-rēša-iši I's last year, Ninurta-nādin-ape, a number of provinces had fallen seriously into arrears since we find debts from this year still being paid down two years later in the year Ištu-Aššur-ašāmšu (MARV 7 22, MARV 8 50). In the year Tiglath-pileser I, Kilizu, and Talmuššu all paid considerably less than one year's full assessment,

²⁰ This ordering is based on Jeffers (2013: 357). The justification for assigning the years Aššur-mudammeq and Ibri-šarre to Tiglath-pileser I's eighth and ninth years as opposed to the broader block of years 8-12 Jeffers used is discussed below.

and five of the grain-paying provinces, Arbela, Halahhu, Turšan, Libbi-āle, and Husanānu seem not to have paid anything at all (MARV 6 70). The result was that the Agency's entire grain income was only 82550 *qa*, less than half its nominal amount. The defaulting provinces likely included those managed by the officials Salmānu-ašarēd and Šūzub-Adad, for which replacement sources of grain had to be found (MARV 1 49).

In the next year there seems to have been a concerted effort to deal with the problems. MARV 7 58 records provinces paying down arrears from the previous year, and the Agency also drew up an extremely formal debt consolidation document, MARV 8 50, likely for Halahhu province. MARV 6 86 implies that another such document was composed for Arbela in the same year. Halahhu seems to have resumed regular payments by the end of the year (MARV 1 21, MARV 6 3, MARV 6 52, MARV 6 88). Arbela, however remained delinquent for two more years until the year Šamaš-apla-ēreš when its two sub-governors and the “*qēpu* of Arbela” delivered its full grain payment for the previous year as well as 17070 *qa* of the *muṭṭāu ša libbi tuppišunu šabitte* “arrears which are included in its formal tablet” (MARV 6 86: 7-8).²¹ This is the largest single grain shipment recorded in the archive and a sure sign that something had gone very wrong in the preceding years.

²¹ The text does not give any compelling reason to think this was a fine imposed on top of the *gināu* as punishment for the province's default (*contra* Bloch 2012b: 69). More generally, it is difficult to see how such a fine would make sense in a broader administrative context. We have good reason to think that *gināu* payments were made from the governor's general operating fund, which was itself drawn from state revenue in the province (I.1). Decreasing the size of this fund with an unusually large exaction would hardly penalize the province, it would simply mean that state authorities in the area would now be short of grain with which to conduct the king's business. One could postulate a higher tax burden was imposed, but this leads to two additional problems. First, we have little evidence for any kind of direct agricultural taxation in the Middle Assyrian period (see Postgate 2014: 341); most likely state revenues came mostly from state owned assets and labor rights. More generally, if this was the goal the king could simply increase the tax burden on the province, and hence the size of the provincial fund and not have to bother with transporting extra grain to the capital. On the off chance the grain was needed in the capital, he could order a direct shipment from the provincial fund as we find attested several times in Middle Assyrian texts from the western provinces (e.g. KAJ 109, KAJ 113, MARV 1 1).

When we try to improve the resolution of this picture, things become quite messy. As we have already seen in the previous crises, acute shortages could cause payments from individual provinces to become out of phase with the payment cycle. With a group of well-preserved summary tables, this phasing is fairly easy to spot and pin down. But, as noted above, few such documents have survived from Tiglath-pileser I's reign, precisely because the Agency thought they were worth preserving and so did not throw them into remote storage with the rest of our archive (see III.3).

Therefore, a coherent and detailed picture of the payment state of all provinces in all commodities is beyond us. We must content ourselves with those few provinces, years and commodities for which information is available. This is best pursued on a province by province basis, but to provide some orientation in this bewildering financial wilderness, the results for grain—the best attested commodity—have been roughly summarized in the following table. Here the columns represent *gināu* assessments incurred in a particular year, with each year's column further divided into quarters. The numbers indicate the year in which that quarter of a province's assessment from the stated year was actually paid. For reasons of space, the year Tiglath-pileser I is designated (87).1 and the following years (87).2, etc.

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Arbāil	? ? ? ?	? ? ? ?	? ? 4 4	4 4 4 4	5 5 5 5
Kilizu*	1 1	2 2 2 2	3 3 3 3	3 4 ² 4 ² 4	4 5 5 5
Halahhu	? ? ? ?	? ? ? ?	? ? 2 2	3 3 4 ² 4 ²	4 ² 4 ² 5 5
Talmuššu	1 1	? 2 2 2	? 3 3 3	3 3 4 4	4 4 4 4
Idu	1 1 1 1	2 2 2 2	3 3 3 3	4 4 4 4	5 5 5 5
Katmuhhu	1 1 1 1	2 2 2 2	2 2 3 3	3 3 4 4	4 4 5 5
Šūdu	18 18 18 18	1 1 1 1	4 ² 4 ² 4 4	4 4 4 ² 4 ²	4 4 4 4

Figure III.1-17: Reconstruction of Phasing During the *Maddattu* Crisis

Lower Province		1	1	1	1	2	2	2	2	3 [?]	3 [?]	3 [?]	3 [?]	4 [?]	4 [?]	4 [?]	4 [?]				
Turšan	?	?	?	?	?	2	2	2	2	2	2	2	2	3	3	3	3	4	4	4	4
Libbi ale	?	?	?	?	?	2	2	2	2	2	2	2	2	3	3	3	3	4	4	4	4
Šīme	18	18	1	1	1	1	2	2	2	2	2 [?]	2 [?]	3 [?]	3 [?]	3 [?]	4 [?]	4 [?]	4 [?]	4 [?]	5 [?]	
Husananu	?	?	?	?	?	?	2	2	2	2	2	2	2	3	3	3	3	4	4	4	4
Kalhu	18	18	18	18	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4

Figure III.1-17 (cont.): Reconstruction of Phasing During the *Maddattu* Crisis

We have already met two of the most useful texts for sorting out the phasing, MARV 6 70 and MARV 7 58. The first is a summary of grain received in the year Tiglath-pileser I, and ignores the nominal obligation the grain was intended to meet. The second, MARV 7 58, is a summary of grain paid toward obligations from the year Tiglath-pileser I, but received in the following year, Ištu-Aššur-ašāmšu. The grain summary texts MARV 6 56 and MARV 8 25 have a similar format and are almost certainly from the *maddattu* crisis, but their metadata is broken and we cannot place them.²²

To these grain summaries we can add the unfortunately damaged table MARV 6 1+ MARV 6 17, which recorded at least 12 provinces that paid part of their obligations for the year Šamaš-apla-ēreš in the following year, Hiyašāyu. The equally damaged MARV 8 35 has a similar format; like the previous text it includes interlinear notes and divides Arbela into a dozen or so subunits. It is probably to be dated to the *maddattu* crisis as well, but its metadata is broken and, frustratingly, we cannot place it.

Finally, we can add the three texts dealing with irregular grain shipments made in the year Ištu-Aššur-ašāmšu (MARV 1 21, MARV 6 3, MARV 6 88). These texts do not give information on the obligations which the grain was to meet, but they do clearly define a group of provinces which were paying grain but required special treatment. Since most of this

²² Another partial summary of grain income from the year Ištu-Aššur-ašāmšu appears in MARV 7 22.

documentation relates to grain, we will focus mainly on the grain paying provinces, only turning our attention to other provinces if they are particularly well attested.

3.1.1 The good: provinces mostly in phase

The soundest province we have records for was Kalhu. It paid an amount equal to its full assessment of 6350 *qa* of grain in the year Tiglath-pileser I (MARV 6 70). This quantity seems to have been directed to the obligations for that year as Kalhu does not show up in the list of provinces paying down arrears from that year composed in the following year, Ištu-Aššur-ašāmšu (MARV 7 58). We also find the province associated with a paid amount of grain equal to its full assessment in MARV 6 56, and it was omitted entirely from the list of grain arrears in MARV 8 25. Finally, Kalhu was omitted from the Ištu-Aššur-ašāmšu shipping dossier, and does not seem to have been in the arrears table MARV 6 1 + MARV 6 17. All of this points to Kalhu being completely in phase with the payment cycle. We can thus offer the following hypothetical reconstruction of its payment history. Here, and in the following examples, gray boxes indicate firm points, while white boxes indicate conjectural restorations:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Kalhu	18 18 18 18	1 1 1 1	2 2 2 2	3 3 3 3	4 4 4 4

Figure III.1-18: Phasing for Kalhu

Affairs in Šūdu began similarly. That province made a payment equal to its full grain assessment in the year Tiglath-pileser I (MARV 6 70), and did not make an arrears payment in the following year (MARV 7 58). We also find that the province had no arrears in MARV 8 25, and it does not appear in the Ištu-Aššur-ašāmšu shipping dossier apart from a sum of 300 *qa* of grain supplied by the steward of its governor Kiditê (MARV 1 21). However, the province soon ran into financial troubles. In MARV 7 50 we find it paying down its arrears from the year

Aššur-šallimšunu in the following year, Šamaš-apla-ēreš. The text also links the province to a sum of 9570 *qa* of grain that was *pāniūtu* “paid previously,” more than a full year’s assessment. Likely this includes the balance of the province’s arrears from the year Aššur-šallimšunu and much or all of the year before, Ištu-Aššur-ašāmšu. The province does not seem to have been listed in MARV 6 1 + MARV 6 17, meaning it was back in phase by the end of the year Aššur-šallimšunu. Yet, in the next year, Ina-iliya-allak, we find 3000 *qa* of grain being confiscated from the house of Kiditê, governor of Šūdu, to cover his province’s assessment (MARV 6 24, MARV 9 14). We can thus reconstruct the following tentative sequence:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
	18 18 18 18	1 1 1 1	4 ² 4 ² 4 4	4 4 4 ² 4 ²	4 4 4 4
	Assessment of 87.5	Assessment of 87.6			
Šūdu	5 5 6 ² 6 ²	6 6 7 ² 7 ²			

Figure III.1-19: Phasing for Šūdu

Šīme province seems to have been at full payment levels but about half a cycle out of phase. In the year Tiglath-pileser I it paid 6600 *qa* of grain, a little bit more than its usual assessment of 6030 *qa* (MARV 6 70). If the province were entirely in phase, it would not have paid more than its regular grain assessment. Fittingly, we find that province paying 3000 *qa* of arrears from the year Tiglath-pileser I in the following year (MARV 7 58). The province also appears in the shipping dossier from the year Ištu-Aššur-ašāmšu associated with a sum of about 3400 *qa* delivered by a certain Hupputu the boatman. This is evidently not the same 3000 *qa* arrears payment mentioned in MARV 7 58 since the numbers are different and that sum was linked to a certain Mardukiya. Likely it represents an extra payment made as the province tried to catch up to the payment year since it nicely corresponds to the amount by which it was out of

phase with the payment year. In addition, Šīme has arrears in MARV 8 25, and is associated with its full grain assessment in MARV 6 56. It may also have appeared in MARV 6 1 + MARV 6 17 if the last entry of that text is restored correctly. Thus, it seems that Šīme was at full payment levels or higher, but took some time to work its way out of its arrears. This information is summarized below:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Šīme	18 18 1 1	1 1 2 2	2 2 2' 2'	3' 3' 3' 4'	4' 4' 4' 5'

Figure III.1-20: Phasing for Šīme

3.1.2 The bad: provinces mostly out of phase

For other provinces things were much worse. We have the best evidence for Arbela province. Arbela does not appear in either MARV 6 70 or MARV 7 58, meaning that it paid nothing at all in the year Tiglath-pileser I and did not make any payments toward that year's obligations in the following year. Indeed, Arbela seems to have paid nothing at all until the year Šamaš-apla-ēreš. In that year a shipment arrived bringing the province's full payment for the previous year. At that time the Agency seems to have consolidated all of the provinces debts from the year Ištu-Aššur-ašāmšu and before into a single debt document—alluded to in the receipt but unfortunately not preserved—allowing the province to nominally stay only a year behind in its payments. 17070 *qa* of grain from these older debts was paid along with the shipment, but a further 15100 *qa* remained unpaid. Thus, the combined arrears for the year Ištu-Aššur-ašāmšu and before were at least 32170 *qa*, more than a full year's payment. Things had been quite bad in Arbela in those early years.

Arbela remained a year behind in the next year, paying 29430 *qa* of grain toward the obligation of the year Šamaš-apla-ēreš in the year Hiyašāyu. Given its poor payment history it is

not surprising that Arbela appeared in the arrears list MARV 8 25. Perhaps less expected is that grain deliveries seem to have been made on its behalf by the “House of Erība-Aššur” in the Ištu-Aššur-ašāmšu shipping texts. Even so, given that the province was in complete default at the time, such an expedient makes good sense. The information is summarized below:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Arbela	? ? ? ?	? ? ? ?	? ? 4 4	4 4 4 4	5 5 5 5

Figure III.1-21: Phasing for Arbela

The fate of Halahhu province was similar, though it is less well documented. The province seems to have paid nothing at all in the year Tiglath-pileser I, and did not pay any arrears in the following year. It did, however, resume payment sometime by the end of the year Ištu-Aššur-ašāmšu, since it appears in the shipping dossier from that year. Likely the province consolidated its debts into a single formal tablet, just as Arbela had done. Indeed, MARV 8 50 was likely the formal document in question, although the province name is sadly broken.²³ As with Šīme, it would seem that the extra funds in the shipping dossier were directed toward the current year’s obligations. Despite this, like Arbela, Halahhu province seems to have stayed significantly out of phase with the payment cycle. We do not have any precise numbers, but the province shows up in the arrears list MARV 8 25 and also makes late payments in the table MARV 6 1 + MARV 6 17.

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Halahhu	? ? ? ?	? ? ? ?	? ? 2 2	3 3 4 ² 4 ²	4 ² 4 ² 5 5

Figure III.1-22: Phasing for Halahhu

²³ As discussed in the edition of that text, it does not seem possible to identify it with the formal document recording Arbela’s old debts which was alluded to in MARV 6 86.

When we turn to the third great grain-paying province, Katmuhhu, the picture is clearer if less dramatic. In the year Tiglath-pileser I Katmuhhu province paid 27560 *qa* of grain, an amount just shy of its total assessment (MARV 6 70). This entire amount must have been credited to the previous year's arrears, for the province paid 27860 *qa*, its entire grain assessment for the year Tiglath-pileser I in the following year (MARV 7 58). Moreover, the shipping dossier indicates that 13740 *qa* of grain was delivered on behalf of Katmuhhu in that year. Based on what we have seen with Šīme and Halahhu, this grain must have been directed toward the current year's obligation, which would have pulled the province about halfway into phase with the payment year. In the next year, Aššur-šallimšunu, the province was at least a third of a year out of phase in its non-grain commodities, though we lack good information on its grain payments that year (MARV 6 26). In keeping with its chronic tardiness, the province appears in the arrears list MARV 8 25. By the time MARV 6 1 + MARV 6 17 was composed, the province was apparently still paying at least 14560 *qa* of grain out of phase, although the restoration in that passage is not entirely certain. This information is summarized below:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Katmuhhu	1 1 1 1	2 2 2 2	2 2 3 3	3 3 4 4	4 4 5 5

Figure III.1-23: Phasing for Katmuhhu

Kilizu was also late, but in a more complicated way. The province paid 4000 *qa* in the year Tiglath-pileser I, and paid 9000 *qa* worth of arrears for that year in the following year (MARV 7 58). As the province's entire annual grain assessment was only 9710 *qa*, this means the province slid from half a year to a full year out of phase in the year Tiglath-pileser I. Fittingly, the province appears in the shipping dossier and was linked with an amount of arrears in MARV 8 25 as well. Furthermore, the province appears on the table MARV 6 1 + MARV 6

17, indicating that it was still out phase in the year Hiyašāyu. We thus arrive at the following reconstruction:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Kilizu	1 1	2 2 2 2	3 3 3 3	3 4 ² 4 ² 4	4 5 5 5

Figure III.1-24: Phasing for Kilizu

Trickier still is the Lower Province. It paid its full annual grain assessment of 14560 *qa* in the year Tiglath-pileser I (MARV 6 70). It is, unfortunately, unclear whether or not it appeared in MARV 7 58. The province is associated with arrears in both MARV 6 56 and MARV 8 25. Therefore, it is likely it was out of phase, but the largest entry we can restore for it in MARV 7 58 is 9300² *qa*, and so it must have been only about half a year or so behind. Oddly, the province does not appear in the shipping dossier, unlike all the other provinces in MARV 7 58. This is likely related to it being downstream of the capital. All the provinces in the dossier are located in the center or northeast of the kingdom. The Lower Province does not seem to have been included in MARV 6 1 + MARV 6 17. Likely it caught up with the payment cycle, though we cannot entirely rule out that it had fallen more than a full year behind. The results are presented below:

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Lower Province	1 1	1 1 2 2	2 2 3 ² 3 ²	3 ² 3 ² 3 ² 3 ²	4 ² 4 ² 4 ² 4 ²

Figure III.1-25: Phasing for the Lower Province

Perhaps the most complicated late payment arrangement seems to have occurred in the closely linked provinces of Talmuššu and Idu. The major problem is that Idu province is said to have paid 14700 *qa* towards its arrears from the year Tiglath-pileser I, despite the fact that its entire annual assessment seems to have been only 13560 *qa*. One might argue that the assessment had changed since the reigns of Ninurta-apil-Ekur and Aššur-dān I from which most

our evidence for the figure comes. However, a text from a few years later in Tiglath-pileser I's reign explicitly gives 13560 *qa* as the complete assessment of Talmuššu province (MARV 5 42). It seems unlikely that the total assessment of Idu would change dramatically while the assessment of its twin remained completely unchanged.

Here the income tables offer a solution. In MARV 7 63 we find that 100 *qa* of Idu's sesame assessment had been transferred to Talmuššu. This was evidently not a permanent change since that table appears to be from the reign of Ninurta-apil-Ekur and the provinces returned to their usual assessments in the tables from Aššur-dān I's reign (see I.1, I.3). Thus, it would seem that *gināu* obligations could be temporarily transferred between the two provinces.

I would suggest that here we are seeing the same phenomenon, but with grain and on a grander scale. On a purely formal level, such an irregular accounting arrangement could explain the curious note at the end of MARV 1 21 that something . . . *ša gināe ša Ide . . . lā kamir* "of the *gināu* of Idu . . . was not combined" (29-30) and why the two provinces were not separated by a ruling in the table MARV 6 1 + MARV 6 17. But a much stronger argument can be marshalled from the numerical data.

Let us begin by looking at the behavior of Idu province more closely. The province paid a total of about 15800 *qa* of grain in the year Tiglath-pileser I, a little more than its annual assessment. In the next year the province paid 14700 *qa* toward arrears from the year Tiglath-pileser I. This means that 15800 *qa* figure must have been primarily directed toward paying down arrears from the year before that, Ninurta-nādin-āple. MARV 6 1 + MARV 6 17 provides a similar picture with Idu paying at least 10000 *qa* towards the previous year's arrears in the year Hiyašāyu (the line is too damaged to recover an exact figure).

Taken by itself it would seem that Idu was about a year out of phase with the payment cycle. However, in MARV 6 22 the province consolidated its debts for the four year period from the year Ninurta-nādin-āple through the year Aššur-šallimšunu, and arrived at a figure 20330 *qa* still outstanding, an average of about 5000 *qa* per year. If the province was a year out of phase in grain payment, it cannot have owed more than about one year's assessment, 13560 *qa*. Indeed, since the province seems to have still been out of phase in the next year, Hiyašāyu (MARV 6 1 + MARV 6 17), it seems likely that the debt consolidation only dealt with debts more than a year out of phase, just as we found with Arbela province above, and so the province should have no debts to consolidate at all.

Turning to the figures for Talmuššu province, we can find an answer. Talmuššu only paid a total of 5000 *qa* of grain in the year Tiglath-pileser I (MARV 6 70). If we ignore for the moment the issues of phasing, Talmuššu was clearly in financial hardship while Idu was producing at or above its nominal levels. We find Talmuššu associated with similar figures elsewhere in our text. In MARV 7 58 it paid 4300 *qa* of grain towards its arrears from the previous year. Now, if we average the two figures together, we find that Talmuššu paid about 4650 *qa* per year toward the previous year's obligations. Given its poor payment in the year Tiglath-pileser I, it is not unreasonable to think these constituted its total payments. Idu's average payment in the same two texts is about 15250 *qa* (MARV 6 70, MARV 7 58). This means that between them the provinces should have been about 4720 *qa* short each year, uncannily close to the average debt being consolidated in MARV 6 22.

We can link the two figures if we assume that the obligations for the two provinces were temporarily pooled and put under the supervision of the governor of Idu, whose province was the more solvent of the pair. Since the debt was pooled and Talmuššu was not operating at full

capacity, it makes sense that Idu tried to make good some of the difference, contributing more than its annual assessment. Unfortunately, the problems in Talmuššu were great enough that the combined provinces still slipped about a fifth of a cycle further out of phase every year. To avoid the administrative headache of having provinces two or more years out of phase, the Agency consolidated the debts from the provinces into a single document, MARV 6 22. This conveniently placed the obligation for payment on the governor of Idu who was coordinating the whole affair. Happily, it seems that Talmuššu recovered sometime around the year Hiyašāyu. In that year it not only paid down 4750 *qa* of arrears from the previous year's assessment (MARV 6 1 + MARV 6 17), but also paid its complete assessment for the current year's payment cycle (MARV 5 42).

As we would expect for provinces that were a full cycle out of phase, both Talmuššu and Idu appear in the arrears list MARV 8 25 and in the shipping dossier, and neither is listed among the solvent provinces in MARV 6 56.

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Talmuššu	1 1	2 2 2	3 3 3	3 3 4 4	4 4 4 4
Idu	1 1 1 1	2 2 2 2	3 3 3 3	4 4 4 4	5 5 5 5

Figure III.1-26: Phasing for Talmuššu and Idu

3.1.3 The ugly: poorly documented provinces

To arrive at the previous reconstructions we had to cherry pick the best attested provinces. If we return to the tree we find that the remaining fruit is less than ripe. Three grain-paying provinces remain to be accounted for: Libbi-āle, Turšan, and Husanānu. The three provinces do not appear in MARV 6 70, and their names are not preserved in MARV 7 58. Nor do they appear in the shipping dossier. More perplexing, the trio of provinces are recorded with their full payment amounts in MARV 6 56, and only Husanānu can be plausibly restored in the

arrears list MARV 8 25. Husanānu is also the only one of the three to occur in MARV 6 1 + MARV 6 17 or the related text MARV 8 35. Indeed, we have no explicit dated references to either province in Tiglath-pileser I's reign (Jeffers 2013: 332-333). But it would stretch credulity to argue that the capital province had been lost from tablets composed in the capital at exactly that time. Clearly some set of circumstances has conspired to make the capital invisible in the archive.

Whatever was hiding the capital is likely to be hiding Turšan as well, since the two provinces' payment levels only differ by an average of 25.5%, well below the 33% expected by chance. Since the provinces do not appear in the well preserved MARV 6 70, it would seem that they did not pay any grain in the year Tiglath-pileser I. It is not unreasonable to think that these three provinces, and perhaps the Lower Province as well, are to be restored in the four damaged lines of MARV 7 58 that occur where they are usually listed in the canonical order.

Now, if the provinces paid nothing toward their assessments of the year Tiglath-pileser I in that year, and only half of the assessments in the next year, then half of their assessments must have remained unpaid. I would suggest that the debts were consolidated earlier for these three provinces. As we saw above, when Arbela and Halahhu resumed payments after lengthy defaults all their obligations more than one year past dues were consolidated into a single debt which was paid down only after more recent obligations were met. We can posit that something similar was done for the Lower Tigris provinces in the year Ištu-Aššur-ašāmšu, with that year's payments prioritized over any earlier obligations. This would have the provinces back in phase in the payment cycle, and so explain why all three were associated with their full assessments in MARV 6 56. Furthermore, it would account for the fact that none of the provinces are recorded

making late grain payments in MARV 6 1 + MARV 6 17, and indeed, only Husanānu is recorded making any kind of late payment in that text.

	Assessment of 86.18	Assessment of 87.1	Assessment of 87.2	Assessment of 87.3	Assessment of 87.4
Turšān	? ? ? ?	? ? 2 2	2 2 2 2	3 3 3 3	4 4 4 4
Libbi-āle	? ? ? ?	? ? 2 2	2 2 2 2	3 3 3 3	4 4 4 4
Husanānu	? ? ? ?	? ? 2 2	2 2 2 2	3 3 3 3	4 4 4 4

Figure III.1-27: Phasing for Turšān, Libbi-āle, and Husanānu

Before we leave the matter, we should make a note about those provinces not attested paying grain. The evidence is extremely spotty. Kulišhinaš paid its assessment for the year Tiglath-piliser I in that year (MARV 1 73), continuing the *birtus*' long tradition of punctual payment. The other *birtus* did not quite live up to this high standard, though. Both Amasakku and Taidu were a year out of phase in the year Ina-iliya-allak (MARV 3 36 + MARV 3 84 + MARV 9 25, MARV 6 67). In the following year, Šadānāyu, the Šadikannu region of the Upper Province made a substantial payment, though it is unclear which payment year it was meant to go with (MARV 5 27). While there was phasing, few if any of the *birtus* were in complete default.

Ominously, though, MARV 3 36+ and MARV 5 27 both refer to irregular substitutions being made for parts of the provinces' normal assessments. We are not in a position to say what exactly made these substitutions necessary, but one suspects it was related to whatever problem had forced Taidu and Amasakku out of phase with the payment year. Beyond that, Ninua, and perhaps Apku and Addarik appear in MARV 6 1 + MARV 6 17, indicating that they were at least partially out of phase with the payment year. Unfortunately, those few observations are essentially all that can be said about the finances of the non-grain paying provinces in this period.

3.1.4 Summary

Taking a step back, the various provincial struggles form a coherent picture. The crisis seems to have had its epicenter in Arbela province, but encompassed nearly every other grain paying province except Šūdu and Kalhu. The situation was quite grim. By Tiglath-pileser I's first regnal year the more westerly provinces of Idu, Katmuhhu, and the Lower Province had made a full recovery, as had Šīme. Kilizu and Talmuššu also made a partial recovery that year. Things continued to improve in the new king's second year, and all of the grain paying provinces except Arbela and Halahhu had resumed nearly full payment, although Talmuššu continued to limp along at reduced levels. When Arbela finally resumed payment in the king's fourth year, the initial shortage was finally resolved. This is where the income documentation largely falls silent. As it turns out, this respite was to be only temporary, but to get at this we must look at the Agency's finances from the other side.

3.2 The *maddattu*

3.2.1 What was the *maddattu*?

When Tiglath-pileser I ascended the throne the finances of the *Gināu* Agency were in disarray and poised for a near total collapse. But this did not happen. Before the new king's first regnal year was half over we find the Agency in possession of an enormous sum of grain described as the *maddattu ša Aššurāyē* "maddattu of the Assyrians" (MARV 1 49). In the next decade the Agency would receive at least two more of these *maddattu* payments, allowing it to maintain high offering levels despite its supply problems. To understand the crisis, we must try to pin down what these *maddattu* payments were.

Here it is best to start at the end. In Neo-Assyrian times the word *maddattu* was a common technical term referring to tribute which non-Assyrians paid to the kingdom (Postgate 2013a: 105). This tribute took the form of annual payments of goods which were generally presented directly to the central government, bypassing the provincial authorities (Postgate 1974: 123).

Like their Neo-Assyrian successors, the Middle Assyrian kings were often wont to talk about various sorts of “tribute” in their inscriptions. They referred to their various arrangements with the terms *biltu*, *hišbu*, *tuššikku*, *tāmartu*, and *maddattu*. Now, precisely describing administrative technicalities was perhaps not high on the list priorities for the writers of the royal inscriptions. In those cases where a number of words for tribute were heaped up, it is perhaps foolhardy to try and systematically distill a precise administrative nuance for each.²⁴

When we look at occurrences of the term *maddattu* in isolation, though, some order does emerge. Most commonly the term is used to refer to onetime gifts from foreign kingdoms encountered on campaign. We find the term used in the inscriptions of Tiglath-pileser I to describe the gifts he received from the Phoenician cities on his campaign to the Mediterranean (A.0.87.3.20, A.0.87.4.27-28, A.0.87.10.32-33), gifts from a campaign in the far northwest (A.0.87.4.31-32) as well as gifts of horses from mountaineers in the north (A.0.87.4.17, A.0.87.10.19-20). Another passage in which the king collected livestock from the defeated kings of Nairi seems best seen in this vein as well (A.0.87.1:v.20). In contrast, only one use of the term clearly refers to a regular arrangement, where the king notes that 100 *qa kurbanī ša abāri maddatta šattišam-ma ana lā šuparkê ukīn* “I imposed 100 *qa* of lead ore on them as unceasing

²⁴ *biltu u maddattu*: A.0.78.1:iii.10-11, A.0.87.1:i.65-66, A.0.87.1:i.90-91, A.0.87.1ii.52, A.0.87.1:ii.91-92, A.0.87.1:ii.94, A.0.87.1:iii.72, A.0.87.1:iii.89-90, A.0.87.1:iv.29-30, A.0.87.1:v.80-81, A.0.87.1:vi.34-36, A.0.87.1:vi.47-48.

biltu u tāmurtu: A.0.78.5: 46-47, A.0.87.2:27, A.0.87.2:7', A.0.87.3:13-15, A.0.87.12.4'-5', A.0.78.23: 55-56.

biltu u hišbu: A.0.78.20: 1', A.0.78.21: 2'.

biltu maddatta u gišurū ša erēni: A.0.87.4.30, A.0.87.10.34-35

yearly tribute” (A.0.87.1:v.39-41). Thus, while the usage is not entirely precise, the term seems most often to refer to onetime, ad hoc payments to the Assyrian state. Indeed, it seems that the term *biltu* had more specifically the sense of regular, annual tribute in the inscriptions.²⁵

However, this may simply be the vocabulary of the inscriptions preferring a prestigious Babylonian term over the more prosaic Assyrian technical term *maddattu*. It is not our intention here to try and sort the matter out. What is clear, though, is that the term *maddattu* normally referred to goods the Assyrian state collected from vassals on either an ad hoc or regular basis.

The few references to *maddattu* in Middle Assyrian administrative texts follow this same pattern. In KAJ 106 we read of *eleppēt maddatte* “ships of the *maddattu*” sent by the king from the *tâmtu* “sea,” apparently the Persian Gulf (see Postgate 1988: 148). This looks rather like tribute being brought from the newly conquered Babylonia. In MARV 1 9 we read of a large volume of grain and sesame brought back from a campaign in the Diyala region (on this passage see Jakob 2015: 184). In KAJ 314 livestock from a number of individuals are described as *maddattu*. Based on the “people of Katmuhhu” and the Suteans who appear in the text, these individuals were evidently located in the northwest of the kingdom. Here the *maddattu* is paid in goods and seems to be linked to people, not towns or provinces. Finally, MARV 6 39 refers to honey brought in four successive years as the *maddattu* of the people of Paruna. Again, we are dealing with goods paid by individual people.

Taking these together, we find a picture very much like the later *maddattu*. The payments are made by people who either are definitely non-Assyrian, like the Suteans, or can plausibly be identified as such. Only the people of Katmuhhu in KAJ 314 can be readily linked to a known Assyrian province, but even then the text does not refer to the province of Katmuhhu or its

²⁵ A.0.77.1: 44-46, A.0.78.1:iii.5-7, A.0.78.4 6’, A.0.78.23: 23-24.

governor, but rather people living in that region. Indeed, just as with the Neo-Assyrian *maddattu*, we have no indication that provincial authorities were involved at all in delivering the goods. Rather our evidence shows private individuals interacting directly with the central government. Indeed, the king himself was directly involved in one case. Finally, when we have details about the actual commodities, they are raw goods, and it seems inescapable that the tax was really to be paid in goods, not labor. Thus, we have all the elements of the Neo-Assyrian *maddattu*.

There is one slight complication. In two Middle Assyrian texts the term *maddattu* can be plausibly understood as a service obligation. In a damaged text involving various personnel we find the phrase *ma-da-te up-pu-še = maddatte uppuše* “(of/for) performing/making *maddattu*” (MARV 4 102: III.7’). Yet, the text also mentions KUR.*kat-mu-ha-ia-ú hu-ub-[tu] = katmuhhayu hubtu* “captive people of Katmuhhu” (II.7) and Kassites (IV.6’). It does not seem a great stretch to think that text deals with non-Assyrians. Favoring this, many of the readable names are clearly non-Akkadian and the god Aššur, so common in Assyrian onomastics, appears in only one name in the preserved portions of the text. Thus, we could plausibly understand this as referring to an act of paying the *maddattu* tax.

More problematic is KAJ 307, where we read that *Ēreš-ilī pahnu nikkassē ištu maddattešu iššabat* “Ēreš-ilī the substitute settled his accounts after his *maddattu*” (5-7). After they were settled Ēreš-ilī was charged with feeding a horse, while his two employers were given the duty of paying chariot expenses. It goes on to note that the employers had not furnished either a spear or an axe. As noted by Postgate, it seems quite likely the *maddattu* here was a form of military service (2013a:105). The text is an outlier in its contents. But a look at the date indicates that it is also a chronological outlier. It dates to the year Salmānu-qarrād, which occurred during the reign of Adad-nērārī I (see RIMA.0.76.7). At a minimum the entire 30 year

reign of Shalmaneser I would lie between when that text was composed and the reign of Tukulti-Ninurta I when the term *maddattu* begins to appear regularly in administrative sources and royal inscriptions. We can posit that the institution or, at least the terminology used to describe it, was somewhat more fluid in Adad-nērārī I's reign when the great Assyrian expansion to the west had just begun.

With a workable model to explain what a plain *maddattu* was in Middle Assyrian times, we can return to the *maddattu* of the Assyrians. *A priori*, the name would be an excellent way to describe a version of the *maddattu* tax paid by Assyrians. As we will see, the references fit very well with this model. Now, as we noted above, the regular *maddattu* had three salient qualities:

- (1) It was paid only by non-Assyrians
- (2) It was paid in goods, not labor
- (3) It was paid directly to the central government, bypassing provincial governors

If the *maddattu* of the Assyrians was paid by Assyrians, then clearly the first condition does not hold. Therefore, it would make good sense that scribes specified that it was the *maddattu* “of the Assyrians” to make the point clear.

But let us turn to the second point. Since the Agency did not actually collect the *maddattu* itself, we cannot get at this directly. What we know is that the *maddattu* could produce large sums of grain, and that it could somehow be thought of as “of the Assyrians.” Now, Middle Assyrian texts describing state grain revenues are quite abundant, but both the term *maddattu* and things qualified as “of the Assyrians” are rare. This suggests that we are dealing with some manner of obtaining grain outside the usual channels. Here MARV 5 8 is instructive. In that text we find the Agency repaying a great number of small honey loans it had taken out from various named individuals, none of whom seem to have been especially important men in the kingdom.

The footer of the text summarizes the amounts repaid as *ša kīmū dišpe ša Aššurāyē* “(that) which was in place of the honey of the Assyrians” (64). Similarly, MARV 6 40 describes a number of emergency loans which the Agency took out to continue operations at the start of the Liptānu crisis. Toward the end the text notes *tuppi 1.KAM.MA ša u’e ša rabûte u Aššurāyē ša ana pūhe nassuhan-ni lā ta’ur* “The first tablet of the grain of the great ones and the Assyrians, which was taken out on loan, was not returned” (13’-15’). The lines evidently refer to another tablet with contents similar to MARV 6 40. The implication would seem to be that the “great ones and the Assyrians” are people like the creditors in that document.

This would imply that our *maddattu* grain came from various private citizens. That, in turn, would nicely explain why we otherwise do not find the term *maddattu* used with state agricultural revenues. The documents that we have all deal with revenue generated from state land, not tax payments from private citizens. Indeed, we can go a bit further. There is no clear evidence that regular Assyrians normally paid taxes on agricultural income in the Middle Assyrian period (Postgate 2013a: 341). Direct transfers of goods seem to have only come as tribute from outside the kingdom and the occasional customs duty (*misku*) (Postgate 2003: 341). It is easy to see how a scribe confronted with the unusual event of Assyrians paying taxes in kind rather than labor would term the operation “the tribute of the Assyrians.”

But it may be more than just a convenient name. As we noted above, the regular *maddattu*—at least in later times—went directly to the central government, bypassing the provincial authorities. If the “*maddattu* of the Assyrians” was actually conceived of as an extension of the practice of *maddattu* payment to regular Assyrians, we would expect that this tax would also be centrally collected. Again we do not have access to texts about how the *maddattu* was collected, but in the texts we do have the central authorities loom quite large. We

have information on three *maddattu* payments that were made in the early years of Tiglath-pileser I's reign. In each case the funds seem to have come with strings attached. When the first payment was made we find both the *šakin māte* and the external *alahhinu* Urad-Aššur extensively involved in administering it (e.g. MARV 1 49, MARV 7 4). The third *maddattu* brought with it oversight from the palace catering staff and Gabbēya the *šāqû* (see below). Most strikingly, the king himself personally authorized expenditures from the second *maddattu* payment via one of his eunuchs (MARV 7 3). In contrast, the various provincial governors outside the capital who normally supplied the Agency's grain do not appear. If the *maddattu* was controlled by the governors, it would seem rather simpler for them to deliver it along with their *gināu* payments. Taking this all together, we have good reason to think that the *maddattu* of the Assyrians did not pass through the control of the governors. It really was a *maddattu* paid by Assyrians.

3.2.2 Properties of the *maddattu*

We can say more about the *maddattu*. We will approach this from the Agency's perspective and work back to the grain's ultimate source. Perhaps the most important question for the Agency was how much grain it would receive through the *maddattu* arrangement. We are best informed about the first *maddattu*, which involved exactly 92503 *qa* of grain (MARV 1 49). The Ibri-šarre *maddattu* involved at least 50286 *qa*, suggesting that the *maddattus* were of the same general size (MARV 5 70). Indeed, that amount was used in a little under five months (II.15-VII.2), so it is conceivable the Agency had several more months to go and that full sum was quite close to the 90000 *qa* or so in the first *maddattu*.

When dealing with sums this large, it is natural to wonder whether they were received as a single payment or in installments. That is to say, was the *maddattu* a one-time lump sum or on-

going state support? As we will discuss in more detail below, the first *maddattu* began to be received sometime in Month III of the year Tiglath-pileser I. A month later the Agency had received a total of at least 90000 *qa* of grain. This looks very much like the *maddattu* grain arrived in a single large payment, or perhaps a few closely spaced installments. For the second *maddattu* the evidence is sparser, but evidently the Agency had enough *maddattu* grain on hand that the king felt comfortable deducting 500 *qa* from it by letter while away from the capital (MARV 7 3). The evidence for the third *maddattu* is more ambiguous, and it may well have involved installments rather than a single large payment. This is discussed in greater detail below.

However, just because the Agency had the grain did not imply that it was divided out among the executive staff as soon as it was received. On the contrary, MARV 1 49 indicates that the first *maddattu* was centrally managed by the *gināu* supervisor and the associated *alahhinu* Urad-Aššur. The texts are unusually coy about mechanics of how the grain was disbursed. MARV 5 70, a summary of grain used by the various members of the executive staff, might be taken to imply that grain was issued in massive installments of 10000 *qa* or more, but some of the grain in that text seems also have been recorded in the small disbursement text MARV 7 96. The sums there are still hardly small, with each major *alahhinu* receiving over 1000 *qa*, but they are not a major fraction of the total *maddattu* grain. While we can scarcely prove it, it is not unreasonable to think that most of the disbursements to the executive staff from *maddattu* grain were of roughly that order of magnitude.

Turning our attention toward matters of interest to the king, the elephant in the room is whether the Agency was expected to pay back the *maddattu* grain, or whether it was an outright gift. Again, the documents are frustratingly opaque on the topic. MARV 5 37 contains what

might be an explicit statement on the matter, since it lists the *maddattu* of the Assyrians among supplies which Ezbu-līšer *ana pūhe iššû-ni* “took as a loan” (9’-10’). Unfortunately, it is possible to read this phrase as only applying to the subsequent loans taken out from varying high ranking officials. We have better luck with MARV 7 3, where at the king’s instruction 500 *qa* of grain was given out *kīmū u’e ša maddatte ša Aššuraye ša ina muhhi Ezbu-līšer rab gināe iššaknu-ni* “in place of the grain of *maddattu* of the Assyrians which was placed at the disposal of Ezbu-līšer” (4-7). Now, the phrase *ina muhhi* PN is used to express debts in Middle Assyrian loans. But, it is also used in the archive to describe grain which had been distributed to the *alahhinus* but not yet processed, as we find in a number of large disbursement texts (II.3). Since there is no doubt that Ezbu-līšer was to use the rest of the grain for offerings, regardless of whether it was a gift or a loan, either interpretation is possible.

However, the administrative context favors that it was indeed a loan. If the *maddattu* grain was a grant absorbed into the Agency’s general operating fund, there would be no need to specify that this payment was made specifically in place of *gināu* funds. All grain in one fund spends the same. Rather, it seems that the Agency needed to know how much *gināu* grain it had spent. Indeed, the summary texts MARV 1 49 and MARV 5 70 were both composed to work out the total amount of *gināu* funds spent to date. A compelling reason for the Agency to keep such figures would be to know how much it would have to pay back. But, it is possible that this documentation was written simply to appease royal authorities, who were eager to be certain that their massive gift was put to proper use.

On the other side, we have no texts describing the repayment of the *maddattu*. But, it may well have been deducted from the assessments of provinces where the king needed grain at the moment. In fact, even if the *maddattu* was repaid directly out of the Agency’s funds, since the

transactions involved the king directly, there was little sense in drawing up formal documentation. If the king disputed the amount repaid there was no court which could override him and so a formal legal document would be of no use. It is possible that nearly the entire sum was repaid, but equally possible that repayment was postponed indefinitely, or that no repayment was ever expected. We simply do not have the evidence to decide the matter.

But we can take the line of questioning one step further and ask where exactly the king got this grain. As noted above, the grain that composed the *maddattu* was likely a tax imposed on Assyrians. We can refine this picture a bit more though. First, as we saw above, MARV 6 40 distinguished between high officials, referred to as *rabûtu* “great ones” and lesser individuals, who were simply “Assyrians.” We can understand MARV 5 37 as making the same distinction with the Assyrians who paid the *maddattu*. There a quantity of supplies is described as *ša maddatte ša Aššurāyē ša Erība-Aššur (ša) Aššur-kēttī-šēši (ša) Kidinniya[?] (ša) Kiditê u (ša) Ezbu-līšer qēpūte Ezbu-līšer ana pūhe iššû-ni* “Of the *maddattu* of the Assyrians, of Erība-Aššur, of Aššur-kēttī-šēši, of Kidinniya[?], of Kiditê and of Ezbu-līšer, the deputies, which Ezbu-līšer took as a loan” (2’-10’). The list of officials included at least two governors (Aššur-kēttī-šēši and Kiditê) in addition to the *gināu* supervisor himself and they would certainly qualify as *rabûtu*.

But, was it a regular tax or an ad hoc measure designed to bolster an ailing *Gināu* Agency? What little evidence we have seems to favor that it was a regular tax. MARV 6 73 indicates that *maddattu* grain of some sort could be used by palace authorities as well as the Agency. This suggests that it was not an effort solely intended to support the *Gināu* Agency. A stronger clue comes from A 981 +[?] MARV 7 25. There, in a tantalizingly damaged passage we read *aklu šikaru ša libbi u’e ša . . . Aššur-rēša-iši šar māt Aššur irkusu-ni* “bread and bear of the grain of . . . which Aššur-rēša-iši decreed” (6’-7’). As noted in the edition of that text, a parallel

with MARV 6 35 + MARV 7 26 strongly suggests that the *maddattu ša Aššurāyē* “*maddattu* of the Assyrians” is to be restored in the break. Yet, based on formal similarities with MARV 6 35 + MARV 7 26, the text is likely to be dated to the year Ibri-šarre, nearly a decade into Tiglath-pileser I’s reign. In this context, it is attractive to see the *maddattu* as an annual tax imposed by decree (*riksu*) in Aššur-rēša-iši I’s reign. Of course, the *maddattu* is not heard of again after the year Ibri-šarre, so it is possible that Aššur-rēša-iši I’s new annual tax only had a life of about a dozen years. But all this is based on the restored passage in a damaged tablet with no date, and so must remain tantalizingly tentative.

3.3 Blow by blow

So far we have looked at the evidence for supply shortages in the early years of Tiglath-pileser I and the massive *maddattu* payments made to counteract parts of it. The scarcity of summary documents made this a difficult task, and many of the details in the above reconstruction remain uncertain even if the general outline is quite clear. However, when we turn our focus to the internal workings of the Agency, the evidence becomes much more abundant. We have a great mass of day-to-day administrative documents from the Agency’s operations during the crisis, and indeed, the last year, Ibri-šarre, is the second best documented year in the entire archive. By putting these various documents together we can obtain a reasonably clear picture of how the Agency adapted its operations to deal with the crisis. The complex and interlocking nature of these administrative actions is best presented in narrative form.

3.3.1 The first *maddattu*

3.3.1.1 Tiglath-pileser I

Our record of the Agency's internal workings begins on II.15.Tukulti-apil-Ešarra (MARV 8 79). This would have been equivalent to Babylonian Month VII, and so our tale begins with the new king's first delivery season just finished. As we have mentioned above, this almost certainly went very poorly, though extant texts do not furnish any exact numbers. Likely it was lower than the 80000 *qa* or so the Agency was to receive in the following delivery season. Still, at first the changes were not severe. In Assyrian Month II, the regular *alahhinu* team was still active, though in keeping with the shortages they were only being issued enough grain at a time to produce a single day's offerings (MARV 8 79).

Likely sometime in Month III, the first *maddattu* of 92,502 *qa* was issued to the Agency. Our first explicit record about the payment comes from IV.18, when 17922.5 *qa* had already been used. To get through that amount would have required at least 32 days, even making offerings at their full 550 *qa* per day levels. That would put the start of the *maddattu* period sometime in Month III. In fact, the damaged envelope fragment MARV 1 70 mentions an accounting period beginning sometime in Month III of this year, which could easily be seen as the beginning of the *maddattu*.

By itself the *maddattu* payment would cover nearly half of the offerings, and assuming that at least some of the Agency's regular grain arrived, the Agency's income might have reached three quarters or more of its nominal income. However, with these extra funds came extra supervision. As this continued in spurts for the rest of the crisis, it will be useful to pause here for a moment and look at this more closely. Most spectacularly, Aššur-kēttī-šēši, the *šakin māte* and one of the most important men in the kingdom, seems to have overseen the *maddattu*

payment (MARV 1 49; MARV 7 4). A number of envelope fragments bearing his seal attest to his involvement with the Agency throughout the year.²⁶ On XII.20 he also sealed a receipt on behalf of some men of Kulišhinaš who lacked sufficient rank to seal for themselves (MARV 1 73).

One tier down, Ezbu-līšer managed expenditures made from *maddattu* grain jointly with a certain *alahhinu* named Urad-Aššur (MARV 1 49; MARV 7 4). That the *gināu* supervisor was involved is to be expected, but Urad-Aššur was not a regular member of *alahhinu* team four, which was on duty earlier in the year Tiglath-pileser I, and would return to service in the following year. His primary employment must have been elsewhere, perhaps the palace, although he does seem to have assumed the title *alahhinu ša bēt Aššur* “*alahhinu* of the Aššur temple” while involved with the first *maddattu* (MARV 6 88: 36-37). His first stint with the Agency seems to have ended around the start of the year Ištu-Aššur-ašāmšu, but this is hardly the last we will see of him. He continued to be involved on and off with the Agency for more than a decade, and even briefly joined the *alahhinu* team during the transition from *alahhinu* team four to six in the years Ippitte and Mudammeq-Bēl.

But let us return to the grain. By IV.8 of that year, 17922.5 *qa* of the *maddattu* had been used (MARV 1 49) and the Agency had allotted 499 *qa* per day for bread and beer for the foreseeable future (MARV 7 4). On V.1 the *šakin māte* directly issued a small *iškāru* to the Agency’s major *alahhinus* in the curious amount 140 *qa* each (MARV 6 15). The Agency would still have been quite well supplied with *maddattu* grain at that time, so this cannot have been

²⁶ MARV 1 70: account period starting in Month III

MARV 9 49: month broken

MARV 2 2: X.x.Tiglath-pileser I:

MARV 9 42: XII.x.Tiglath-pileser I. Based on similarities to the other envelope fragments this was likely also sealed by Aššur-kettī-šēši, but the surviving portion does not have a seal impression on it.

emergency financing for the offerings per se. Even so it is attractive to think of it as connected with the crisis in some form, though this must remain speculative.

On IX.20 the amounts of grain currently controlled by each of the grain officials and Urad-Aššur were noted (MARV 9 108). While the brewers had 1409.5 *qa* between them, none of the *alahhinus* seems to have had more than 30 *qa*. This text may well document the end of the *maddattu* grain. At the 499 *qa* per day rate in MARV 7 4 that grain would have lasted for 149 days after the accounts were settled on IV.8, roughly until IX.7. Assuming there was some economizing toward the end it would be reasonable to think it lasted as late as IX.20.

This settling of accounts fell in Babylonian Month II, the time immediately before the delivery season when the Agency's stores were at their nadir. Until the new grain began to arrive operations had to be greatly reduced. Fittingly, around this time the Agency seems to have had to temporarily suspend its brewing teams, delegating the work instead to the *alahhinu* Urad-Gula, now working as a substitute brewer in addition to his *alahhinu* work. He provided the Agency with finished beer on XI.26 (MARV 7 7).

Happily, new shipments began to arrive in the next month, which corresponded to Babylonian Month III and the start of delivery season (see MARV 6 70). By X.21 the Agency was in a sufficiently sound financial position to issue seven months' worth of grain to its brewing staff, which had apparently been reconstituted (MARV 7 42). By Month XI the Agency had significant amounts in storage on which its grain officials and some outsiders could draw (MARV 7 7).²⁷ Things seem to have been a bit more difficult with its honey supply, with which the *maddattu* had not helped. On XII.12 Ezbu-līšer had to borrow a considerable amount of honey from a *kakardinnu* (MARV 8 88). As the shipping season wound down, on XII.26 the

²⁷ The 8000 *qa* taken by the brewers may refer to at least part of the 7 months' worth of grain issued to the brewers in MARV 7 42.

grain officials received a sizeable amount of grain directly from the boatman Papsukkal-zēra-iqīša (MARV 6 69).

The end of the calendar year Tiglath-pileser I roughly coincided with the end of the delivery season, and so, at the end of the year, the Agency took stock of how much grain it had received that year (MARV 6 70). At this time the Agency also seems to have been trying to plan its expenditures for the next year. Using a minimal figure for daily expenditures that apparently did not involve rations for its milling staff, it arrived at monthly usage estimate, whence one could easily work out that the grain would last the Agency about 6.8 months.

Of course, in our reconstruction the Agency was living off this incoming grain for at least the last two and half months of the previous year. At the current offering levels the Agency would run out of grain at the end of Assyrian Month IV of the next year, equivalent to Babylonian Month IX. If the offerings were not to be stopped or considerably reduced, the Agency would have to find some other source of grain to cover the five months between when the delivered grain would run out and the start of the next delivery season in Assyrian Month X of the next year. In sum then, the offerings levels in the year Tiglath-pileser I followed a pattern something like that in the following graph:

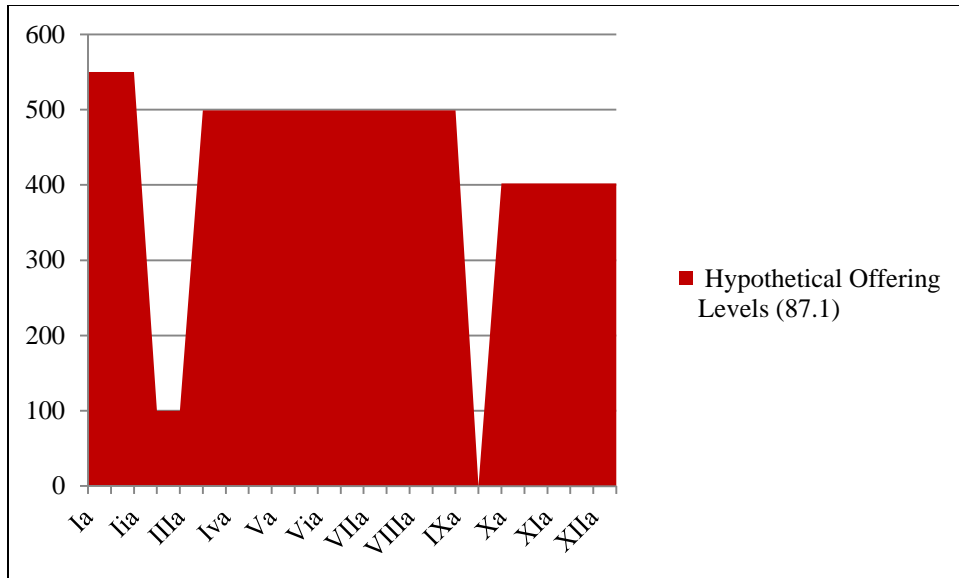


Figure III.1-28: Hypothetical Offering Levels in the Year Tiglath-Pileser I

3.3.1.2 Ištu-Aššur-ašāmšu

In the opening days of the new year, Ištu-Aššur-ašāmšu, the last grain shipments of the season arrived (MARV 5 57, MARV 7 22, MARV 7 46). These included some of the final arrears payments from two years before (MARV 7 22). Inside the Agency, matters had become rather complicated.

It is perhaps easiest to unravel this from the top down. As we noted above, Ezbu-līšēr had received some 140 *qa* of honey from a *kakardinnu* on XII.12 of the previous year, which he was to begin issuing for a 70-day period in Month I. His associate in managing the *gināu*, the external *alahhinu* Urad-Aššur, was still involved with the Agency. Urad-Aššur’s milling team drew work assignments of 33 *qa* at least three times that month. He seems to have been present when this was done on I.11 (MARV 5 57), but not on I.13 (MARV 7 67) and another date in Month I (MARV 7 22), when the texts explicitly noted that the disbursement was made despite his absence. Since he largely disappears from the record for the next half decade, it is attractive to

think that he had been reassigned while leaving his team in the Agency's custody, but this is largely speculative.

Moving lower in the Agency, we find that the major *alahhinu* Aššur-danninni received *iškārus* of 100 *qa* of grain two days apart on I.11 (MARV 5 57) and I.13 (MARV 7 67). Adding more to the tangle, we find that on I.11 the Agency received a consignment of at least 1100 *qa* from an agent of the *šakin māte* from which it was to provide 10 *qa* of bread daily for the foreseeable future. Finally, three of the Agency's millers seem to have been left at least temporarily in the company of the palace doorkeepers (MARV 7 67).

Without a doubt, we can say that on the operational side the Agency had not returned to business as usual. But it seems possible to at least tentatively tie all this together. In the second decade of Tiglath-pileser I's reign, the Agency received gifts on several occasions while it was operating at a reduced offering level which allowed it to resume complete or near-complete offerings for a small period (e.g. MARV 7 1). We can see the various irregular funding sources in the year Ištu-Aššur-ašāmsu as an effort to do exactly that. As we learn from MARV 6 70, the Agency was planning to use a reduced offering schedule in this period. Moreover, the offerings Ezbu-līšer's honey was intended to cover were to last a period of 70 days. If we use the 63% conversion figure suggested in II.1, we can estimate that making 10 *qa* of bread per day for 70 days would require a total of 1111 *qa*, uncannily close to the 1100+x *qa* figure allotted for the daily 10 *qa* of bread in MARV 5 57. It is attractive to see both the honey and the bread as part of a single 70 day period of elevated offerings. Last of all, we can turn to the issue of the millers. We do not actually know when new milling staff arrived, but we might posit that some of the millers were delayed, forcing the Agency to continue to employ Urad-Aššur's team for a short while after he was reassigned. This of course, is largely speculative.

After Month I the records fall silent for some time. Accounts were settled with the Agency's two brewers on V.21 (MARV 7 42). In Month VIII the Agency drew up a formal debt tablet, apparently to consolidate the debts of Halahhu province which had recently resumed regular payment. Around Month X (= Babylonian Month III) the shipments of the new delivery season began to arrive. With grain now abundant the Agency issued a large disbursement to the *alahhinus* (MARV 9 23), and also made a strange disbursement of 100 *qa* to a woman named Nathaītu. Curiously, the only other appearance of a woman in the archive occurred a few weeks later on XI.12, as part of an irregular delivery involving Halahhu province, whose precise details are impressively confusing (MARV 6 52). Apparently around this time the Agency also drew up MARV 7 58, summarizing the arrears from the previous year it had received in the year Ištu-Aššur-ašāmšu.

At the same time the Agency was engaged in some rather complicated shipping operations. These are spelled out most clearly in MARV 6 3, but appear in a number of other texts (MARV 1 21, MARV 6 88, MARV 7 22, MARV 8 13). The precise details are hard to recover, though whatever was going on was clearly quite involved. The few details that can be ferreted out are best discussed in the pertinent text editions. Here we will only summarize the most striking patterns.

First, many shipments received by the Agency are described as loans (*pūhu*). The Agency was known to have taken out a number of loans in the early years of the *maddattu* crisis (e.g. MARV 5 37 MARV 8 68), but here it seems to have gone the extra mile and become involved in the details of shipping. This is not surprising. One suspects that in the previous few years of the crisis the Agency had already called in most of the favors owed to it in the capital. To continue to take out loans in significant volumes it had to look to creditors outside the capital.

The second oddity is that two houses, that of Erība-Aššur and that of Uddu, are frequently listed among the various provinces. Indeed, in MARV 6 3 the house of Erība-Aššur is listed in the position where one would usually expect Arbela province. While it cannot be proven it is attractive to think that the house of Erība-Aššur was covering some of the arrears of Arbela province as discussed in the edition of MARV 6 3.

Finally, the texts reveal the Agency working closely with a few named boatmen to bring in large shipments. This differs quite a bit from the usual system of small supernumerary cargoes attested in other periods, which is, in fact, attested in a modified form in the next year (MARV 9 95).

Taken together, these details fit with the Agency being under severe financial strain. It had to take out loans from creditors outside the capital, and had to call upon prominent houses in the capital to take up some of slack caused by the arrears of Arbela and its neighbors. Finally, the Agency was no longer able to rely on inexpensive supernumerary cargoes to bring the majority of goods to the capital, but had to start using commissioned shipments to transport much of its grain. The Agency remained afloat, but without another *maddattu* to shore things up its financial position remained quite precarious.

3.3.1.3 Aššur-šallimšunu

A few documents were composed in the opening of the year Aššur-šallimšunu to deal with the delivery season that ended in its opening month (MARV 6 3, MARV 9 50³). But, as in the previous year, there is a break in the textual record at the end of that delivery season.

The Agency was in a sufficiently strong position to make small loans from its funds on VII.8.Aššur-šallimšunu (MARV 9 81). As the delivery trough in Babylonian Months I-II approached, the Agency received rights to 70000 *qa* of grain measured by the small *sūtu*, which

had been mostly delivered by VIII.5 (MARV 9 95). Frustratingly, our only evidence for this is a text summarizing which portions of the grain particular boatmen had brought. The text gives no indication of where the grain came from. It is unlikely that the text deals with regular *gināu* assessments since the deliveries described occur out of season and the sum, equivalent to about 56000 *qa* by the Agency standard *sūtu*, was much too large to be a payment from one province. Moreover, the text never gives the volume of the sum according to the Agency standard. It seems likely that the amount was first computed in small *sūtu*, in which it works out to the impressively round figure of 70000 *qa*, and was then converted to the boatmen's *sūtu* to assign shipping obligations, which work out to a neat 2000 *qa* a head in that measure. One suspects that the payment was being taken from the nearest state granary with a surplus, a small scale version of what transpired with Tukulti-Ninurta I's Tillê expedition (MARV 2 20).

That additional payment was apparently enough to keep the Agency solvent through the start of the next delivery season. Indeed, the Agency seems to have been in good place for a while afterwards; there is little evidence for serious disruptions in the offerings. Ezbu-līšer personally authorized small disbursements from a storehouse on X.23 and X.24 at the start of the delivery season (MARV 7 53; Babylonian Month III), but this involved small amounts and only a single major *alahhinu*. It need not have been anything more than a short-term cash flow problem. Similarly, on VIII.7 the Agency repaid a single *qa* of bread it had borrowed, which again is quite easily explained as a solution to a minor cash flow problem (MARV 8 92). A bit more ominous was the replacement of the offering's fruit component with additional bread for several days (MARV 7 62), but it still speaks well of the Agency's finances that it had enough grain to produce an extra 35 *qa* of bread per day. Finally, at some point in the year we must also

place Siqqi-Aššur-ašbat's short stint on the Agency's *alahhinu* staff.²⁸ This could be a crisis measure like Urad-Aššur's service for the Agency in the year Tiglath-pileser I, but he may simply have been substituting for one of the regulars who had become ill or otherwise temporarily unable to perform his duties. We have ample precedent for such a practice (Appendix C). Thus it would seem that a single emergency payment was enough to keep the Agency mostly solvent for the whole year.

3.3.1.4 Šamaš-apla-ēreš

Our evidence becomes quite sparse for the next year, Šamaš-apla-ēreš. What little we learn of the Agency's finances suggests that it was doing quite well. On V.5 an enormous shipment arrived from Arbela province, not only paying off the province's entire annual assessment (one year out of phase), but also making a substantial dent in its arrears. On XII.21 Šūdu province also paid not only its full assessment (also one year out of phase), but also more than a full year's worth of arrears (MARV 7 50). Katmuhhu also seems to have been holding strong in its payments, though like the other provinces it was one year behind the nominal payment year (MARV 6 26). We have no information about any disruptions or reductions in the offering schedule. It does not seem a great leap to think that with the last of the major defaulting provinces back in full payment the Agency was on a solid financial footing.

3.3.1.5 Hiyašāyu

Again the record breaks off, this time for a little over a year. Likely there was too little out of the ordinary to merit the hassle of drawing up a great many tablets. Toward the end of the year that seems to have changed. On XI.25, at the start of the new delivery season in Babylonian

²⁸ MARV 7 36 indicates that this took place in the year Aššur-šallimšunu, but the month in question is broken. MARV 6 23 is almost certainly from around the same time, but unfortunately its date is completely unreadable.

Month III, the governor of Talmuššu paid that province's full *gināu* for the current payment year. As the province had been at least half a year out of phase before, this means it had paid considerably more than a full assessment that year.²⁹ On XII.2 the Agency drew up a table of the *gināu* payments that had been received that year and were one year out of phase (MARV 6 1 + MARV 6 17), with only perhaps a dozen provinces mentioned on it. One might argue that this reflects more provinces acting like Talmuššu and becoming less out of phase with the payment cycle.

Alas, this does not seem to be the case. Starting in Month XII the Agency drastically reduced its offering schedule, providing offerings four or fewer days per month (MARV 6 7). In this light it seems better to understand the payment of Talmuššu as an emergency measure. Since most of the provinces had fallen a year out of phase, by paying the *gināu* for the year Hiyašāyu in the year Hiyašāyu the governor was effectively paying one year in advance. This unusual arrangement explains the striking formality of the document and the unusual qualification of the payment as *šalmu* "complete," a term not otherwise used to describe *gināu* payments in the archive. The province was not paying down arrears but was effectively a full year ahead. Similarly, one can see the table MARV 6 1 + MARV 6 17, which was drawn up right at the start of the reduced offerings, as a coping mechanism. Quickly running out of funds, the Agency needed to take stock of what resources it had on hand.

²⁹ Bloch has already arrived at a roughly similar conclusion arguing that the province paid two full years of *gināu* in that year (2012c: 81-84). The exact details of this reconstruction are problematic though. First, we have no evidence that the province was ever more than half a year out of phase with the payment cycle. Second, his argument that the province paid down arrears in Hiyašāyu is based on assuming it occurred in the late payment summary MARV 6 1, but there is no compelling reason to think this aside from the fact the tablet seems to have mentioned a large number of provinces. Also, a close investigation of the numbers on that tablet gives the impression that many of the payments involved do not reflect a full year's assessment.

3.3.2 The second *maddattu*

3.3.2.1 Ina-iliya-allak

The shortages continued through at least Month VI of Ina-iliya-allak (MARV 6 7). Drastic action was needed, and the central authorities once again had to rescue the Agency. At some point before VII.25 the king provided the Agency with another *maddattu* (MARV 7 3). Although we have no exact figures for its size, the Agency was able to give out around 30,000 *qa* (or at least a major portion of that amount) to at least two of its *alahhinus* on X.30 (MARV 7 2). As a result the major *alahhinus* were able to maintain full operations for 279 days.

With the breathing room offered by the *maddattu* the Agency seems to have turned its attention to collecting old debts. While we cannot prove it, it seems likely the Agency was using the old debts as a way of getting additional payments out of the provinces that were still solvent. For instance, it settled its accounts with the governor of Amasakku on XI.2 (MARV 3 36 + MARV 3 84 + MARV 9 25). Taidu continued to be a year out of phase (MARV 6 67). On XI.24 Siqqi-Aššur-ašbat confiscated a grain payment from the house of the governor of Šūdu in Aššur (MARV 6 24). This was part of a larger receipt of 29400 *qa* of grain which occurred in the last days of Month XI, which seems to have been somewhat irregular. The colophon's exact meaning is unclear, but it appears to refer to a *tuppu labirtu* "old tablet", and it seems likely that the shipments in question were going to pay down old debts rather than the current year's obligations. Finally, on XII.6 Siqqi-Aššur-ašbat seems to have facilitated an additional small payment on behalf of Halahhu province.

3.3.2.2 Šadânāyu

The Agency's grain officials continued to work off their enormous disbursement through VIII.17 of the following year, Šadânāyu (MARV 7 2). Each major *alahhinu* also received a sum of 10600 *qa* on V.11 of that year (MARV 5 6). This is likely part of the large disbursement dealt with in MARV 7 2. According to the latter text the major *alahhinus* still had enough grain for 26 days as of VIII.17, which would mean they could continue operations until around IX.13. Unfortunately, that end date was in Babylonian Month I, and the Agency's finances seem to have been tight in the remaining two months before the next delivery season. As a result, on IX.23 we find Ezbu-līšer personally issuing small disbursements to the grain officials (MARV 9 116). A receipt from Šadikannu province dated to IX.29 involves a number of substitutions for the canonical commodities, supporting the idea that supplies were becoming scarce (MARV 5 27).

3.3.3 The third *maddattu*

After the year Šadânāyu our reconstruction runs into chronological problems. Jeffers was able to show that the years Ibri-šarre, Aššur-dammeq, Mušēzib-Aššur, Aššur-kētī-šēši, and Mutakkil-Aššur comprised Tiglath-pileser I's eighth through twelfth regnal years, but he was not able to pin down the order in which they occurred (Jeffers 2013: 140-145). While absolute certainty is not possible with the evidence available, I will suggest a tentative order for those years here.

It is easiest to start with the year Mušēzib-Aššur. Two texts from this year mention "white barley" (MARV 5 54, MARV 9 32). Apart from a single attestation in the middle of Aššur-rēša-iši I's reign (MARV 6 71), that commodity only shows up in the archive in years 13-20 of Tiglath-pileser I, with the greatest number of attestations coming in his fourteenth regnal

year, Mudammeq-Bēl. Thus, it is attractive to place the year Mušēzib-Aššur as year 12 of Tiglath-pileser I and so keep the appearances of white barley in a single chronological block.

Next, let us turn to the years Aššur-mudammeq and Ibri-šarre. In both years we find Urad-Gula acting as a brewer (MARV 5 50, MARV 6 41, MARV 5 48). This was not a very common occurrence, for he is otherwise attested in this role only during the year Tiglath-pileser I (MARV 6 80, MARV 7 7). Therefore, it would seem best to keep his number of stints on brewing service to a minimum. Now, the month for the Aššur-mudammeq text is lost, but the Ibri-šarre texts date to III.9 and IV.2. If we restore the Aššur-mudammeq text late in the year and put the whole year immediately before the year Ibri-šarre, we can confine Urad-Gula's brewing activity around this time to a single period of perhaps half a year. In the same vein, in MARV 5 16, dated to IX.1, we find a line entry of 100 *qa* for an individual from outside the Agency. As several outsiders regularly received small disbursements from Agency funds in the year Ibri-šarre, it is attractive to see this as the same practice. Conveniently, placing the year Aššur-mudammeq immediately before the year Ibri-šarre would put this occurrence only four months from the start of that year, making the period that the practice was used relatively compact.

The final line of evidence comes from considering how the archive was formed. At least 25 tablets have survived from the year Ibri-šarre, while only 10 have survived from Aššur-mudammeq. Indeed, Ibri-šarre is considerably better attested than all the years that preceded it in the archive. In particular, it is the best attested year of the *maddattu* crisis, as the following graph makes clear.

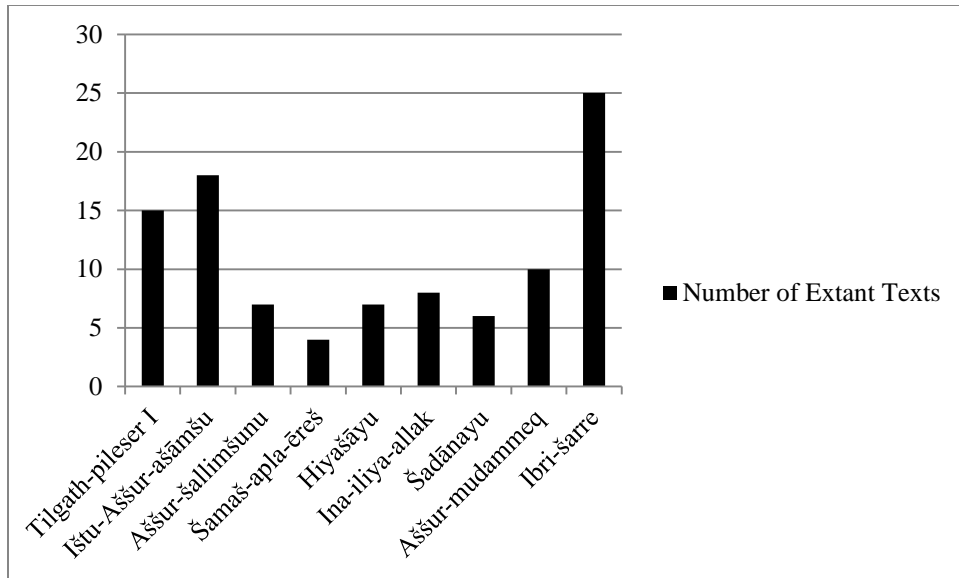


Figure III.1-29: Number of Extant Texts from Each Year of the *Maddattu* Crisis

What is more, the year Ibri-šarre saw the Agency adopt a number of unusual textual formats and short-lived administrative practices, which we will discuss in more detail below. It does not seem a stretch to think these changes soon precipitated a purging of the Agency's operating archive, either when the changes were abandoned or as part of still further changes. This would have produced a spike in documentation from the current year, Ibri-šarre and generally smaller amounts from the preceding years, which is exactly what we find when the year Aššur-mudammeq is placed immediately before the year Ibri-šarre. Taken together, then, it is reasonable to think that the year Ibri-šarre followed the year Aššur-mudammeq and was the last year in the *maddattu* crisis. The only remaining question is where to place the pair of years in the four regnal years that remain open.

Here a look at the remaining years, Mutakkil-Aššur and Aššur-kēttī-šēši is helpful. Both years are completely unattested in the archive. If we place the years between the years Šadānāyu and Aššur-mudammeq, we would put completely undocumented years in the middle of the

maddattu crisis, which seems unlikely since the previous seven years all produced at least some documentation, as we noted above. Once again, a purge in the year Ibri-šarre would neatly account for the gap. The texts from the year Ibri-šarre and before survived because they were put into long-term storage during the purge in the year Ibri-šarre. The texts from the next few years may also have ended up in long-term storage after a while, but they did not end up in the same place as the *maddattu* texts and thus did not make their way into the M 4 archive in the final purge of the archive at the end of Ezbu-līšer's tenure (III.3). Consequently, it makes sense to put the years Mutakkil-Aššur and Aššur-kētti-šēši after the year Ibri-šarre.

3.3.3.1 Aššur-mudammeq

With the chronology sorted out, we can return to the problem of sorting out the details of the last *maddattu*. Already at the end of the year Šadânāyu the Agency's finances were becoming tight. It is no surprise then that the Agency began using the small disbursement system in the next year to keep close control of its finances. We find two small disbursement texts dated to I.10 (MARV 8 12) and I.27 (MARV 6 4), during the delivery season. The record breaks off for about six months, but when it picks up again in Month VII (MARV 6 68) the Agency is still making small disbursements. Further small disbursement texts dated to IX.1 (MARV 5 16) and X.20 (MARV 6 84) indicate that the practice continued though Month X. Ominously, the major *alahhinus* received about 1000 *qa* each in the first but only 200-300 *qa* each in the second. Still, things were probably not catastrophically bad. Month X would have corresponded to Babylonian Month I, and the Agency's finances were generally weakest in the last months before the new delivery season. The Agency was not totally bankrupt, for it was able to issue 5500 *qa* of barley for malting on X.26 (MARV 5 26). However, it seems its store would not see out the year and it had to obtain emergency supplies. At least part of these came in the form of a large shipment of

29600⁷ *qa* of grain received on X.26 (MARV 6 89). Everything about the shipment is odd. It was received in Babylonian Month I, outside of delivery season. It came from Apku province, which did not normally pay grain. Finally, it involved a man with the title *mašennu ša bēt ile* “steward of the temple,” which is otherwise unknown in the archive. This grain was evidently not sufficient to keep the Agency supplied until the next delivery season, since at least one more out-of-season shipment or extraordinary payment was received on XI.2 (= Babylonian Month II).³⁰

3.3.3.2 Ibri-šarre

A new delivery season should have begun in Month XII of the year Aššur-mudammeq, which was equivalent to Babylonian Month III, but it seems to have been very poor. In Assyrian Month II (i.e. Babylonian Month V), before the delivery season had even ended the *Gināu* Agency seems to have become totally insolvent and required a massive *maddattu* payment to continue operating. The first part of this sum was received on II.15.Ibri-šarre (MARV 5 70, MARV 6 35+; see also MARV 6 73). MARV 8 8 records further irregular grain payments received in Month II, which may have been part of the *maddattu*. At any rate, additional *maddattu* payments continued to arrive through at least III.19 (MARV 7 96). However, the Agency was evidently not out of the woods. MARV 6 73 refers to the Agency using grain from the *rēšāte ša maddatte* “first fruits⁷ of the *maddattu*” on X.13⁷.Ibri-šarre. The date corresponds to the middle of Babylonian Month I, after the harvest would have begun but more than a month before the start of the main delivery season. Whether this was part of yet another large *maddattu* grant or simply a small payment to tide the Agency over until its own shipments arrived is unclear.

³⁰ MARV 5 50 and 9 69 are also from this year but too damaged to use in our reconstruction of events.

This *maddattu* grain came with new strings attached. In particular, it seems that the *Gināu* Agency was partially merged with its counterpart in the palace. This is clearest in MARV 6 73, where members of the two agencies work side by side on the same task. This merger brought with it a host of temporary administrative changes. For one, now that the Agency had to face continued scrutiny from palace officials, it could no longer get by with its usual minimalist approach to documentation. If outside officials were to regularly inspect its finances it would need to regularly draw up second order summary documents for them to do so, and indeed we find exactly this in the documentation. For instance, for the first (and possibly only) time in its history, the Agency began to draw up large tablets breaking down the *gināu* offering into the individual amounts of bread and beer allotted for particular deities and temples (MARV 6 35 + MARV 7 26). Since the only dated text of this type comes from the first day of the *maddattu* it is not clear how long the Agency kept up this singularly cumbersome practice, though it seems to have produced at least a few other tables in the same style (A 981 +[?] MARV 7 25, MARV 7 80). The Agency also took the unprecedented step of composing a bi-monthly summary of small disbursements it had issued (MARV 6 33). As discussed in II.3, this seemingly intuitive genre is surprisingly rare in the archive, being attested only here and in a modified form in the chaotic transition year Mudammeq-Bēl. The implication would seem to be that it was not business as usual. A more curious artifact of the takeover is the text MARV 5 74, which lists sons of a number of the Agency's executive staff. Our hope of explaining the exact purpose of that text was lost when its entire left side was destroyed, but it would make sense that the royal authorities would keep closer tabs on individuals in the Agency's employment. The unusual table MARV 8 6 is likewise too damaged to explain satisfactorily, but is clearly a break from normal accounting practices.

In addition to the changes in documentation, the Agency also underwent changes in personnel. The grain officials in office before were retained, but two new officials show up, Gabbēya and Aššur-dēnī-amur. Gabbēya was a *šāqû* and seems to have been affiliated with the temple for some time since he appears as a witness in the debt consolidation text MARV 8 50 alongside *šangû* priests a half decade earlier. While we cannot prove it, it is attractive to see him as a royal appointee in charge of overseeing cultic affairs. This was the role of the office in Ur III times, and it is not unreasonable to think it retained some of this character into Middle Assyrian times (see Sallaberger 1999: 186-188). Now that the *Gināu* Agency had been combined with the palace grain processing apparatus it seems Gabbēya was authorized to draw grain from its funds. One suspects he was also tasked with keeping tabs on the Agency's operations, but this is only speculation.

The case of Aššur-dēnī-amur is similar. We do not know his title, but he seems to have been closely involved with wheat and *hašlātu* production (II.1), and like Gabbēya he was authorized to draw on Agency funds during the merger. His presence touches on the final administrative change of the year Ibri-šarre. For the first time in more than half a century the Agency worked with wheat products (II.1). From MARV 6 73 we learn that palace officials were involved in wheat processing at this time, and it seems that while the agencies were merged some of these duties were transferred to the *Gināu* Agency staff.

The last text from the year Ibri-šarre is dated to XII.x. Presumably around this time, as the new delivery season was approaching, the Agency purged its archive. As we noted above, this ultimately caused a gap in the textual record. Hence we must pass over the events of the unattested years Aššur-kēttī-šēši and Mutakkil-Aššur in silence. What we can say, though, is that when the lights come back on in the year Mušēzib-Aššur we hear nothing more of *maddattu*

payments. Thus it seems reasonable to take the year Ibri-šarre as the effective end of the *maddattu* crisis.

3.4 Causes

The Agency's fortunes fluctuated wildly in the first decade of Tiglath-pileser I's reign. On at least three occasions only the timely intervention of the royal authorities with enormous *maddattu* payments was able to keep the Agency solvent. What happened? The crisis seems to have been strongly localized in the kingdom's northeast, and above all, in Arbela province. The brunt of the Liptānu crisis was likewise localized in a particular region, Katmuhhu. As shown above, it is possible to link the Liptānu crisis to a Mušku invasion known to have occurred in the region around that time. It is natural to wonder if the localized problems of the *maddattu* crisis might also be the result of some sort of invasion or military disturbance.

In fact, Bloch has already made such an effort, attempting to tie some of the shortages in the crisis to a revolt in Arbela province and a Babylonian invasion at the end of Aššur-rēša-iši I's reign (2012b). From the administrative side, he takes as his starting points the evidence for supply shortages beginning in the year Berê and the default of Arbela. He also notes that there was no governor of Arbela proper in the early years of Tiglath-pileser I, a point we already discussed in more detail in I.1, and combines this with a record of a battle between Aššur-rēša-iši I and the Babylonian king Ninurta-nādin-šumi (2012 b: 58-61). His result is a reconstruction wherein the governor of Arbela revolted in the year Berê and called in the aid of a Babylonian army. This reconstruction has already been challenged by Jeffers, who notes among other issues that it is very difficult to place the year Berê early enough that Ninurta-nādin-šumi would still have been king of Babylon (2013: 222-233).

Since the fine details of political history and chronology are not our main concern here and Jeffers has done a fine job sorting it all out, we will not dwell on them. However, there are a few methodological points related to administrative matters that merit comment. First, Bloch concludes that the Babylonian army must have been in Arbela to support a rebellion; otherwise, he argues, they would surely have attacked the capital directly (2012b: 60-21). This presumes that strategy can easily be modelled as a static function of the distance and value of a target. The problem with this assumption is that strategies also tend to factor in the location of known or potential enemy forces, which we are often not able to reconstruct. Military strategy is not a matter of simple geography, but a complex exercise in game theory.

As the chronicle records that the Babylonian king withdrew at the approach of the Assyrian army, one could posit that the Babylonians had no intention of doing battle with the Assyrian army but were opportunistically raiding unguarded territory. In this scenario it would make little sense to attack the capital, where it would be easiest for an Assyrian army to be assembled. In contrast, travelling along the Lower Zab would avoid a potential battle at the capital and allow the Babylonians to ravage the economic heartland of the Assyrian kingdom. Indeed, Nebuchadnezzar I's attack on Idu province recorded in the Synchronistic History can be seen as a similar effort (see Bloch 2012b: 57-58). As we have noted (I.1), Idu province was likely north of Arbela province, and so to attack it Nebuchadnezzar may well have gone by Arbela. This is not to say that this model is necessarily correct but rather that it is just as compelling as the revolt theory if not more so.

A second problem is Bloch's contention that Arbela's *gināu* assessment was raised as a punishment (2012b: 66-70). On a factual level this is almost certainly false. Bloch's main evidence is MARV 6 86, but as argued in the edition of that text, the extra sums there clearly

refer to arrears payments rather than some kind of increase in the province's annual assessment. Even if that text were less explicit, the fact the assessments levels of provinces almost never change in the half century spanned by the archive should have cast doubt on this idea (see I.1).

But the biggest problem is theoretical. As discussed in I.1, *gināu* assessments were normally paid out of the governor's general operating fund, and that fund in turn was supplied from the revenue of state owned assets in the area. Raising the *gināu* assessment would not punish the people of Arbela since they did not directly contribute to it. Rather, the Assyrian state would be effectively fining itself. Supplies pulled out of the operating fund for the *gināu* could not be used to meet other state expenses in the region. In the best case scenario the added demands on the provincial fund might lead to some improved efficiency in using state managed assets, but one doubts the gains would be all that great. Of course, that would also not really be a punitive measure but simply an attempt to improve efficiency, and if it worked, we would expect to see it done in other provinces as well. In sum then, a punitive hike in a *gināu* assessment would be robbing Peter to pay Paul. It simply does not make administrative sense, and we can hardly be surprised that there is no clear evidence for the Assyrian state ever doing so.

We must look elsewhere for a cause. Here the inscriptions of Tiglath-pileser I offer another solution. His famous annals (A.O.87.1) lay out a series of six campaigns conducted in his first six years on the throne. Jeffers' recent study summarizes them as follows:

<u>Regnal year</u>	<u>Campaign</u>
Accession year	to Kašiiari and Katmuḥu
First regnal year	to Alzu, Šubaru, and Katmuḥu
Second regnal year	to mountains N/NE of Assyria
Third regnal year	to Na'iri
Fourth regnal year	to desert against Arameans
Fifth regnal year	to Mušri and Qumānu (2013: 282).

It is unlikely to be an accident that five of these campaigns involved the kingdom's northeast where the crisis seems to have been localized. Jeffers has tentatively argued that the first two campaigns should be seen as a single campaign split for literary effect, as should the campaigns of the king's second and fifth regnal year (2013: 282-302).

Now, by Tiglath-pileser I's first regnal year we find that Katmuhhu and the neighboring provinces of Idu and Talmušu were a year out of phase. It is tempting to link their phasing to the campaign to Katmuhhu in the king's accession year. It is not a stretch to think that initial disturbances and the efforts to provision the king's army on campaign temporarily depleted grain supplies in the region. The campaign evidently set matters aright in the far north, for Katmuhhu and Idu both resumed full payment levels in the king's first full regnal year. It would be odd for another campaign to have been launched to that region when it had already completely recovered, which supports Jeffers' idea that the campaign recorded in Tiglath-pileser I's first regnal year was in fact part of the previous campaign.

More serious were the disturbances in the northeast, where Arbela and Halahhu were in complete default. As noted above, these continued to be severe through the king's first regnal year. I would suggest that the king's campaign to the northeast of the kingdom in his second regnal year, Ištu-Aššur-ašāmšu, was intended to set things right in that region. Indeed, if one follows Jeffers' hypothesis that the campaign recorded in year five was actually part of this campaign, the king's path would have gone through nearly every affected province in the northeast (2013: 288). Halahhu resumed payment within the year, although two more years would elapse before Arbela finally resumed payment in the year Šamaš-apla-ēreš. The eastern part of Talmušu province may also have been affected since that province only partially recovered after the king's Katmuhhu campaign.

The campaign itself was largely directed against mountain dwellers and it is tempting to blame the shortages in Arbela on the depredations of these mountaineers. Indeed, Tiglath-pileser I's inscription blames the disturbances in Katmuhhu on an invasion of mountaineers from the west. As we noted earlier, the problems that precipitated the *maddattu* crisis seem to go back to at least the year Berê, and so it is possible that mountaineers had been making serious raids or even temporarily occupying parts of the kingdom for several years before Tiglath-pileser I was able to expel them and restore order. Sadly, our limited evidence does not let us resolve the picture any further.

Furthermore, we do not have a neat chronological account of campaigns in the following years. As our information on the Agency's supply problems also becomes quite scarce by the year Ina-iliya-allak, it seems we have little hope of recovering the cause of the supply shortages in the second half of the *maddattu* crisis and the following decade or so. Further attacks from mountaineers might explain it. In fact, Arbela's neighbor Kilizu recovered from a similar default lasting at least two years in the year Aplaya. It is attractive to assume that the same sort of raid which had crippled Arbela for several years was later launched against its neighbor with similar results and in turn provoked a similar administrative reaction from the Assyrian state. However, this can be little more than speculation.

4 The middle years

After the year Ibri-šarre matters seem to have settled down a bit for the Agency. For the next dozen years we do not find evidence for any comparable crises in the surviving documentation. Of course, the documentation is not especially great in most of these years and so we cannot rule out that a major crisis hit but the tablets documenting it did not make their way into the archive.

Even so, there are enough texts from some of the years to draw an impressionistic sketch of what operations were like. In fact we even get a few glimpses at some rather interesting administrative activities. In keeping with our stated goal of making a comprehensive model of the Agency's activities, we will give an overview of what is known about these years.

Regnal year	<i>līmu</i> ^a	Group
Tiglath-pileser I.10-11	Aššur-kētti-šēši	Unattested in the archive
	Mutakkil-Aššur	
Tiglath-pileser I.12 [?]	Mušēzib-Aššur	Mudammeq-Bēl Group
Tiglath-pileser I.13	Ippitte	
Tiglath-pileser I.14	Mudammeq-Bēl	
Tiglath-pileser I.15	Aššur-apla-iqīša	
Tiglath-pileser I.16	Šahhutu	
Tiglath-pileser I.17	Bēl-libūr	Bēl-libūr Group
Tiglath-pileser I.18	Nusku-ālik-pānī	Late Group
Tiglath-pileser I.19	Aplaya	
Tiglath-pileser I.20	Ninurta-aha-iddina	
Tiglath-pileser I.21	Adad-apla-iddina	
Tiglath-pileser I.22	Aššur-šuma-ēreš	

^aThe ordering here is again based on Jeffers (2013: 357) with my own improvements to the exact sequence of eponyms in years 8-12 of Tiglath-pileser I.

Figure III.1-30: Chronology for the Middle Years of Tiglath-Pileser I

4.1 The Mudammeq-Bēl group

The year Šahhutu, which is completely unattested in the archive, nicely divides the period into two manageable subgroups. The first group is dominated by the 36 texts from the year Mudammeq-Bēl, the single best documented year in the archive and in fact the second best documented year in the entire Middle Assyrian period.³¹

From the first year in the group, Mušēzib-Aššur, our documentation exclusively concerns irregular activities and it seems likely that records concerning more normal activities never made their way into archive. Two texts deal with the accounts of the Agency's associated oil presser, Mār-Āpie (MARV 7 78, MARV 7 32). Two more texts concern the distribution of the unusual

³¹ The best documented year is Sīn-šēya, to which at least 107 published texts can be dated.

commodity white barley, received from the otherwise unknown city of Barikutu (MARV 5 54, MARV 9 32). The final text concerns a small *iškāru* of less than 100 *qa* issued to a major *alahhinu*.

The documents from the next year, Ippitte, are of the same sort. There is another disbursement of white barley (MARV 6 18), a small disbursement to a single person (MARV 7 75), and a damaged settling of accounts (MARV 9 10). There is also a single informal receipt text with tally marks and summary information on a few other shipments (MARV 7 83). Again, it seems that the regular disbursement texts did not find their way into our archive, and we can say little about the Agency's overall solvency. What we can say, though, is that the Agency was beginning a massive personnel transition. The details of this are involved and best left to the prosopographic appendix (Appendix C). Here it suffices to note only that by the end of the next year, apart from the *gināu* supervisor the entire executive staff would be replaced. It is likely that the normal operating texts were purged from the archive at that time, but the pot containing them did not make its way into the final resting place of our archive.

A shortage of texts is not a problem in the following year, Mudammeq-Bēl, where regular operating texts abound. They reveal a bewildering amount of personnel turnover as the Agency completed its transition to entirely new *alahhinu* and brewing teams. During the transition the Agency took to composing monthly summaries of disbursements. While none of these is well enough preserved to arrive at exact monthly expenditures, just the preserved portions average between 1300-2500 *qa* per major *alahhinu*.³² It does not seem a great stretch to think that the lost portions would bring the average up to near the 3000 *qa* per month per major *alahhinu* needed

³² MARV 7 48 (Month VI): 1300 *qa* per major *alahhinu*.
MARV 7 24 (Month VII): 2500 *qa* per major *alahhinu*.
MARV 5 59 (Month IX): 2200 *qa* per major *alahhinu*.

for complete bread offerings. The situation with the brewers was a bit less rosy. The account MARV 5 62 refers to each brewer receiving about 1700 *qa* of barley for the offerings of a single month *adi gināe šalme ša ūm 5* “including the complete *gināu* of day 5” (3-4, 24’-25’). As each brewer generally used about 66 *qa* per day (II.1), this suggests that the brewers were operating at about 86% capacity except for the important day 5 offering, which was still furnished with its full complement of beer.

Variations on the summary text genre seem to have been continued into the first months of the next year, Aššur-apla-iqīša (MARV 6 36, MARV 7 90, Reculeau and Feller 2012 46), stopping around the start of the new delivery season in Month III. It seems that these texts were lumped in with the three dozen Mudammeq-Bēl texts when the latter were put into storage. A final small disbursement text from XII.21 somehow ended up in the records as well (MARV 9 104). In sum then, the four years from the year Mušēzib-Aššur to the year Aššur-apla-iqīša show the occasional administrative complication, but they give no evidence for a serious reduction in offering levels.

4.2 The Bēl-libūr group

For the year Šahhutu we have almost no information, but in the following year, Bēl-libūr, the picture becomes a bit clearer. The elaborate summary text MARV 7 1 indicates that the Agency received about 65% of its nominal sesame income of 20820 *qa*. This was not enough to cover the projected offering expenditures, which seem to have been at a slightly reduced level. A supplemental payment of 4540 *qa* of sesame from the palace was enough to cover the difference and also allow 70 days of offerings larger than the planned amount, including a payment for 41 *umāte gināu šalmu* “41 days—complete *gināu*” (19).

MARV 5 40, a brewing account, paints a similar picture. Over an 8 month period the brewer Ša-Aššur-līšer had used about 13800 *qa* of grain, which works out to 1725 *qa* per month. This figure is uncannily close to the amounts the brewers used in the year Mudammeq-Bēl, and it seems quite likely that the brewers were continuing to work at half capacity. In addition, as in the year Mudammeq-Bēl these reduced offerings were punctuated by the occasional complete offering. In this case the text refers to 41 such days in the period, very likely the same 41 days of complete offerings referred to in MARV 7 1.

How the *alahhinus* were faring is less clear. Two texts describe them receiving small amounts of white barley (MARV 3 76, MARV 5 76). A third text has them receiving 380 *qa* of grain *ana niqiāte ša Hibur* “for the offerings of Month XII” (8-9), presumably referring to the day 17-18 offerings since the text is dated to day 17. This suggests that the *alahhinus* too were not in the habit of making complete offerings and had to be specially issued grain when a complete offering was required. All was not well, but it may not have been catastrophically bad either. Sadly we lack the information to pin things down more precisely.

The other texts from that year are less helpful, including two notes about deliveries (MARV 6 78, MARV 7 51), and a record about 10 jars of honey which had been given to the Agency for safekeeping (MARV 10 68). The general picture fits with the limited evidence from the previous years. The Agency’s finances were not perfect, but with a combination of moderate offering reductions and supplementary funds it was able to carry out its duties respectably.

4.3 Late group

In the following half dozen years the records are never again as helpful as those from the year Bēl-libūr, but there are hints of problems. MARV 6 90 + MARV 9 105 records that Kilizu province paid its entire grain assessment for the years Bēl-libūr and Nuska-ālik-pānī at the end of

the year Aplaya. One of these might be an artifact caused by the province still being a year out of phase with the payment cycle, but it clearly missed at least one full year's payment. To top it off, the payment was delivered by a "qēpu of Kilizu" rather than a governor and arrived in Babylonian Month X, considerably after the end of the normal delivery season. This has uncanny similarities to MARV 6 86, where a "qēpu of Arbela" brought a year and half's worth of supplies from his province in Babylonian Month X. However, we cannot say whether the problems were confined to Kilizu province or more extensive.

Continuing the parallels with the events of the year Bēl-libūr, MARV 6 27 seem to refer to complications with an effort to augment the offering levels for small periods, as we saw in the years Bēl-libūr and Mudammeq-Bēl.

The texts from the next year, Ninurta-aha-iddina, are less helpful. In addition to a text describing an unusual arrangement involving honey (MARV 6 47), there are three odd small disbursement texts. One tells how a received cargo had been mismeasured, forcing a group of supplementary disbursements to be made (MARV 1 25). Another mentions that the *alahhinus* received grain in the *bēt gināe* (MARV 5 24). This is striking since in general the *bēt gināe* was not used for regular grain, but for more value dense commodities like white barley, sesame, oil, and honey (II.1). One might argue that grain stocks were unusually low and so able to be kept in the *bēt gināe*, but this is purely conjectural. Most curious of all is a text which seems to imply that the *alahhinus* fell half a day behind in their work and had to make an entire bread offering on a single day while also milling grain for the next day's offering (MARV 7 54). Again, this suggests supply problems were at play, but the text presumes that *alahhinus* were using 100 *qa* per day, the amount needed to produce a complete offering. Once again we can say that the

Agency's finances were neither stellar nor abysmal, but we lack the information to get a clearer image than that.

The following years continue the trend, giving elusive hints that all was not right. In the year Adad-apla-iddin the *šakin māte* had to help coordinate two small shipments of supernumerary cargoes around Babylonian Month XII as the Agency approached the leanest part of the year (MARV 8 49). Later in the year, the Agency received an out-of-season shipment in Babylonian Month VII from Šūdu comprising the province's complete assessment plus 10% interest (MARV 3 29).

The next year, Aššur-šuma-ēreš, saw Aššur-baissunu become closely involved in the Agency's affairs in Babylonian Months X-XII (MARV 5 65, MARV 6 81, MARV 7 12). It seems the Agency was once again having difficulty finding sufficient funds in the lean months leading up to the new delivery season. In the next month the Agency borrowed grain from the former *līmu* Ippitte (MARV 6 12).³³

4.4 Summary

The picture that emerges from Tiglath-pileser I's middle years is not dramatic. There is no good evidence for major crises forcing a complete suspension of the offerings or the like, nor is there evidence for heroic interventions on par with the great *maddattu* payments. What evidence we have points to minor, but not insignificant supply problems. They do not seem to have been anything that could not be handled by some minor offering reductions and a few timely external grain payments, particular in the lean months before the new delivery season began. The wild financial swings in the *maddattu* crisis had given way to a lukewarm mediocrity.

³³ Two additional small disbursement texts from this year, MARV 5 43 and MARV 7 70, are preserved but not especially helpful for assessing the Agency's economic condition.

5 The Ninuaya Crisis

The first crisis documented in the archive, the accession crisis, occurred when Babylonian forces invaded the Assyrian heartland in support of the pretender Ninurta-apil-Ekur. It is perhaps fitting, then, that the last crisis occurred at the time of Tiglath-pileser I's famous sack of Babylon (on this campaign see Jeffers 2013: 244-255). Fortunately for us, the extant documentation from the crisis forms a neat dossier covering Months X and XI of the year Ninuaya.

The proximate cause of the crisis seems to have been a major shortage of grain. Since we lack any text concerning income for this year it is impossible to pinpoint a cause with certainty, but it is striking that this was the year of the king's dramatic second campaign into Babylonia (Jeffers 2013: 244-255). One could posit a scenario where the king raided every grain source near the capital available to him, including the *gināu*, in order to finance his great enterprise. Indeed, there is some reason to think that the king was in great haste to launch this campaign. We will return to this point in the next chapter (III.2).

The only insight we have into the time before the crisis is MARV 9 34, a relatively normal small disbursement text dated to VI.4. This was equivalent to Babylonian Month III, and so from around the start of the delivery season. The disbursements are only large enough to cover two days, and there was a note after the total that is too damaged to make sense of. However, that is normally the place where notices about irregular grains sources go (see for instance MARV 7 86). The disbursements were also made the day before the day 5 festival. Taken together this would be consistent with the Agency running into financial trouble, but it might be that the first shipments were a bit delayed. We can do little more than speculate.

What we do know is that at some point things did get worse, and Ezbu-līšer was forced to take out loans (MARV 9 112: 20-22).³⁴ If MARV 8 75 is correctly dated to this year, as seems likely, then it would seem that the financial troubles had hit no later than Month VIII. By Month X the situation had deteriorated more. We find Šahhutu the *šakin māte* scrounging up grain from a half dozen sources and issuing it to the Agency's *alahhinu* staff. He did this by the unprecedented step of drawing up loan contracts with individual *alahhinus*, a full four of which have survived.³⁵ When the Agency took an assessment of its outstanding debts on XI.3 (MARV 9 112) it had borrowed 20800 *qa* of barley and flour.³⁶ Assuming the Agency was running at full capacity, that would be enough to keep the offerings going for a little over a month, but we do not know how long the Agency had already been using the grain. Much of it may have already been used by the time the text was written. Regardless of the precise details, all this was a bad sign indeed since Assyrian Month X was equivalent to Babylonian Month VII that year. The delivery season had only ended a month before and already the Agency was running short on supplies.

Based on MARV 8 75, it seems the brewing activity was discontinued around X.4, and the Agency seems to have completely run out of supplies by X.26, when we find Siqqi-Aššur-ašbat

³⁴ Postgate argues that the loan in this text was a “personal loan” (2013: 125). One cannot entirely rule this out, but in MARV 8 9, a text dated to the same year, we find the three major *alahhinus* jointly taking out a loan *ana pūhe* with the stated purpose of financing the *gināu* offering on a feast day. It seems simplest to assume that Ezbu-līšer's loans were in this same vein, which is why the writer of MARV 9 112 felt the need to mention them. As discussed in the prosopography appendix, Ebzu-līšer seems to have become significantly less involved in the Agency's day-to-day affairs about two years before the crisis hit, and it would make sense that the loans he arranged were tracked separately from those arranged by the Agency's more active staff.

³⁵ MARV 5 44, MARV 7 89, MARV 5 41, MARV 7 76. Only two have preserved dates (X.11 and X.12+x), but it seems likely the others were drawn up around the same time. In principle these could be understood as personal loans, but it seems odd that all the *alahhinus* would independently decide to take out personal loans within a few days of each other and all store their loan documents in the Agency's archive.

³⁶ The extant entries on the four preserved loan texts only total to a minimum of 3800, and those with names preserved are exclusively *alahhinu*'s (the name on one MARV 7 76 is broken). As the summary involves over 20000 *qa* of grain and both *alahhinu*'s and brewers, it seems there were probably a few more loan texts which have not survived.

having to provide the *alahhinus* with flour that had already been milled (MARV 7 56). The text records him doing this at least three times, X.26, XI.5, and XI.7⁷, all on major monthly feasts (MARV 7 56). This looks very much like the daily offerings had been suspended and emergency supplies were being given to make sure they still happened on feast days. This was not so out of the ordinary. As noted in II.2, this sort of arrangement is attested several other times in the archive.

What is more unusual is the use of flour rather than grain. As we have seen, the Agency's full milling staff was on the order of 50 people. Since they drew rations from the Agency's grain fund, having them around would mean a 50 *qa* per day drain on the Agency's grain supply. What is more, once the Agency had been forced to stop making daily offerings its gross manpower needs would also go down, and could be met with fewer millers. It is attractive to see the sudden use of flour as evidence that Agency had dismissed some or perhaps all of its milling staff to cut down on expenses. In the same vein, we find Aššur-baissunu putting 850 *qa* of flour in the Agency's storehouse sometime before XI.3 (MARV 9 112), acting apparently independently of Siqqi-Aššur-ašbat whose disbursements of flour started on X.26. Again it looks like by the end of Month X the Agency did not have the resources to mill all of its own grain.

The Agency seems to have remained at skeleton offerings for much of Month XI. MARV 8 75 records no disbursements for brewing expenses that month and in MARV 8 9 (dating to around XI.25) we find the major *alahhinus* taking out a small informal loan of 300 *qa* of barley from an unnamed source. This may well have been to cover the day 26 offering, though if so they must have recalled some of the milling staff by this point to be able to mill it in one day. Happily, on XI.30 Aššur-baissunu provided the Agency with 5500 *qa* of barley described as *u'u ša bēt hašīme ša bēt kisalle* "grain of the *bēt hašīme* of the courtyard building" (MARV 7 86: 15-

16). This would be enough grain for the Agency to resume running at full capacity for a least a week or two, and the situation seems to have continued to improve. By XII.20 the Agency was able to resume brewing at nearly full levels (MARV 8 75). Unfortunately, it is at this point that the archive as a whole effectively ends. How the Agency fared in the remaining two decades of Tiglath-pileser I's reign must remain a mystery.

6 Conclusions

The Agency's financial position was quite precarious. As we have seen in the previous sections, the Agency's nominal income just equaled its ideal expenditures. If it received every *gināu* assessment in its full amount in a timely manner it would just barely cover one year's worth of full *gināu* offerings. If anything went wrong anywhere in the supply system the Agency would quickly find itself short of supplies. Thus, it comes as no surprise that the Agency was plagued by endemic supply problems. As we have seen in this chapter, these differed considerably in severity.

The most severe of all seems to have been the Da'ʿānī-Ninurta crisis which occurred in the ill-documented middle years of Aššur-dān I's reign. There the Agency's finances collapsed along with the finances of the Middle Assyrian state as a whole. For four years the kingdom was unable to appoint an eponym, and at times the central authorities were forced to take what few scraps the Agency had to keep the palace running. The Liptānu crisis at the end of Ninurta-apil-Ekur's reign and the *maddattu* crisis at the start of Tiglath-pileser I's were of similar intensity. Both can be understood as the consequence of invasions that temporarily disabled some of the kingdom's richest provinces. It took the Agency a decade or longer to recover from all three crises.

We have good evidence for two more crises which occurred on a smaller scale. The civil war which brought Ninurta-apil-Ekur to the throne disrupted the Agency's finances around his accession. Similarly, the preparations for Tiglath-pileser I's great Babylonian campaign in the year Ninuaya seem to have bankrupted the Agency for at least a few months.

Perhaps the most unsettling shortages are the relatively minor ones we find repeatedly in Tiglath-pileser I's second decade on the throne. They were certainly better than the *maddattu* years before and the Ninuaya crisis after, but they give the impression that even in good years the Agency was significantly underfunded in Tiglath-pileser I's reign. In a sense, every year was at least a potential crisis passed in the hope the next year might somehow be better.

III.2: Anatomy of a Crisis

*They have a dream, but it is taking
all of them all time
to imagine it.*

*It is the same with their dance,
which has gone on since the beginning
without the repetition of a step*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

In the last chapter we reconstructed a number of administrative crises that faced the *Gināu* Agency over the century or so documented by our archive. We dealt with each crisis on its own terms. This was necessary to sort out the details of these very complicated events, but it does not tell the whole story. We have only arrived at the place where students of modern administration begin their work.

In this chapter we will shift our focus from the events of the individual crises and look at how the Agency handled *crisis* in general. For this investigation we will use three main perspectives. First, we will look for patterns from the Agency's perspective. As we are working from the Agency's own archive, this is the most natural perspective. Our second approach will be to step back and look at crises from the perspective of those outsiders whom the crises pulled into the Agency's affairs. Finally, we will try to take one last step away from the Agency and its associates and look at the underlying causes of the crises themselves.

1 Internal Responses

The *Gināu* Agency was not the first mover in the crises that afflicted it. We cannot easily point a finger at mismanagement, incompetence, corruption, or some Machiavellian scheme

¹ (Richardson 2004: 8)

within the Agency to explain why the *gināu* funding came up short. This makes good sense. The Agency's primary responsibility was to process the supplies it received into finished offerings. It is not a great managerial challenge to arrange for a small group of people to do the same thing in the same place every day. Nor is there much room for theft in a small group that operated as a tightly integrated unit for dozens of years at a stretch. We would have to posit that nearly the entire Agency was on the take and that the palace authorities, who ended up with the lion's share of the offerings, somehow did not notice they were being defrauded.

What was an administrative challenge was obtaining enough supplies that the group would always be able to do its work. Happily for the Agency, this was normally someone else's problem. As we have seen, under regular circumstances governors were liable for finding sufficient supplies and arranging to have them shipped. The crises arose because this external supply network broke down.

Since the crises were not of its own making, it is not surprising that the Agency reacted to them with what we might term "administrative inertia." That is to say, the Agency tried first and foremost to minimize the disruption to its daily administrative routine.

1.1 Use external funding

Perhaps the easiest way to solve a sudden funding shortage with minimal administrative disruption is to find external funds to make up the difference.² We can view this as a large scale form of the practice of virement, which was endemic in most parts of Assyrian governance. This practice was hardly confined to crisis periods, and its details are better dealt with in the next chapter on the documents used to record it. It suffices here to note that there was a long tradition

² This practice has already been noted in passing by Maul (2013: 568).

of different government and private entities making small loans and grants to one another to solve short-term cash flow problems.

It makes sense, then, that external funding was almost always the first solution the Agency tried in a crisis. In the accession crisis we find that the *gināu* supervisor made a large loan or grant of his own private grain to the Agency in the year Haburrāru (MARV 3 34). The Agency apparently took out at least one more external loan to cover some of its expenses in the next year (MARV 6 40).

We find the same story in the Liptānu crisis. In the first year of the crisis, the Agency took out a number of small loans to cover some of its expenses (MARV 6 40) and also received large grants from the *šakin māte* and a future *līmu* (III.1). Indeed, the external funding was not only used to plug the gap caused by defaults in that year, but seems to have been directly credited to the accounts of delinquent provinces (III.1).

Our documentation for the Da'ʾānī-Ninurta crisis is scantier and the resolution blurrier, but MARV 6 39 refers to irregular honey payments being directed to the Agency in its early years. In Tiglath-pileser I's reign the same picture emerges. We find the Agency receiving a massive *maddattu* payment in the first well-documented year of the *maddattu* crisis, and a number of small loans were taken out to support the Agency's operations during the Ninuaya crisis.

Thus, we find that in every well-documented crisis the Agency sought out and received external funding early on, normally in the first year. What is more striking is that the external funding tended to dry up very quickly after that. This was not a problem in short crises like the accession crisis and the Ninuaya crisis, but it is quite noticeable in the longer crises. In the Liptānu crisis the Agency received more than 40000 *qa* of loan grain in the first year of the crisis, but after that the figures drop precipitously. Later in the crisis, the Agency received much

smaller sums, like a loan of 1730 *qa* of grain from the palace supervisor (MARV 5 51) and a large number of small honey and sesame loans from various minor officials (MARV 5 8). Of course, we cannot entirely rule out that it received large loans later on that are not mentioned in the surviving documentation. Even so, it seems clear from the surviving documentation that as the crisis progressed the Agency continued to have difficulty making offerings despite noticeable improvements in the economic health of many of the provinces. Even if there were a few additional large loans, the Agency's ability to find external funding seems to have declined as fast as or faster than its regular income increased.

We find much the same story in the *maddattu* crisis. The first *maddattu* payment was made in Tiglath-pileser I's first regnal year, but we find no references to additional *maddattus* for the next four years. Perhaps there were additional *maddattu* payments whose documentation is lost, but at some point they clearly stopped, for by Tiglath-pileser I's fifth year the Agency's finances had deteriorated to the point that it could only make a few offerings a month.

Taking this together we find that the Agency's first reaction to a major crisis was to treat it just like it did the various small supply crises endemic in Assyrian governance. It sought out external funds to plug the gap and hoped the supply system would be fixed by the time these supplies ran out. If this worked, the administrative disruptions would be minimal. When the tardy supplies finally arrived, the Agency would pay back its creditors and it would be as if there had never been a problem at all.

This was not a bad strategy. We have several examples where the Agency seems to have successfully buffered a short-term supply shortage with virement. Not surprisingly, these shortages tended to occur in the last few months before a new delivery season when the Agency's stores were at their lowest. In MARV 6 89 a temple steward brought an irregular

shipment of 29600 *qa* of barley from Apku, which otherwise did not contribute grain to the *gināu*. As this occurred during Babylonian Month XII it was apparently to keep operations running smoothly until the start of the delivery season three months later. More frequently, though, the virement manifested itself in a number of small shipments. In MARV 9 95 a massive transfer of 56000 *qa* was coordinated via 23 different boatmen in Babylonian Month XII.³ Who exactly provided the grain is unclear, but, as the text gives the sum as a round 70000 *qa* when measured by the small *sūtu*, the issuer evidently used that measure rather than the larger *hiburnu sūtu* favored by the Agency.

The various small loans described in shipping texts from the year Ištu-Aššur-ašāmšu (MARV 1 21, MARV 6 3, MARV 6 68) likely stem from a similar arrangement. Although it is not possible to date these with certainty, the most likely interpretation of MARV 6 3 places them in Babylonian Months V-X. Here we can posit that the loans were solicited as soon as the disappointing returns from the peak delivery season in Babylonian Months III-IV made it clear there would be a serious shortfall. Likewise, MARV 8 46 describes shipments totaling to 3350 *qa* of grain measured by a bizarre base *sūtu* of 11.7 *qa* which were received from 10 boatmen in Babylonian Month III. The start of the delivery season would likely occur before the end of the month, and so only small amounts of supplies were needed to bridge the gap in contrast to the much larger shipments received in Babylonian Month XII or earlier.

Thus, the problem was not that virement could not work. Rather, the issue was that it was only a short-term solution. It seems that most of the Agency's potential creditors lacked either the surplus funds or perhaps the inexhaustible goodwill necessary to keep bankrolling the Agency's deficits for any extended period of time. Sooner or later the virement would dry up.

³ I have converted the volume to the standard *hiburnu sūtu* used by the Agency. The text gives the figure as 41570 *qa* according to a large boatman's *sūtu* and as 70000 *qa* according to the small *sūtu*.

1.2 Fix internal funding

If the initial scramble for external funds failed, the Agency had to find some other way to cope with supply shortages. The approaches it used can be summed up under the general heading of “putting the *gināu* house in order.” That is to say, the Agency would devote an unusually large amount of attention to finding ways of helping deliveries along or, failing that, to at least be able to put numbers on just how much was missing in the hope that it could be collected later. Both methods involved much higher administrative costs than normal operations, and neither method was able to do much more than slightly dampen the blow. Thus, it makes sense that the Agency only pursued these internal methods in earnest if external channels failed.

The Agency had two major ways of fixing its supply lines. As we have seen, it could confiscate payments directly from the houses of delinquent governors (I.1). The actual act of confiscation required external aid, but it seems quite likely the process was initiated by the Agency, which would have needed to supply the higher authorities with the names of delinquent governors and the amounts they owed.⁴ The other approach was to arrange shipments. Normally the governors were responsible for actually arranging shipping, but under duress the Agency itself occasionally commissioned shipments to deliver supplies from the provinces (I.2). At times it even sent its own employees or associates to take care of matters (I.2). In what might be the most extreme instance of the practice, the *gināu* supervisor *Sîn-nādin-āle* seems to have gone in person to sort out a problem in *Šīme* province (MARV 5 12).

Strikingly, the texts do not give the impression that any of these methods worked terribly well. Indeed, the *gināu* supervisor *Sîn-nādin-āle* seems to have never returned from his trip to

⁴ We in fact have a letter from Neo-Assyrian times where an official provides a list of governors who were behind on their payments to the Aššur temple (SAA 10 96). In this case, though, the ultimate cause seems to have been the king, who had requested information on which governors were delinquent in their payments.

Šīme (MARV 5 12). Their ineffectiveness is not surprising. Any problem severe enough to keep a province from paying was likely to be too serious for the seven men on the Agency's executive staff to do much about it with their limited resources. Even if we allow that the *gināu* supervisor governed his own province, for which there is reasonable if not entirely conclusive evidence (I.2), a single Assyrian province could hardly fight off major invasions or end a famine. In the best case the *gināu* supervisor might scrounge up some extra supplies in the capital or help a few extra shipments get through from a beleaguered province.

But if the Agency often lacked the power to put its supply chain in good order, it could at least keep its books relatively tidy so that it would be able to collect back payments when matters had calmed down. The appearance of more than one text dealing with payments half a decade or more overdue indicates that the Agency was quite adept at this (e.g. MARV 5 10, MARV 6 2; see also MARV 7 98). When it came to things other people owed it, the Agency had an impressive institutional memory.

Keeping track of the amount owed by various provinces was a somewhat involved process. Most of the Agency's normal accounting methods were premised on the idea that each year's *gināu* assessment was a separate obligation. As long as provinces were reasonably prompt with their payments this worked well enough. The occasional bad year would leave provinces with a few extra debts in addition to their current obligation. Having a province accrue a few small extra debts was rather simpler than drastic changes like allowing the delivery cycle to grow out of phase with the tax year. Moreover, as long as the debts were few and recent, one doubts they warranted the hassle of composing formal debt tablets or the like. Certainly, the few formal debt notes about *gināu* assessments in the archive hardly match the enormous number of incomplete payments attested in the *gināu* tables and implied in some of the other crisis documentation. The

delinquent province would likely provide the supplies to clear its debts in the next few delivery seasons, and so the Agency probably did not think it was worth the hassle to draw up formal documents.

This system, however, was ill-adapted to deal with widespread and sustained underpayment. If an ailing province was paying half of its nominal assessment, it would incur a sizeable debt every year. If many provinces were doing so, the large amount of debts created would quickly threaten to overwhelm the Agency's ability to keep track of them. Even if the affected provinces fully recovered, paying down the massive chain of debts left by the crisis would still be an administrative headache.

The major way the Agency avoided this problem was to allow payments to slip out of phase with the nominal tax year. That is to say, if a province had not paid its full obligation by the end of a given year, it would spend the first part of the next year paying down the remainder before starting payment on the new year's obligation. Effectively this converted the provinces' assessments from a series of discrete debts which had to be tracked separately into a single running tab. Where phasing was allowed, the Agency only had to track the amount of the most recent obligation on which a province had begun payment.

Even so, the Agency seems to have been disinclined to allow provinces to stay more than a year or so out of phase with the tax year. To this end, the Agency often consolidated a province's older debts into a single formal loan document, leaving unconsolidated only those obligations from the last two tax years. This practice is most obvious in MARV 6 22 and MARV 8 50, which are actual formal consolidation documents. We also find the practice in MARV 6 86, which refers to a formal document dealing with all but the last two years of tax obligation.

Finally, the loan summary MARV 7 98 seems to be a summary of various documents drawn up for this purpose during the troubled years at the start of the *maddattu* crisis.

This preference generated one further complication. If many provinces were paying considerably less than their annual assessments, then they would continue to slip further out phase. This would require composing debt consolidation documents to return them to an acceptable level of phasing, and this would quickly lead to the very stream of formal debt documents the phasing was supposed to prevent. Therefore, it only made sense to allow phasing if most provinces were paying at reasonably full levels, and indeed, this is what we find in the documents. In general, we only see wide-spread phasing appear toward the end of a crisis, when payment levels had stabilized but it had not been possible to pay down arrears. Since it would require payments above and beyond the usual assessment levels to bring the provinces fully back into phase with the tax year, this meant that phasing started by a crisis could drag on years after the Agency's finances had recovered, forming a sort of coda for the crisis.

The phasing induced by the accession crisis was still going on four years later in the year Saggiu (III.1). In both the Liptānu and Da''ānī-Ninurta crises phasing only appeared toward the end of the crisis and in each case seems to have continued through the last appearance of each crisis in our documentation (III.1). In the *maddattu* crisis matters were slightly more complicated. The crisis seems to have begun in the poorly documented final years of Aššur-rēša-iši I. Already by the time of Tiglath-pileser I phasing had set in for those provinces not in default. By Tiglath-pileser I's fourth year, Šamaš-apla-ēreš, it seems that most of the provinces were no more than a year out of phase. Our documentation on the Agency's income in subsequent years is extremely poor, but we have little reason to think this situation improved during the remainder of the *maddattu* crisis.

Of course, allowing phasing by itself did not improve the Agency's finances, but simply made it easier to keep track of who owed it what. The benefit would come down the line when those debts were finally collected. We can actually see this process getting underway at the end of the Liptānu crisis, where the Agency actively sought payment on debts from as much as half a decade before. This is clearest in MARV 5 12, where the Agency dealt with three different debts from the year Marduk-aha-ēreš that were still outstanding after three years. One was paid off shortly before the tablet was composed, one was forgiven, and one—impressively—remained on the books despite the loss of the relevant debt note.

Stepping back a bit, what is most striking in all this is that the phasing never became permanent. After most crises there tends to be a break in documentation, but when the lights come back on, most provinces are inevitably back in phase with the nominal tax year. Somehow the phasing was ended. Perhaps many of the debts were simply forgiven, but one suspects at least some were actually paid. Thus, while phasing could not avert a crisis in the short-term, it could give the Agency the buffer it needed to avert a crisis in the future.

1.3 Reduce the Offerings

If the Agency's supply network broke down, it had two fundamental options. As we have discussed above, one option was to seek out additional funding, either from outsiders or from within its supply network. The other was to reduce the offerings. In a sense this was the default option. The Agency could not always find extra funds, but it was always possible to reduce the offerings. Therefore, it is not a shock that reduced offerings seem to have happened in every attested crisis. The only possible exception is the accession crisis, for which our data is limited. However, even there we hear of the *batiqtu* "cessation" of the *gināu* (MARV 3 34), which sounds very much like the offering levels were reduced if not stopped all together.

As we noted above, the Agency's first reaction to a supply shortage was to try and compensate with funds from elsewhere. In the case of the *maddattu* crisis this nearly worked. We learn from MARV 6 70 that in the first year of the crisis the Agency was budgeting 402 *qa* of grain per day for offerings, about 80% of the 500 *qa* or so required for a full offering. Our sources do not permit us to be precise, but they give a general impression of solvency for the next few years. It was only sometime in the fifth year of the crisis that the offerings system seriously broke down and the Agency was reduced to making offerings on only a few days per month. This was rectified with two more *maddattu* payments, after which the Agency was once again making offerings at levels at least comparable to those in its first year, at a level of perhaps 75% (MARV 6 35 + MARV 7 26). Thanks to the unusual munificence of the royal authorities who made the enormous *maddattu* payments, the Agency weathered a nine-year crisis with only moderate disruption to the offering cycle.

In the other crises the Agency was rather less successful. In the Ninuaya crisis the Agency was quickly reduced to making only a few offerings per month despite borrowing substantial amounts of grain (MARV 7 6, MARV 8 9, see III.1). In the Liptānu crisis we find the Agency reducing offerings to 50 *qa* of bread a day or entirely suspending them in the first year of the crisis, Salmānu-zēra-iqīša (MARV 7 68, MARV 6 37). The extant texts cover only a few days each, but they were composed five months apart and so one gets the impression that offering levels were generally low that year, averaging perhaps 25% of their nominal strength. Our documentation about offering levels is minimal for the next few years, but in the fifth year of the crisis, the Agency allocated enough sesame to make a full *haršu*-bread offering on three days of a given month. Having *haršu* bread at all was an improvement over the offerings described in the earlier texts, but it is quite tempting to see this as a reduction of the offering scheme from

reduced daily offerings to full offerings on only a few days each month, just as we saw in the *maddattu* and Ninuaya crises. The text is unfortunately too damaged to obtain any certain information on other components of the offering, and so this must remain an educated guess.

Subsequently the offerings appear to have picked up and reached about 75% of their nominal strength. In the next year, Pišqīya, we find offerings of 60 *qa* of *miṭru* bread and 100 *qa* of *haršu*-bread for extended periods of time (KAJ 306a). The offerings fell off to as low as 90 *qa* of *miṭru*-bread in the lull before the next delivery season but soon return to about 150 *qa* of bread per day (MARV 5 66). We find a more dramatic fall off in the last months before the delivery season of the year Aššur-dān I, with offerings falling from half strength to as little as 10 *qa* per day before being entirely cut off (MARV 2 14). Fortunately, this was anomalous. In the next two years offerings seem to have returned to full levels with an occasional reduction to 157.5 *qa* of bread (MARV 2 14).

Our picture in the Da'ʾānī-Ninurta crisis is less clear. We do not know about conditions at the start of the crisis, but we know that by the middle of the crisis, in the years Samīdu and Da'ʾānī-Ninurta, offerings had been greatly reduced. For a period of over a year the total amount of bread offered never rose above 25 *qa* and more than once fell to zero for an unsettlingly long interval (MARV 9 19). In what was apparently the next year, we find that the Agency made full offerings on 49 days in a four month period, averaging out to about 40% nominal strength (MARV 6 66). A few years later in the year Tāhulu, the Agency was able to make complete offerings (excluding the palace oil) for 240 of days of a 307 day period (MARV 6 65). No offerings at all were made on the remaining days, but that still works out to an average of 78% nominal strength. Yet, matters were not entirely rosy since the offerings had been discontinued again on the day the tablet was composed.

Putting this together, it seems that even under the best circumstances the Agency was unlikely to weather a serious crisis without some sort of offering reduction. The Agency's first reaction was consistently to reduce the size of daily offerings rather than the number of days on which they were made. The Agency seems to have used this method throughout the Liptānu crisis, but in both the Da''ānī-Ninurta and *maddattu* crises it eventually switched over to making full offerings on select days. Only in the Ninuaya crisis does the Agency seem to have begun by reducing the number of days.

We can model these reactions by assuming that the Agency had a two-tiered approach when dealing with offering reductions. If the supply shortages were relatively minor, it would simply reduce the daily offering level. This required the smallest amount of administrative disruption. The Agency was still making daily offerings of relatively fixed size, as it normally did. The only change was that the quantities had to be scaled down and perhaps a few of the millers sent home or transferred to another agency. If the supply problems gradually grew worse, it would continue to be easiest to reduce the daily amount. This seems to be how the Agency arrived at the paltry sums of 25 *qa* or less per day we find in both the Liptānu and Da''ānī-Ninurta crises.

However, if the Agency faced a sudden and large drop in supplies, reducing the daily offerings was less attractive. For one thing, the Agency would have to dismiss most of its milling staff in a single go, causing a great deal of administrative disruption. Perhaps more important though, a daily offering of 10 *qa* of bread looks very little like a daily offering of 200 *qa* of bread. Past a certain point, one suspects, full offerings made on a few days a month looked rather more like the regular *gināu* offering than minuscule daily amounts. After all, the grain required to make a single full offering of bread and beer would only allow for a measly 11.5 *qa* of bread

per day if spread out over a full month. It was one thing to gradually work down to such a small figure, as we find in the Liptānu and Da'ʾānī-Ninurta crises, but the Agency was loath to make that kind of reduction all at once.

The Ninuaya crisis seems to have begun with such a shock, but for the other crises the Agency was better at smoothing things out in the initial phases and only switched to the second model several years in, if at all. What is perhaps more curious is that it also took a sizeable shock to make the Agency return to the first model. In the *maddattu* crisis this came in the form of the second *maddattu*. However, in the Da'ʾānī-Ninurta crisis such a shock was slow in coming. There we find that an Agency which a few years before had countenanced daily offering levels as low as 10 *qa* of bread per day before transitioning to the select days approach, was now willing to use the latter method when it had supplies to make offerings at 79% of their nominal levels. Again we can invoke administrative inertia. To an Agency used to making full offerings on a few days per month, it is easier to make full offerings on a few more days than to switch over to making daily reduced offerings.

Before we leave the topic, we should note that these methods are not mutually exclusive. One could reduce the general daily offering level but increase it back to near normal levels on feast days. This was not done in any of the major crises (for which reason we have not discussed it above), but it does seem to have happened in the relatively calm middle decade of Tiglath-pileser I. We find it attested to a limited degree in the year Mudammeq-Bēl (MARV 5 62), and then to a much greater degree in the year Bēl-libūr (e.g. MARV 5 40, MARV 7 1). At least in the case of the oil offerings in MARV 7 1 the full festival offerings (and part of the regular offerings as well) were made possible by a special grant from the palace. In a sense, then, the Agency was

using the reduced daily offering model while its associates at the palace were using the model of alternating blocks of “on” and “off” days.

2 External responses

As we have seen, in crisis situations the Agency often had to use external grain sources to make ends meet, bringing it into close contact with outsiders. But this analysis treats outsiders essentially as an undifferentiated mass. It is natural to wonder if there is some pattern to how outsiders became involved. As we will see, there is indeed such a pattern.

Before we embark on this, we must take a moment to reflect on some of the inherent challenges of communication in administrative structures. In almost any administrative structure of non-trivial complexity, information learned by one member of an organization is not instantaneously transferred to all other members; if others are to know they must discover it independently or someone must tell them (see, for example, Simon 1997: 154-171). For the *Gināu* Agency itself this was a minor problem. In a small group of people who worked together in the same place for decades, information spreads, if anything, too quickly. Thus, we lose little with the simplifying assumption that if one member of the Agency knew something then the entire Agency knew it.

When we turn to interactions with outsiders, this principle breaks down. We have no *a priori* reason to think that the king or his top officials kept a close watch on the Agency and its activities. Indeed, we have reason to suspect they did not. There are inherent limits to the amount of information any person, king or otherwise, can process. Thus the king’s attention—or that of any high official—is a scarce resource that must be carefully rationed. Under normal circumstances the Agency collected the same revenues it had always collected and used them to

make the same offering it always made. There were no judgment calls a high official might need to make or approve. It was only if the system broke down or was in serious danger of doing so that it would make sense for high officials to devote their time and energy to the problem.

Thus, it makes sense to approach the problem like tracking the spread of a virus. As a particular supply shortage grew worse we would expect that more and more officials were forced to devote some of their scarce attention and resources to dealing with it. The contagion of the crisis would thus spread until it the problem was resolved or there were no more officials who could be easily infected.

If problems were small enough, the Agency might contain them with virement. This practice is discussed in more detail in the next chapter. In our archive the Agency is usually on the giving end, but this may be an artifact of how loans were generally documented. The lender had a vested interest in keeping track of what he had lent, while the borrower would be none the worse if the loan was forgotten before he repaid it. Hence, we would expect the Agency's archive to contain mainly documentation related to outgoing virement loans, not received virement. We can therefore say little about the mechanics of who lent to Agency under these circumstances. It is not unreasonable to think that the Agency went after any available target of opportunity. Most officials might have sufficient supplies to make small loans, and, to judge for the outgoing virement issued by the Agency, a sizeable portion of the capital's population seem to have owed it a favor or two. Unfortunately, this must remain speculation.

But let us suppose that the problem was large enough that it could not simply be swept under the rug with a few timely virement payments. In this situation, it seems the contagion spread to the office of the *šakin māte*. This makes good sense. He was not uninvolved in the Agency's affairs in good times. Twice we find the holder of the office authorizing virement

payments from Agency funds to a third party (MARV 3 41, MARV 3 49), and the son of a *šakin māte* twice took out virement loans from the Agency on his own (MARV 3 31, MARV 3 39). Moreover, since he governed Libbi-āle province, he likely coordinated that province's *gināu* payments bringing him into regular contact with the Agency. That his duties probably kept him in the general vicinity of the capital for much of the year cannot have hurt either.

During crisis periods the *šakin māte* played two roles. The first was simply to provide the Agency with supplies from his own stores or others to which he had easy access. Certainly, as the manager of a large state fund in the capital region he would be in a strong position to help out. This is clearest in the Ninuaya crisis. There Šahhutu the *šakin māte* issued the Agency at least three personal loans (MARV 5 41, MARV 5 44, MARV 7 76) from his own *bēt hašīme* storehouse, augmented with funds from the houses of Samnuha-ašarēd and Aššur-baissunu. A fourth loan given out by Aššur-baissunu involved more of the *šakin māte*'s grain along with some taken from the house of a certain Ašrī-ilī (MARV 7 89). MARV 9 112 includes still further information about this emergency supply scheme, though it does not explicitly mention the *šakin māte*. Putting this together, it looks very much like the *šakin māte* was arranging a bailout with the supplies available to him.

In the same vein, we find supplies from the house of the *šakin māte* listed among various incoming shipments in the grain summary MARV 6 34. The entry for his house is the only one in the table which does not involve a named individual or province. This looks very much like he was trying to cover some of the Agency's deficits with his own funds. Sadly the text cannot be dated precisely enough to tie it to a particular event.

We find traces of this same sort of arrangement in earlier periods. In MARV 5 37, from the early years of Tilgath-pileser I, we find the *šakin māte* Aššur-kēttī-šēši second in a list of

those making a grain loan to the Agency. The same Aššur-kēttī-šēši was also involved in an irregular grain transfer in MARV 5 57, though the passage involved is too damaged to pin down his precise role. Earlier, at the start of the Liptānu crisis, we find the *šakin māte* involved in a scheme to provide the Agency with emergency supplies alongside a future *līmu* (MARV 6 21). Again, the text is sadly too damaged to pin down whether he alone organized the whole endeavor or worked jointly with other officials. We also find the *šakin māte* Aššur-kēttī-šēši's seal on a small disbursement where the *alahhinus* are issued an *iškāru* payment (MARV 6 15). On the whole, we can say that in a crisis the *šakin māte* would almost certainly find himself footing some of the bill to keep the Agency afloat.

Of course, the holders of the office of *šakin māte* were hardly the only people to lend the Agency funds, even if they are the best attested. Strikingly, though, the *šakin māte* was often roped into supervising the Agency's affairs even when his grain was not being used. Once he seems to have coordinated the transport of a few late supernumerary cargoes (MARV 8 49). Much more impressive, though, is the fact that two formal summaries recording grain expenditures from the first *maddattu* bear his seal (MARV 1 49, MARV 7 4). When the king authorized a small payment from the second *maddattu* to a supervisor of singers, the *šakin māte* was again called upon to seal the document (MARV 7 3). He filled a similar role when several untitled men of Kulišhinaš needed a receipt for their *gināu* contribution but evidently lacked the authority to seal the document themselves (MARV 1 73; see I.3). In a still more complicated situation, the *sākin māte* was involved in a three-way account with the *gināu* supervisor and the governor of Idu province over that province's *gināu* arrears (MARV 6 22). No other official engaged in such complicated interactions with the Agency, and indeed, no other high office appears in the archive with such frequency.

The general picture that emerges from all this is that the *šakin māte* had a uniquely high level of concern for the Agency's wellbeing. If one wanted to make a case that the Agency was directly subordinate to some high official, that official would have to be the *šakin māte*. But we need not go that far and make the dubious assumption that the Assyrian administration had such clear lines of authority and responsibility (see Faist 2010: 18). For our purposes it suffices to say that the *šakin māte* was generally the first high official the Agency turned to when it faced a severe crisis.

Given its extensive interactions with the *šakin māte*, one might expect the Agency to have had a similar relationship with the *mašennu rabiu*, since he was also one of the most important officials stationed in the capital. However, that official seems have focused almost exclusively on inedible goods rather than foodstuffs that might be used in the offerings (see Postgate 147-176). Hence it is little surprise that the *mašennu rabiu* was not often asked for help.

Looking to less lofty offices, we find that the Agency had recourse to the *rab ēkalle* “palace supervisor” as a source of emergency funding. This is hardly surprising given that most of the *gināu* offerings seem to have eventually ended up at the palace (II.2). The members of the *Gināu* Agency were probably on quite good terms with members of the palace catering staff. What is striking, rather, is the very limited involvement between the palace and the Agency in crisis periods.

Reflection on what exactly “the palace” means in these texts can help explain the problem. Middle Assyrian texts often use the term *ēkallu* “palace” as a metonym for the state, but also as a way of referring to the actual palace building and its staff (Postgate 2013a: 7-11). The “palace” over which the palace supervisor had authority seems to have been conceived of in the latter, narrower sense. This explains, for instance, his prominence in the famous Harem edicts

that regulated palace activity.⁵ Indeed, the portion of the palace supervisor's agency dealing with food production shows up alongside the *Gināu* Agency in MARV 6 73. The palace supervisor provided the Agency with some funding in the middle of the Liptānu crisis (MARV 5 51, MARV 6 42, see also MARV 8 60). During the *maddattu* crisis the palace supervisor was one of several state officials approached as a source of emergency funding (MARV 8 68).

Strikingly, the palace supervisor never provides especially large amounts of supplies. The largest attested amount was only 1730 *qa* of barley, enough to finance less than four full days of offerings. On two other occasions we find references to supplies apparently provided by "the palace" (MARV 5 40, MARV 7 1). The amounts are larger, including 4540 *qa* of sesame and we may well be dealing with the "palace" in a more abstract sense, though again the figures are hardly immense even in the Agency's limited budgetary horizons. Equally striking, the palace supervisor only becomes involved in major crises after they have been underway for some time, or when there were only minor supply problems afoot.

I would suggest that the reason for the palace supervisor's late and limited intervention was that he had very limited discretionary funds. Large amounts of supplies likely passed through his agency to support the king's staff and retinue, but they were presumably needed for exactly that purpose. What is more, we have no evidence the palace supervisor had a dedicated income stream. Like the *Gināu* Agency, he was probably dependent on provincial governors and the central government for supplies. Since the demands on the palace food supply would vary greatly depending on the king's activities, it is quite possible that much or all of the palace income was not fixed but came in the form of ad hoc disbursements authorized from various available funds as needed. Under these circumstances, we would not expect the palace, narrowly

⁵ For a summary of the information available on this office see Jakob (2003: 72-78).

defined, to have large reserves of supplies lying around. If the Agency knew this, it would explain why they did not turn first to the palace in a crisis. The *šakin māte* governed the capital province and so had access to large state grain funds. Moreover, as one of the most important men in the kingdom, he likely had friends and associates in similarly strong financial situations. He could and did arrange enormous fund transfers to keep the Agency solvent. In contrast, the palace supervisor had much more limited resources and likely had much less clout among governors and rich households. If the Agency was looking for a large transfer of funds to dampen an incipient crisis, he was not the person to help. However, if the Agency was looking for more limited funds, either because the shortages were limited, or because it had exhausted its main channels of credit, the palace supervisor could and did help. His role was limited because his funding was limited.

Therefore, to continue our discussion of how the Agency coped with crises we must return to the *šakin māte*. Here it is useful to bring up again the principle of limited attention. While the *šakin māte* could prove very helpful in a crisis, his attention and time were not infinite. One suspects that the governor of the capital province had much more to deal with than just the proper functioning of the *Gināu* Agency. It would thus make sense that he would focus his direct interventions on those activities which required a man of his stature, such as coordinating large emergency payments and countersigning complicated transaction documents. And this is what we see in the textual record. On the other hand, arranging the fine details of the Agency's day-to-day operations in a crisis did not require a man of his stature and would represent an enormous drain on his time.

It is not surprising, therefore, that on those occasions where external aid or oversight at this level was deemed necessary, it was not provided by the *šakin māte* or men of his stature.

Instead, officials of lesser rank were attached to the Agency as associates until the situation had been brought under control. For convenience we will call individuals filling this role “consultants.”

In the first two decades of Tiglath-pileser I we find at least five different consultants attached to the Agency for differing periods. Given that the Agency was mostly involved with grain processing, the most natural choice for a consultant would be an *alahhinu*, and at least two of the attested consultants seem to have been exactly that.

One of these was Urad-Aššur. As we saw in the last chapter he jointly managed the grain of the first *maddattu* alongside the *gināu* supervisor Ezbu-līšer, serving as a close associate of the Agency for about a year. A decade later in the year Ippitte, he joined the Agency’s executive staff for more than a year during the chaotic transition from the long-serving *alahhinu* team four to the next generation, which would eventually form the stable *alahhinu* team six. Since the brewing staff was also in transition at the time, he occasionally served also as an ersatz brewer. As discussed in the edition of MARV 6 27 we have some reason to think that Hattāyu and Šamaš-arnī-putur were younger colleagues of his in his home agency. What that home agency was is not entirely clear. A damaged passage in MARV 6 88 may refer to him as the *alahhinu ša’ bēt’ Aššur* “*alahhinu* of the Aššur temple,” but this restoration is doubtful. Even if it is correct, it could easily refer to his role as a consultant attached to the *Gināu* Agency at that time. One suspects that his regular home agency was part of the palace staff, but this is pure conjecture.

Siqqi-Aššur-ašbat’s stints with the Agency were shorter, but also eventful. In the last months of the year Ina-iliya-allak, midway through the *maddattu* crisis, he assisted the Agency with collecting some of its provincial revenues (MARV 6 19 + MARV 9 46, MARV 6 24). He also made a brief appearance as a supervisor of some sort in the transition year Mudammeq-Bēl,

apparently signing off on a monthly disbursement summary (MARV 7 24). During the Ninuaya crisis he became involved in the emergency supply measures (MARV 9 112), and as the crisis reached its climax he seems to have been tasked with issuing the Agency small flour loans to perform offerings on feast days (MARV 7 56). Like Urad-Aššur, he also spent a period formally on the Agency staff, apparently as a substitute for Šūzub-Sîn in the year Aššur-šallimšunu (MARV 6 23², MARV 7 36). As with Urad-Aššur, it is tempting to assume he was linked to the palace. In fact, in MARV 7 81 he appears alongside a certain Sîn-ēreš, possibly the palace supervisor of that name, though this reconstruction would require at least one of the pair to have had quite a long career. However, as in the previous case, the ties are extremely speculative.

But not all consultants were *alahhinus*. As noted in II.1, Aššur-baissunu, who consulted for the Agency several times, seems to have been a provincial governor of a smaller province, perhaps Kalhu. His association with the Agency was concentrated in a three year period during which he seems to have been acting mostly on behalf of the *šakin māte*. Early on he helped coordinate a few deliveries to the Agency as an explicit agent of the *šakin māte* (MARV 8 59). In the next year he supplied the Agency with supplemental funds (MARV 6 81, MARV 7 12), and briefly substituted for the *gināu* supervisor Ezbu-līšer (MARV 6 73, MARV 5 65²). During the Ninuaya crisis he coordinated several grain payments to the Agency (MARV 7 86, MARV 7 89, MARV 9 112). In keeping with his high status, he also contributed his own grain to various emergency supply schemes designed to keep the Agency afloat (MARV 5 41, MARV 5 44, MARV 7 76, MARV 8 46, MARV 8 68).

Nergal-iqīša, a *ṭupšarru ša bēt tuppāte* “scribe of the tablet house” who received some honey tribute on the Agency’s behalf (MARV 6 39: 14-15), is perhaps best seen as a consultant as well, helping the Agency deal with the unusual task of receiving tribute from outside the

kingdom's provincial structure.⁶ Perhaps the most extreme form of consulting was the temporary merging of the Agency to the palace catering staff in the year Ibri-šarre at the end of the *maddattu* crisis. Two consultants were closely attached to the Agency for the duration of the process. One was Aššur-dēnī-amur, who seems to have been an *alahhinu*-type official specializing in wheat processing, which the Agency handled during the merger (II.1). More interesting was Gabbēya, who seems to have been a *šāqiu* official (see MARV 8 50).

However, if the usual suspects or the appointing of a consultant were not able to solve the problem, the Agency would have to make a more general appeal. Important officials and households would be likely to have large reserves of grain and other commodities, and so it is natural that the Agency solicited funds from them. On more than one occasion men who had or would hold the office of *līmu* ended up supplying the Agency with considerable funds (MARV 2 24, MARV 6 12, MARV 6 21), and a small amount was also received from a former *līmu*'s son (MARV 6 71). The houses of Samnuha-ašarēd and Ašrī-ili were also called upon, apparently with the help of the *šakin māte* (e.g. MARV 9 112). The shipping dossier from the year Ištu-Aššur-ašāmšu describes a number of additional loans and irregular fund transfers from major officials and important households. More generally, we find a reference in the footer of the loan summary MARV 6 40 to a tablet filled with loans *ša rabiūte* “of the great ones” (r.13’).

MARV 6 40 contrasts the “great ones” with the *aššurāyē* “Assyrians” (r.14’). And it seems that the Agency sought out supplies from men of lesser means. The amounts are generally too small to distinguish minor instances of virement from a concerted effort to raise major

⁶ The only other attestation of this particular title occurs in MARV 2 17:56, where its holder is among the men rationed through the writing board of Aššur-šumu-lēšir. He seems to have been separate from the administration of the *šakin māte* and Great Steward since the scribes of those two officials—and indeed, most of the state employees stationed in the capital—seem to have been rationed through the writing board of Adad-šamšī (MARV 1 5, MARV 2 17).

amounts of supplies from private individuals in isolated texts. However, the summary text MARV 5 8 describes an enormous number of small loans of honey, sesame, and oil which the Agency borrowed from private individuals during the worst part of the Liptānu crisis. Similarly, the 140 *qa* or so of honey the *gināu* supervisor Ezbu-līšēr borrowed from the *kakardinnu* Šūzub-Aššur represents a considerable portion of the Agency's expected honey income, being enough honey to sustain complete honey offerings for more than 20 days (MARV 8 88). Thus, it seems that it was possible for the Agency to find a considerable amount of funding among men of lesser means. The problem is that the administrative burden of borrowing small amounts from a large number of people is much higher than obtaining a few large payments from the "great men." Therefore, it is probably no accident that the Agency only undertook the massive borrowing effort cataloged in MARV 5 8 several years into the Liptānu crisis. Like the palace supervisor, low level officials were a second line of defense, which the Agency only had incentive to look into when easier sources dried up.

To sum up, then, in a major crisis situation the Agency first sought the help of the *šakin māte* and might have a consultant temporarily attached to it until the situation stabilized. If these methods failed, the Agency could then make a broader appeal to its colleagues in the palace and the great and important men of the kingdom more generally. Failing that it could turn to private citizens.

3 Anatomy of a supply crisis

Now that we have considered the internal and external responses to crises, we can cast our gaze further afield and try to peer into the forces that caused the crises. We are entering a difficult country. Lurking at the source one would not be surprised to find things like famines and civil disorder. In addition to their unpleasantness to those who undergo them, these are

strongly influenced by things like short-term weather patterns and actions of small groups of people, both of which are notoriously difficult to predict. That is to say, the prime movers are deeply chaotic. It is unlikely we can recover enough information from our highly circumscribed textual and archaeological record to answer why most crises occurred *when* they did. It is perhaps some consolation that the Assyrians probably could do little better. For our purposes we will assume that the timing of a crisis was effectively random.

3.1 Ultimate causes

From the Agency's perspective, what made a crisis was a breakdown in its usual supply network. To find the causes of the crises we must look to what could cause the supply system to fail. Now, as we have discussed in the previous chapters, the Agency's supply system was largely nested on top of a larger system of state funds managed by governors and on boatmen operating regularly in various parts of the kingdom. It would make sense that if either of these systems failed, they would take the Agency's supply system with them. On the other hand, there were few if any elements in the regular supply system that were dedicated to just the *gināu*. Thus, it is hard to construct a scenario where the provincial and shipping systems were healthy but the *gināu* suffered. A close look at the crises bears this out.

We can plausibly link at least three crises to civil disorder caused by military disturbances. The accession crisis can be linked quite nicely to the Babylonian invasion that put Ninurta-apil-Ekur on the throne. Indeed, we can use the temporary breakdown in authority to explain why the *gināu* supervisor took the unusual step of giving the Agency a substantial amount of his own grain rather than looking for supplies from a high official as was done in the other crises. With civil war gripping the kingdom, most of the high officials near the capital had more pressing concerns to occupy their attention and their available funds than fixing the *gināu*.

As we have noted, the Liptānu crisis can be plausibly linked to a Mušku invasion lasting several years (III.1). Similarly, the start of the *maddattu* crisis may be linked to an invasion at the end of Aššur-rēša-iši I's reign (III.1). But this is not the end of the similarities between these two crises. Both crises involved the complete and sustained default of at least one of the major northeastern provinces. In the Liptānu crisis it was Katmuhhu, in the *maddattu* crisis, Arbela. In addition, the crises saw short term defaults or drastic payment reductions in many of the other northeastern provinces.

Taking this together, it would seem that for an invasion to cripple the Agency's supply system it needed to do sustained damage to the large northeastern provinces. This makes sense, since the northeastern provinces accounted for 62% of the Agency's grain income, 48% of its fruit, and at least 35% of its sesame and honey. Just by themselves they could supply a fairly respectable *gināu*. Without them the Agency would have to drastically reduce its expenditures.

This observation helps us bring the possible causes of the Da''ānī-Ninurta crisis into focus. We do not know enough about the events of Aššur-dān I's long and poorly documented reign to tie this to some kind of civil disorder. What we do know, though, is that none of the northeastern provinces appear to have gone into default. In fact, the grain supply seems to have been quite strong for the first several years of the crisis, only failing during the highpoint of the crisis in the year Da''ānī-Ninurta. The more pressing problem was systematic underpayment of non-grain commodities. I would suggest that this supply system failure was caused by agricultural difficulties afflicting large portions of the kingdom. These did not cause regionally circumscribed failures as the invasions did but rather reduced yields all over the kingdom. Certainly, that the difficulties were widespread would explain why the palace had to pull emergency disbursements from the financially destitute Agency (MARV 9 19). Once again, it is

not the *gināu* supply system which broke, but rather the financial underpinnings of the kingdom as a whole.

Yet, we still have one crisis left unaccounted for, the Ninuaya crisis. We do not have the sort of summary documents we would need to reconstruct the state of provincial finances at the time. However, political history once again furnishes us with a useful explanation. Ninuaya was the year of Tiglath-pileser I's great retaliatory campaign against the Babylonian kingdom in which he was to capture Babylon itself (Jeffers 2013: 214-217). We can posit that the king raided most of the major grain stores near the capital to finance the expedition. Evidently the king deemed the campaign urgent enough that he was willing to temporarily bankrupt many of the state grain funds near the capital rather than wait for grain supplies to accumulate through ordinary channels.

This would fit nicely with Llop's suggestion that the campaign was conducted to avenge the death of two of the king's sons at the hands of Babylonian forces in the previous year (2003). Our goal here, though, is not making windows into kings' souls. Indeed, given the stereotyped nature of much of the Middle Assyrian corpus, I am doubtful that we can ever meaningfully discuss the emotional state of a Middle Assyrian king. Here, we could propose, less dramatically, that the second campaign was intended to shore up the Assyrian position in the south after the apparently resounding defeat in which two of the king's own sons were killed. What matters for our purposes is that the campaign was considered urgent.

In this reconstruction, the Ninuaya crisis would be fundamentally different from the others in that it was intentionally caused by the king rather than a product of purely external forces. Here what should surprise us is not that one king was willing to bankrupt the *gināu* to carry out a campaign, but that such events were not a regular feature of the Agency's operations.

As we will discuss in the Conclusions, it is a testament to the ideological importance of the offerings that kings normally kept their hands out of this tempting source of revenue which made deliveries of finished goods literally to their doorstep.

3.2 Frequency

A related question we would like answered is how often did these crises occur? Here we must try to separate out different classes of crisis. Our five well-attested crises fall nicely into two groups. Three, the Liptānu crisis, the Da'ʾānī-Ninurta crisis, and the *maddattu* crisis stretched on for several years each. The *maddattu* crisis lasted at least nine years, the Liptānu crisis nine years, and the Da'ʾānī-Ninurta crisis perhaps as long as sixteen years. We will term these “multiyear” crises. In addition to these, we have two small crises. The accession crisis lasted perhaps two years with some mild aftershocks continuing after that, and the Ninuaya crisis lasted less than a single year as best we can tell.

Now, our archive is reasonably dense from the accession of Ninurta-apil-Ekur though the year Ninuaya, a period of 92 years. In that time there were three multiyear crises, making for a rough average of perhaps one multiyear crisis every thirty years. Given the tendency for major crises to produce an inordinate amount of documentation, it is fairly likely that these constitute all of the major crises in this period. These three crises each lasted about ten years, suggesting that about a third of the years in the period were part of a multiyear crisis.

At first glance, the minor crises show a startlingly different distribution. We have only two minor crises that are well attested in the same 92-year period. One might conclude from this that such events were exceedingly rare, occurring only once every 45 years or so. But this is to assume that our records are an accurate sample of minor crises, and this seems rather unlikely. The fairly dense documentation from Tiglath-pileser I's reign suggests that minor shortages were

frequent if not endemic in the Agency's operations. To be more accurate, we should say that the minor crises only left a large documentary footprint once every few decades.

This makes some intuitive sense. As we have seen, the Agency's first reaction to a shortage was to try and dampen the blow with virement or more substantial external funding and perhaps some minor offering reductions. If these methods worked, a serious crisis would be averted and so there would be only a small footprint in the documentary record. A crisis big enough to overwhelm this buffering tended to be big enough to last several years. That is to say, while small shortages of all kinds were common, few of them were large enough to cause a crisis.

A second issue is that problems confined to a single year tended not to produce as many summary texts. Sorting out years of back payments in a multiyear crisis is very different from simply tracking underpayments from one bad year. This has two consequences. One is that it makes it hard to spot the crises in the documentary records, since crises are much easier to spot in summary texts than in day-to-day operating texts. The second is that the Agency generally kept formal summary documents much longer than day-to-day ones. As a result, for most of the time covered by our archive the majority of useful documents are formal summary texts. This means that crises which did not produce much formal summary documentation are likely to be invisible. Indeed, it is probably no accident that the Ninuaya crisis forms the latest coherent group of texts in the archive. It had just barely finished when the Agency's records were purged for the last time, and so there were still texts around from it to make their way into our archive.

4 Conclusions

To fully supply the *Gināu* Agency required the independent and timely action of at least two dozen governors. Given that the complete delivery of every last assessment would just barely cover one full year of offerings, any slight disturbance in this supply network would leave the Agency unable to complete a full schedule of offerings. It is, therefore, no surprise that the Agency faced shortages. As we have seen, in the more severe cases the culprit tended to be invasion or famine, but these were hardly the only things to have ever delayed a *gināu* payment. The number of phenomena which could conspire to delay a shipment from the provinces is nearly limitless.

What is surprising is that, although the disturbances were themselves largely random, predictable patterns emerge in the Agency's reactions to them. To use the imagery of the epigraph, we might say that the Agency's random steps are part of a single great dance. We can describe the process as a sort of defense in depth. When a severe shortage first loomed, the Agency tried to directly confront it by seeking out large loans and grants to cover the deficit. Some of these could be enormous; the largest attested payment, the first *maddattu*, amounted to almost half the Agency's annual grain revenue. If the supply network recovered quickly enough, this would be sufficient to stop the potential crisis dead in its tracks. But it was largely a one shot affair that exhausted most of the Agency's external funding sources. After the first wave failed, the Agency would be lucky to scrounge up a few thousand *qa* of grain.

This created a discontinuity—one might say the dance's tune had changed. Shortages below a certain level of severity were buffered out. If they made it past the tipping point, the situation became much more desperate and the Agency's options became very limited. The Agency might become directly involved in the shipping process, or confiscate goods from delinquent governors, though neither of these could do more than cushion the blow. It also might

have to reduce the amount offered each day, often quite severely. Under extreme circumstances it might even restrict the offerings to only a few important festival days. Even when the supply system began to return to normal levels it took the Agency some time to recover. The practice of restricting offerings to particular days might linger for some time after supplies were available to make a respectable daily offering again. More strikingly, many provinces that had resumed full payment levels would remain out of phase with the tax cycle for years afterwards—a sort of coda.

During such periods of crisis the Agency did not dance alone. Many outside officials were pulled into its affairs in one way or another. Yet, through it all the *šakin māte* stood out as most prominent partner in the dance. Time and again the holder of that office was called upon to coordinate loans, counterseal documents, or supervise the use of grants. Of course, the *šakin māte* and other officials of his stature did not have the time to become directly involved in the Agency's day-to-day operations. The Agency was not the only partner with which they had to dance. Instead, when long-term aid or oversight was needed, a consultant was temporarily attached to the Agency until the dance was done.

It is paradoxical that a task as simple as making a fixed daily offering could generate patterns of activity lasting a dozen years. It was a grand dance indeed, but to have an offering thwart the forces of chaos for a century was a grand dream.

III.3: Sources Relating to Management

*They grumble at the consequences
of leaving no stone unturned.*

They are fond of the phrase after all.

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

In the previous chapters we treated management as how the Agency dealt with variations from the norm. That is to say, we looked at the decisions the Agency actively made.² This approach worked well to explain the great crises, but when we turn to the documentary system itself, things become more nebulous. Many of the Agency's decisions about matters of income or expenditure are difficult to disembody from the larger documentation systems used for income and expenditure. Hence, I have treated both as coherent systems in their own chapters (I.3, II.3) and discussed the management approaches used in that context.

Yet there is still a branch of documentation which remains to be discussed. This is the explicit documentation of irregular obligations, which often took the form of accounts or formal debt notes. In the first part of the chapter we will look at this documentation and also tie up the few remaining loose ends in the documentary record. With our survey complete, we can then step back and look at how the Agency generated and used documentation as a whole, and how that documentation ended up in the back room where the excavators found it.

1 Obligations

In principle the entire income system of the Agency was built upon obligations. In contemporary Middle Assyrian practice such obligations would be formalized by drawing up a

¹ (Richardson 2004: 13)

² In this we followed lead of Simon's classic work *Administrative Behavior* (1961).

formal debt note (see Postgate 2013a: 417-419). We will return to this point in the conclusion. Here it suffices to note, that for the Agency to write a formal debt note for each obligation incurred at the start of the tax year would be a nightmarishly complicated and time consuming process. It comes as no surprise, then, that the Agency did no such thing; the vast majority of obligations involved in its operations were never recorded in formal tablets (I.3, II.3). Yet, the Agency still did compose debt notes and related second-order documents. We can treat these as obligations from the larger realm of unwritten obligations that have been projected into the narrower confines of formally documented obligations.

The question arises then, how should one approach classifying and analyzing these documents? Since the debt note format was designed to be legally binding and was in broad use across the Assyrian kingdom, its formatting and phraseology were rather standardized (e. g. Deller and Saporetti 1970a, Deller and Saporetti 1970b). Consequently, they present a much more consistent corpus than virtually any other group of texts from the Agency's archive. Thus, it is tempting to start our investigation using a diplomatics perspective and divide the documents by formal features.

Yet, this approach runs into the problem that the debt notes are not the primary phenomenon. Rather, they are a projection from a sphere of unwritten obligations into a sphere of formal obligations. The fact we are dealing with a projection rather than the original image raises several potential pitfalls. First, we do not know what percentage of the standard phrases and expressions possible in Assyrian debt notes were actually needed to describe the Agency's obligations. In mathematical terms, we do not know that the mapping is "onto." Hence, many of the system-wide patterns in formal debt notes may not be apparent in the archive because many key formulae combinations were not used by the Agency.

Second, we do not know that different types of obligations can always be distinguished when converted to formal debt notes. That is to say, the map may not be “one to one.” Any categorization based on formal features will thus run the risk of lumping very different categories of transactions together. If the choice of formal debt note formulae only relied on a small number of factors, we would also have the problem that obligations which were similar in those factors but dramatically different elsewhere would be mapped together, while obligations that were similar in every way except in those factors could be mapped to entirely different categories. Again, much of the underlying pattern will be obscured.

The final problem is that we have no guarantee that two identical obligations would always be expressed in the same way as formal debt notes. The formal debt note genre may have been reasonably well defined, but that does not mean that the Agency’s system of mapping obligations into it was. If a particular type of obligation came up only every few years, it is very possible that the Agency staff would have forgotten exactly how they wrote up the formal document last time and find a different way of expressing it in the grammar of debt note formulae. There is also the problem that even relatively consistent protocols for turning obligations into formal debt notes might change over time as old members left the Agency and new ones joined it. For instance, the practice of invoking the god Kusarikku as a witness in debt notes seems to have begun right when Sîn-nādin-āple became *gināu* supervisor.

This is not to say that diplomatic features are not important for understanding the documents. We must understand these features to interpret the individual debt notes, but it is difficult to begin our classification with them. Rather, as in the previous sections, it seems best to approach the documents functionally. In particular, we will organize the texts by how the obligations they describe fit into the larger sphere of unwritten obligations. After doing that we

can look at the particular choices the Agency made in converting those obligations into formal documents.

1.1 Obligations and transfers

While the heart of this section is debt notes, we have also included a few documents that one might describe as “transfers.” These are formal records of one-way payments, but they are treated in a way rather similar to debts. We will refer to them collectively as “single obligations.” We can break the single obligations into three groups.

First there are those obligations that arose as part of regular operations: boatmen have to fix deficient shipments, provincial officials are liable for long-overdue assessments, etc. We will call these “standing obligations.”

The second category is what we will term “virement.” These are short-term loans and transfers between branches of the government or private households to solve short-term cash flow problems. If one institution did not have funds to take care of some pressing task it could go to other institutions in the capital and “borrow a cup of sugar,” as it were, to avoid an interruption in its activities. As long as the loan could be repaid before the original institution needed the commodities, there would be essentially no cost to the lender. Since the *Gināu* Agency received the better part of a full year’s worth of goods during its four-month delivery season, it would have had considerable reserves in storage for much of the year. Hence, it is no surprise that it was often on the lending end of virement, though in bad years it could also play the debtor (III.2).

The third category is those debt notes which the Agency composed when arranging for with outside parties not otherwise obligated to it to do work on its behalf. For simplicity we will

refer to these simply as “contracts,” though in a broader sense all debt notes could be classified as such.

1.1.1 Standing Obligations

As mentioned above, the vast majority of standing obligations were never expressed in the format of a formal debt note. They were tracked by the regular income system. Only in special situations did the Agency go through the hassle of composing a formal debt note, and these fall into two major groups. First, there were texts consolidating unpaid *gināu* debts. Sometimes these debts were from a single year. Two of these debts were incurred at least one calendar year before their matching debt notes were composed (MARV 3 28, MARV 7 71), but two other debts seem to have been written down in the same year they were incurred (MARV 3 44, MARV 3 55). We also find debts from two (MARV 3 30) or three years (MARV 8 50) consolidated into a single debt note. Indeed, the text used to formalize three years of debts is the single most formal document into the archive.

In four of the tablets we can work out the corresponding Babylonian months, and these show an interesting pattern. Two come from Babylonian Month I (MARV 3 28, MARV 8 50), and one each from Months IV (MARV 3 30) and VII (MARV 7 71). That is, the texts seem to have been composed either shortly before the start or around the end of the delivery season, both logical times for consolidating debts. Of course four data points is hardly enough to prove this trend, and we can only say that the data would be consistent with this model. Some of these debt notes simply transfer the debt to the provincial governor (MARV 7 71), but others transfer it to a sub-governor (MARV 3 30), *haziānus* (MARV 3 28, MARV 3 55), and an official with an uncertain minor title (MARV 3 44). One suspects that one of the reasons to draw up a formal debt note was to transfer debt from a governor onto other provincial officials from whom the

Agency might hope to collect. What is clear is that debt notes were not generally composed to indicate governors owed a debt just for the current calendar year. There had to be considerable deviation from normal operations before the formal debt note format would be deployed to deal with the problem.

We find a similar pattern in the second group of formal debt notes for standing obligations, which are obligations incurred by boatmen during shipping. In MARV 3 14 a boatman had evidently picked up some grain from Katmuhhu province but had been delayed and failed to deliver it. Unique among the debt notes in the archive, the text indicates he is to pay interest if he does not deliver it within a specified time frame; as noted elsewhere, charging interest seems to have been fairly common in the Agency's interactions with boatmen (I.2). As discussed in the edition of that text, there is more here than meets the eye. Katmuhhu province had almost completely ceased payment at that time, and so the Agency paid close attention to those few boatmen who might still be able to transport shipments from the province.

In another text we meet a boatman obligated to replace grain which had been dampened and ruined in transit (MARV 3 27). In a third text a shipment was found to be short two jars of honey, and the boatman was obligated to bring the remainder *ina tuārišu* "on his return" (MARV 3 38: 11). Even if such shipping complications were reasonably common, the exact complication would likely vary considerably between individual incidents. Some kind of documentation would be needed just to keep the details straight. As a further complication, a boatman might protest at a later date that his shipment had not been partial or that it had been deficient by less than the Agency claimed. Hence, it behooved the Agency to have some sort of formal documentation to protect itself. In sum, just as with the *gināu* arrears, the regular obligation of boatmen to bring

shipments from the provinces does not seem to have been expressed in formal debt notes with any regularity.

1.1.2 Virement

The formal documents used to describe virement are more abundant, but they pose greater challenges to categorization. After all, just as the standing debt notes reflect a breakdown in the Agency's normal operations, virement loans made by the Agency represent a breakdown in the normal operations of its debtors. There are of course, a great many ways for things to go wrong in just one institution, and so the amount of possible problems across the full scope of institutions involved in virement with the Agency was likely immense. Unfortunately, we have very little information on most of these institutions' internal workings, and our sample size of less than three dozen texts is far too small to isolate the problems statistically. A few virement loans give short descriptions of their purpose. Two are for the *paddugānu* ceremony (MARV 3 24, MARV 3 47), and another for the day five offering (MARV 3 32), but we are in the dark as to why individual offerings were underfunded.³ It is also unclear if loans to cover ritual expenses were rare and so were always explicitly stated to be so, or if they were common but only occasionally documented. All we can say is that the virement sometimes covered ritual expenses. We can say nothing about what other expenses virement might have been used to cover, nor can we say why particular shortages arose in the first place. For our purposes these must be treated as essentially random.

³ The phrase *ana batiqti ša pūre ša Aššur-balāssu-ēreš* "for/at the cessation of the lot of Aššur-balāssu-ēreš," in MARV 3 37 could potentially be another purpose clause (9-11). However, as discussed in the edition of that text, it is much more likely that this phrase refers to the financial situation in the Agency at the time the loan was made; offerings had been stopped through the end of the calendar year, and so it was possible to withdraw reasonably large amounts of grain in the interval before they were to restart.

Still, one might assume particular repayment schedules would be associated with particular individuals or groups. This does happen to some degree. For instance, loans to oil pressers are generally to be repaid in one month (MARV 3 45, MARV 3 50). Even so, we also find the same individual, Aššur-dēnī-dīn receiving one loan to be repaid in three days (MARV 3 31) and another with no due date at all (MARV 3 39). Similarly, Adiyu took out one loan to be repaid on request (MARV 3 60) and another due in one month (MARV 3 26). That the first of these involved sesame and the second livestock, drives home how seemingly random the need for virement was.

Although the repayment schedules and amounts are essentially random, there is a great deal of pattern in those people who are able to engage in virement with the Agency. These generally fall into two groups, people with whom the Agency likely had regular professional relations and people who were generally important in the Assyrian state and active in the capital.

The most obvious professional contacts would be other officials involved in temple management and operations, and these did engage in virement with the Agency with some frequency. Thus we find a loan taken out by a *šangû* of Adad (MARV 3 22), another by a *šāqû* (MARV 3 47), and a third by the outside *alahhinu* Akukî (MARV 7 92). In addition, we find the *gināu* supervisor himself issuing the Agency some 27050 *qa* of his own grain, though it is unclear if this was intended as a gift or only as a loan (MARV 3 34).

In the same vein, the Agency also engaged in virement with some of the outside contractors it used to press its sesame into oil (MARV 3 45, MARV 3 50). As the Agency had regular contacts with boatmen, it is not surprising that the minor *alahhinu* Nathayu once took out a small loan of honey from a boatman (MARV 7 28). What is perhaps more unexpected is that the boatman was apparently storing his honey in the *bēt gināe* at the time (though see MARV 10

68 for a similar arrangement). One also suspects Aššur-baissunu had regular contact with the reed worker he issued 4 *qa* of Agency flour to in MARV 6 72 while temporarily heading the Agency, but we know too little about the normal activities of Aššur-baissunu or reed workers in general to do more than speculate.

The Agency also seems to have allowed provincial officials to draw on their “account” with the Agency to meet pressing needs in the capital. This would explain a text where a man from Taidu was able to borrow 10 *qa* of oil with the condition that *ištu gināe uballa* “he will bring it (repayment) with the *gināu*” (MARV 3 21: 10-11). Evidently his shipment including both the *gināu* and some of his own supplies had not arrived quite yet and so the Agency lent him what he needed until it showed up. We can posit the same arrangement in MARV 3 32, where the mayor of Kilizu borrowed 20 *qa* of figs at the orders of his father, the governor of Kilizu, although the text is less explicit. MARV 9 24 can be understood as an official taking supplies from his account and then shipping them back to his province as a loan, but the interpretation of this text is uncertain and it may refer to a more pedestrian shipping problem.

In addition to its regular working associates, the Agency often engaged in virement with various important personages in the capital. Since these people generally had more pressing matters to attend to than solving minor cash flow problems, normally it is their agents who engage in virement on their behalf. This is most common with agents of the *šakin māte* and the palace establishment, with whom the Agency had reasonably close relations over the years. The *šakin māte* Urad-Kūbe authorized a direct transfer to a *qēpu* from Agency funds (MARV 3 41), and on two other occasions his son Aššur-dēnī-dīn, a supervisor of brewers, took out loans from the Agency (MARV 3 31, MARV 3 39). Pišqīya, another holder of the office, authorized a loan to a *kakardinnu* (MARV 3 49). In addition, Šahhutu the *šakin māte* made at least four virement

loans to the benefit of the Agency (MARV 5 41, MARV 5 44, MARV 7 76, MARV 7 89). The Agency also made loans to the palace scribe (MARV 3 52) and Sîn-ēreš the palace supervisor (MARV 3 42). As we will see shortly, the latter reciprocated by making a rather generous loan to the Agency (MARV 5 51). Another palace overseer authorized an oil presser to collect a virement loan he had earlier made to the Agency (MARV 8 60). The son of the king's diviner, presumably also part of the palace establishment, also took out a loan from the Agency (MARV 3 48). The king himself even seems to have authorized a transfer from *maddattu* funds under the Agency's management via the eunuch Mudammeq-Bēl (MARV 7 3).

Several other texts refer to important individuals of unclear title or their agents engaging in virement with the Agency. We find a loan made to an official of the house of Buhini (MARV 3 24), as well as to a *mušākīlu* of the future *līmu* Marduk-šumu-līšēr (MARV 3 25), and the *mušākīlu* of a certain Šamaš-aha-iddina (MARV 9 86). At least four other texts refer to virement loans given to individuals about whom we know nothing (MARV 3 26, MARV 3 37, MARV 3 51, MARV 3 60). Likely they were either so important or so well known to the Agency that a title was hardly necessary, but it is impossible to say more about them.

This last batch of texts raises an interesting point. The *mušākīlu* of Šamaš-aha-iddina is described as acting at the *šipirtu* "order" of his master, but the *mušaqqu* of Marduk-šumu-līšēr, a roughly comparable official, is not. Here we can build off of Postgate's suggestion that *šipirtu* refers to an oral command rather than a written document (Postgate 1985: 28-29). One would think that most of the subordinates in the previous examples had received orders from their masters. Since only five texts actually use the term *šipirtu*, we can post that the chain of command was only spelled in circumstances where it might be unclear. This fits with the data reasonably well. It is not clear that either the *qēpu* or *kakardinnu* whom the *šakin māte*

authorized to take out loans were his regular associates (MARV 3 41, MARV 3 49). If the palace food processing organization was similar to the *gināu* Agency as the brief combination of the two agencies would suggest, it probably did not have attached oil pressers either. Hence, it would not be obvious that a particular oil presser had the palace supervisor's authorization to collect his debt with the Agency. What is harder to explain is why it was unclear the mayor of Kilizu was acting on the governor's orders, or that the *mušākilu* of Šamaš-aha-iddina was acting at his master's orders (MARV 9 86, MARV 3 32). Perhaps these officials had enough autonomy to take out virement loans from the Agency in their own right and so it had to be made explicit that they were not doing so. In particular, it is possible their masters were not resident in the capital and so they had relative autonomy in their absence. But this is only speculation.

What we can say is that generally the source of the *šipirtu* was someone well known to Agency. This makes sense. One doubts that a reference to an unwritten order a borrower claimed to have heard would be especially useful in a legal setting. Yet, the references would be useful for simply remembering on whose authority a particular action had been conducted. If the Agency enjoyed a good working relationship with the authorizer, simply telling them about an unpaid debt would probably be sufficient for the official to take action against the debtor or make restitution on his behalf.

1.1.3 Contracts

Despite their abundance in the Middle Assyrian corpus, debts notes arranging for contract work are quite rare in the archive. The only text unambiguously of this type is MARV 3 20, which is a contract for oil pressing. Two additional texts refer to men obligated to provide grain products *kīmu azamre ša pāhete ša Ilī-padda ša ana gināe ana bēt Aššur tadnaššunu-ni* "in place of the fruit of the province of Ilī-padda which was given to them for the *gināu* at the Aššur

temple” (MARV 3 35: 3-6; cf. MARV 3 40: 3-6). The fruit inquestion is described with a stative of *nadānu*⁴ which would seem to mean that it refers to an actual quantity of fruit being transferred and not a generic unpaid obligation. The texts are ambiguous as to whether the fruit actually reached the Agency or remained in the possession of the debtors. In either case, the Agency did not demand repayment in fruit, but took advantage of the situation to convert some of its fruit income into grain. Thus we can see the document at least partially as a contract to have the debtor exchange commodities.

It is probably not a coincidence that such formal contracts are rare in the Agency’s archive. It conducted most of its food processing work in house where contracts would be entirely redundant. It does seem to have outsourced oil pressing (II.1), but its oil pressing needs were fairly constant, so that it would be possible to develop long-standing relationships with individual oil pressers like it did with Mār-Āpie (II.1). If an oil presser was pressing a fixed amount of oil for the Agency every few days one doubts either the Agency or the presser would feel the need to keep drawing up contracts every time a new batch went out for pressing. One might postulate a need for contract work when the Agency’s own labor supply fell short, but there is little evidence that this actually happened. Normally, when problems arose they were caused by supply shortages, and if the Agency was able to find supplies from another source, its labor force would be more than sufficient to process them.

1.2 Vertical “summary” documents

Given the reasonable frequency with which it converted obligations into formal debt notes, it is no surprise that the Agency drew up summary documents to keep track of them. One possible way to do this would be to draw up diachronic summaries of obligations between the

⁴ As discussed in the edition of those two texts, the form is slightly irregular.

Agency and a particular outside party, that is, to make a “vertical” summary of obligations. We do indeed have several documents which could be explained in this way. Yet none of them can be securely shown to have been based on formal debt notes, though most, if not all, must have relied on informal notes or writing boards for their base information. Some, but not all are sealed as if they were a first order document. For simplicity, though, we will treat them all as summaries of formal debt notes even if this is not always true in a literal sense.

We can divide the vertical summaries into the same three groups used for the individual debt notes. There are two summaries of standing obligations. These take the form of settling the accounts of provincial governors. One involves just Kiditê, governor of Šūdu (MARV 7 50). Another focuses on debts Aššur-abuk-ahhê accrued over a four-year period (MARV 6 22). This matter was apparently quite complicated and ended up involving the *šakin māte* along with the governor and the *gināu* supervisor (see III.1).

The Agency compiled similar summaries for virement. The most spectacular of these is MARV 5 51, which records a loan that the palace supervisor Sîn-ēreš had made to the Agency and how much of it the Agency had repaid. Unusually for an account text, the document gives detailed information on each installment of the repayment which the Agency had made to date. Two other summary texts deal with a complicated and not easily understood affair where the Agency received honey from a *kakardinnu* (MARV 8 87, MARV 8 88). Given the nature of virement, it is not surprising that these summaries are rare and involve complicated arrangements. Normally virement was motivated by minor cash flow problems, which required only limited interaction and could be captured reasonably well by one or two loan texts. There would seem to be only very limited benefit in summarizing one or two loans, and so it is only with more complicated forms of virement that summaries were needed.

The summaries that form the final group come from the *maddattu* crisis and describe the use of *maddattu* grain over an extended period of time (MARV 1 49, MARV 7 4).⁵ These texts were formalized by the *šakin māte* in a supervisory capacity and give exact figures for how much of the *maddattu* grain the Agency had spent and how much it planned to spend in the near future. Likely the central authorities were trying to keep track of how the *maddattu* grain was being used. To continue the parallel with the individual debt notes, one can think of these as the Agency doing contract work on behalf of the central government. The parallel is not ideal, for the Agency is still conducting its regular work, but it is doing so with outside funds and under close outside supervision.

1.3 Horizontal summary documents

The other approach is to summarize a number of formal obligations outstanding at a single time, making a “horizontal” summary. In contrast to the vertical summaries, these tablets also clearly refer to formal tablets as their sources, and in the case of three of them, (MARV 6 42, MARV 7 5, MARV 7 94) we actually have some of the formal debt notes they were based on.

MARV 7 98 deals with the standing obligations of a number of provinces and provincial level officials, with individual obligations sometimes spanning several years each. Indeed, it would seem to be a summary of vertical summaries. That means, if the latter really were true summaries of other tablets, MARV 7 98 would be one of the few unambiguous examples of third order documentation in the archive. The remaining horizontal summaries deal with virement. One unfortunately damaged summary comes from the reign of Tiglath-pileser I (MARV 7 88). Two others come from the year Erība-Aššur in the middle of the Liptānu crisis, and were written

⁵ To these should probably be added the envelope fragment MARV 2 13.

a little under six months apart (MARV 7 5, MARV 6 42). An additional damaged summary comes from the following year, Marduk-aha-ēreš (MARV 7 94), and the even more damaged MARV 7 33 is probably to be dated to around that time as well.

Given how rare the surviving horizontal and vertical summaries are, it is likely they were not a regular part of the Agency's documentation, but were only composed when the need arose. In the case of a vertical summary the motivation was presumably to simplify an unusually long or complicated series of obligations. In the case of a horizontal summary we can posit that extreme financial hardship forced the Agency to take stock of all the supplies it might expect to receive in the near future (III.2).

2 Other documents

With the debt notes and related documents accounted for, only a few isolated documents from the archive remain to be discussed. For the sake of comprehensiveness we will quickly summarize them. The best-preserved is MARV 9 63. This text appears to describe the *alahhinus* providing grain to pay for repair on work on the king's personal chariot and other items. We have no parallels for such an action. It seems best to see it as an involved form of virement. Whoever was supposed to pay for the repair work temporarily lacked the funds to do so and so the *Gināu* Agency was required to pay for it instead.

The other unclassified texts are very, very damaged. The bits that remain are either so generic or so strange as to make it impossible to even hazard a guess about their contents (MARV 7 100, MARV 7 101, MARV 9 5, MARV 9 78). Given their hopelessly damaged state, one could postulate a nearly infinite number of scenarios that would have produced these readable fragments of text. They fit our model of the Agency's operations by default; they would

fit virtually any model. There is little else of use to be said about them. Indeed, with that somewhat depressing coda, there remain no published tablets that we have not discussed. Our comprehensive survey of the documents is at an end.

3 Compositional principles

In the previous portions of this chapter, and in the preceding income and expenditures source chapters, we looked at the administrative functions filled by the documents in our archive. This gives us a useful way of categorizing the documents and nicely incorporates them into our larger model of the Agency's activities. But this is not the only way to look at the documents. In creating these documents, the Agency was engaged in a form of information processing. Its documentation served as a system for storing and retrieving information about the *gināu* offering. It is natural to wonder if there are any general patterns to be seen in this system.

Here we must be very clear about our method. We will not attempt to assess the absolute complexity or sophistication of the system. Looked at in isolation, most systems of administrative documentation seem quite complex. To describe our archive as complex in an absolute sense would require some absolute scale of administrative complexity. Constructing such a system is beyond the scope of this work.

Instead, we will focus on four very concrete questions. We will ask who actually wrote the tablets? We will also ask when did they write them? Put another way, these two questions are asking how information entered the Agency's written record system. Then we will look at the level of precision with which information was entered. Finally, we will ask if and when the tablet was an irreducible unit of information for the Agency rather than a collection of various pieces of information that happened to be written down.

3.1 Who wrote the texts?

Perhaps the first question that arises with any text is who wrote it. Based on our previous discussions, there can be little doubt that the vast majority of the texts in our archive were composed on behalf of the *Gināu* Agency. In this sense one can say that the Agency wrote them, and this suffices for most purposes. Yet, if we would go deeper, we face the problem that agencies do not actually write documents; people write documents on their behalf. The question becomes, who wrote these documents for the Agency.

Perhaps the simplest explanation is that the Agency had one or more professional scribes on staff, as suggested, for instance, by Postgate (2013a: 90, 96). However, this idea becomes problematic when we look more closely. If the Agency was employing professional scribes, we would expect them to be mentioned from time to time in the documents. Yet, only six texts from the archive explicitly refer to a scribe. In two of these scribes appear giving or receiving virement payments (MARV 3 52, MARV 6 88), and it is difficult to demonstrate that either scribe even wrote the tablet in which he appears, let alone regularly wrote tablets for the Agency. In three more texts (MARV 1 25, MARV 3 14, MARV 6 86) the named scribe is explicitly described as a *qēpu* “deputy” of an outside party. These scribes may well have written the tablets in which they appear, but once again there is little reason to think they were in the habit of writing documents for the Agency.

The only viable candidate for a scribe regularly employed by the Agency is Nergal-iqīša *tušarru ša bēt tuppāte* “scribe of the tablet house” who received a series of unusual honey tribute payments on the Agency’s behalf in MARV 6 39. But, as noted in the edition of that text, the Agency did not normally receive tribute payments. It is quite possible that the scribe of the tablet house was involved with Agency as part of the arrangements to allow it to receive tribute

payments. Thus, our documents yield only a single dubious reference to a scribe who worked for the Agency on a regular basis.

One might posit that the Agency's scribes were not in the habit of signing off on their work did not often use the formal title of scribe, but this idea also runs into difficulties. We are excruciatingly well informed on the Agency's grain expenditures in many periods, yet not once in the entire archive do we hear about a scribe receiving rations from Agency funds. If the Agency did make regular use of professional scribes, it does not seem to have paid them.

Given the difficulty of finding scribes in the archive, it is attractive to think that the executive staff simply wrote the tablets themselves. Indeed, two lines of evidence in the archive seem to point this way. First, there are at least nine texts written in a round format, often quite sloppily.⁶ The texts are not confined to any one genre, but range from receipts of incoming goods (Llop 2009 167, MARV 10 83, MARV 10 86), to small (MARV 10 85, MARV 10 91) and large (MARV 7 18, MARV 7 60) disbursements, and to other miscellaneous matters (MARV 7 81, MARV 10 84). All of these genres are better attested in various rectangular formats. The contents offer no clear explanation of why these should have been drafted as round tablets.

As noted in I.1, we can get more traction if we assume that the use of the round format is not related to the contents, but rather, to the writer. In most other periods round tablets are usually used for school tablets, and I would suggest that these round tablets were likewise drafted by students still mastering the art of writing. Certainly this would account for the singularly poor handwriting and formatting of many of the texts. This, in turn, raises the question of why the Agency had apprentice scribes on staff. As discussed in Appendix C, the offices on the Agency's executive staff were largely hereditary, and we have examples of the children of active members

⁶ Llop 2009 167, MARV 7 18, MARV 7 60, MARV 7 81, MARV 10 83, MARV 10 84, MARV 10 85, MARV 10 86, MARV 10 91.

serving as temporary substitutes before joining the team as full-time members. We even have a list of the children of various members of the Agency and its associates (MARV 5 74). It does not seem unreasonable to think that while they were still finishing their schooling these apprentice *alahhinus* were occasionally sent on errands by their fathers or allowed to draft a few tablets as part of their training. It is not a conclusive argument, but it does nicely account for the strange text subgroup and the paucity of professional scribes in the archive.

But we can go further. It is conceivable that only some members of the Agency's executive staff regularly wrote tablets. Here a close examination of writing errors in the tablets is suggestive. There are at least three tablets where the amounts being issued to the brewers were revised after the tablet was mostly or completely drafted (MARV 5 48, MARV 7 61, MARV 8 26). If the brewers were writing these texts, this would be quite strange. If there was one number on a disbursement text we would expect an official to get right the first time, it would be the amount he personally was to receive. However, the errors are not difficult to explain if another official was writing the text. The writer reckoned incorrectly how much grain the brewers needed, an easy enough mistake given the complexity of the brewing process. The erroneous amount was then corrected by the brewers as soon as they found out. This does not rule out that brewers sometimes wrote their own tablets, but it suggests that they did not do so very frequently.

By process of elimination, this leaves the *alahhinus* and the *gināu* supervisor as the writers of most of the texts in the archive. One might go further and argue that the *gināu* supervisor personally wrote most of the documents in the archive. As we have noted in the previous source chapters, the total amount of documentation produced in any given time was not so large that a single person could not have written all of it. Yet, there is reason to think that the *gināu*

supervisor did not write all the documents in which he was involved. In MARV 5 49 the amounts issued to Ezbu-līšer were revised after the text was written. Following the same reasoning we used with the brewers, this suggests that Ezbu-līšer was not writing the text. More interestingly, in MARV 7 19 we find a single *alahhinu* listed out of order at the end of the text. It is attractive to posit that his section was displaced to the end of the tablet because he was writing it.

Furthermore we have the added complication that the *gināu* supervisor was not always in town (see MARV 5 12). If he was not around when a shipment arrived, someone else would have to write the information down. Finally, if the *gināu* supervisor administered a province in addition to the *gināu* offering, as some evidence seems to suggest, he would probably have had more pressing demands on his time than personally writing the majority of the documentation needed by his agency.

Indeed, if we posit that the *gināu* supervisor only wrote texts occasionally, we can use this to explain the otherwise strange distribution of the phrase *ana lā mašāe šaṭir* “written down in order to not forget” in the archive. The phrase is not unique to the archive, but was used generally in Middle Assyrian administrative documentation to indicate that a text was informal (Postgate 2013a: 80). What is strange, though, is that despite the great frequency with which the Agency composed informal, unilateral notes, the phrase appears in only ten texts.⁷ Even more strikingly, one of these texts, MARV 3 34, involves the *gināu* supervisor lending the Agency the enormous sum of 27050 *qa* from his own private property. This is hardly the sort of thing one would expect to be labeled as an informal note.

If we look at the texts which use the phrase, there are some clear patterns and these can help clear up the matter. Three texts involve disbursements of white barley (MARV 6 51,

⁷ MARV 3 34, MARV 5 32, MARV 6 12, MARV 6 28, MARV 6 51, MARV 7 51, MARV 7 59, MARV 7 87, MARV 9 22, MARV 9 103.

MARV 9 22, MARV 9 103). As noted in II.1, white barley seems to have been stored in the *bēt gināe*, and so we can link these texts to MARV 6 12, where another quantity of grain was issued from the *bēt gināe*. In two other texts, the phrase is used in virement arrangements involving the *gināu* supervisor personally (MARV 3 34, MARV 5 32). Thus six texts involve either the personal affairs of the *gināu* supervisor or transactions carried out in the *bēt gināe*. Combining these two observations, I would suggest the following, somewhat speculative scenario. The *gināu* supervisor was not generally involved in composing informal unilateral documents. Thus, when he wrote one, there would be a potential for it to be misinterpreted as having a more formal purpose than he intended. As a result, when he wrote informal texts for the archive he often had to explicitly mark them as informal with the phrase *ana lā mašāe šaṭir*. He generally drew up documents personally when engaged in virement with the Agency, or when he issued grain directly from the *bēt gināe* rather than letting the grain officials pick it up at the *nakkamtu* where it was usually stored.

The remaining texts to use the phrase can be explained in the same way. Two deal with shipping details (MARV 6 28, MARV 7 51). One involves the boatman Himsateya, a long time associate of the Agency, and the other mentions a transaction in the *bēt gināe*. A third text refers to virement with an individual whose name is lost (MARV 7 87). It is not hard to construct scenarios where the *gināu* supervisor would feel particularly strongly involved with these transactions and so write out the tablet himself. The only major outlier is MARV 7 59, where a woman receives a small amount of grain via the *alahhinu* Aššur-danninni, which one would assume was written by Aššur-danninni, though of course, it could have been written by Ezbu-līšer as part of authorizing the unusual transaction. Thus many, and perhaps all, of the

occurrences of the phrase *ana lā mašāe šaṭir* can be understood as the *gināu* supervisor explicitly marking texts he wrote as informal.

In sum then, we have some reason to think that most of the Agency's unilateral documents were composed by its *alahhinus*, with occasional tablets contributed by the *gināu* supervisor and perhaps the brewers as well. Admittedly a great deal of conjecture was involved in arriving at this picture. While the general notion that Agency's executive staff physically wrote our texts seems on quite firm ground, the precise details of our reconstruction are less secure and should be seen more as a useful working model than a conclusive solution to the problem.

3.2 When did they write them?

If we can develop at least a rough picture of who wrote the texts, it is natural to wonder when the tablets were written. For simplicity we will look only at first order documents. That is to say, we will look at when information first entered the Agency's documentary system. From a distance the answer is fairly simple. Dated documents were presumably written on the day to which they are dated, and undated documents were likely written relatively soon after the events they describe. But if we look closely things again become messier. A day is a long time, and "relatively soon" perhaps longer still. Were our documents written as soon as the goods changed hands, or were they drafted in a quiet moment after most of the day's work had finished? Do we need to posit a layer of temporary records and drafts used to store the information between the time an action was carried out and when it was recorded in a tablet intended for long-term storage? It turns out the Agency followed two different protocols for recording transactions. As we will see, the choice depended on whether or not it had control over the timing and volume of the transaction recorded.

In some cases, texts seem to have been written concurrently with the actions they describe. This is clearest in the thirteen texts which include tally marks.⁸ As discussed in Appendix B and I.3, these seem to have been made as the incoming grain was being taken off the boat and measured or counted out into 50 *qa* or 100 *qa* units for storage. One cannot get any closer to the transaction than this. If we step back a bit though, a clear pattern emerges. Twelve of these texts explicitly involve the receipt of grain from an incoming shipment. The last text, MARV 7 61, is less explicit, but starts with sum of grain of unexplained origin before proceeding to expenditures made from it. This would also fit quite nicely with an arriving shipment being divided up as soon as it left the boat. Thus, all those texts that were indisputably composed during the actions they record seem to involve incoming shipments. We can explain this distribution by appealing to issues of control.

It seems unlikely that the Agency had much control over when shipments actually arrived. Arranging for shipments to arrive at a certain time would require an impressive level of communication between the Agency and the ships when they were still outside the capital. That would almost certainly put great strain on the Agency's meager personnel resources. Indeed, we have records of at least two instances where a shipment actually caught the Agency completely by surprise and there was no one on hand to receive it (see I.2). In this context, it makes sense that the Agency would record the transaction whenever it happened to occur with whatever was on hand. As noted in I.3, there is good reason to think that most incoming shipments were recorded on writing boards. We can posit that the tally texts were a stopgap measure, written when—for whatever reason—the boards or other accounting tools were not available when a shipment arrived.

⁸ Llop 2009 167, MARV 5 57, MARV 6 69, MARV 7 22, MARV 7 46, MARV 7 61, MARV 7 83, MARV 8 13, MARV 8 27, MARV 8 30, MARV 9 16, MARV 10 86, MARV 10 88.

Yet, one might argue that in these circumstances it would make sense to avoid writing down the information until the end of the day, when all the incoming shipments had been sorted out. The problem with this notion is that the Agency did not have control over the amounts of supplies that arrived. The amounts were probably within reasonably predictable ranges, but the exact amounts were effectively random. Thus, if the Agency allowed time to elapse between the transaction and the final record, it would have to either produce an interim record with the exact amounts received, or it would run a risk of making frequent and serious errors when the information was finally recorded.

In contrast to shipments, which arrived on their own schedule, the Agency had complete control over when it made expenditures. What is more, it had complete control over the amounts disbursed. These amounts were generally quite round and the official who received each would almost certainly remember the volume. Thus, there was less urgency to get the information written down as soon as the transaction was conducted. If a writing board or counting device was needed they could wait until it was available, and even if they chose not to, they could wait a day or two for a convenient time to write the transaction down. There was no need for hastily written tally texts to temporarily retain the information. This fits nicely with our documentation. As noted in II.3, the Agency frequently summarized several different actions from the same day—or even several consecutive days—on the same tablet. This suggests that there could be a sizeable gap between when the transaction occurred and when it was finally written down.

3.3 How accurately did they write them?

Let us suppose that our scribe had a wet tablet in front of him and had made the decision to write down information about the Agency's activities. Here we encounter another complication in the system. Much of the information the scribe was going to record was numerical, often in

the form of quite long, unwieldy numbers. How concerned was the scribe with making sure those numbers were precisely the right values as opposed to values that were close enough? At first glance the answer might seem to be “very much concerned,” but there is reason to doubt this. The stereotypical bureaucrat of modern imagination is obsessed with precision and accuracy as ends in and of themselves, but this is bureaucratic pathology, not sound administrative practice. Making sure numbers are accurate to a high level of precision requires careful checking of figures and measurements. The labor costs for this can be quite high, and if all one needs is a ballpark figure, it does not make sense to pay a high premium for unnecessary precision. As we will see, a better answer to our question is that the scribe was as concerned with precision as he needed to be.

But before we look at the details, we must have some idea of what aspects of the Agency’s documentary system required high levels of precision. On any given day, the Agency needed to know whether or not it would be able to make an offering, and how big that offering could be. To do this it needed to know the how much grain each *alahhinu* had on hand as well as the size of its beer, honey, fruit, and oil stocks. Now, if the Agency had just issued grain disbursements to its staff and knew how much grain each already possessed, it would have exact values for the amount each had on hand. But the Agency did not normally issue grain every day, and one doubts it was in the habit of regularly re-measuring the grain each official had in his possession. One way it could still know how much each official possessed would be to work out the amount used since the last measurement and subtract it from the value measured at that time. We can model this by designating the last checked balance of a fund i as L_i , and the amount used after t days as $U_i(t)$. For simplicity we will assume that the Agency did not take regular inventories of its other funds, but calculated the amount remaining in the same fashion. For managing short

term operations the Agency would then need to keep track of 9 checked balance figures, the date of each figure, and the amount expended from each fund since the balance was last checked. We can summarize this as follows:

(grain) <i>alahhinu</i> 1	$(L_1, t_1, U_1(t))$
(grain) <i>alahhinu</i> 2	$(L_2, t_2, U_2(t))$
(grain) <i>alahhinu</i> 3	$(L_3, t_3, U_3(t))$
(grain) <i>alahhinu</i> 4	$(L_4, t_4, U_4(t))$
temple beer	$(L_5, t_5, U_5(t))$
SAMAR <i>ṭābu</i> beer	$(L_6, t_6, U_6(t))$
oil	$(L_7, t_7, U_7(t))$
honey	$(L_8, t_8, U_8(t))$
fruit	$(L_9, t_9, U_9(t))$

Now, as we noted in II.2, under ideal circumstance the offerings were fixed, and so each function $U_i(t)$ is in fact a simple line $c_i t$, and in fact the slope c_i is simply the Agency's normal offering amount, a known quantity that did not need to be recorded. This would simplify the task to recording nine checked fund balances and the date on which each was checked. Under ideal circumstances, the Agency needed only 18 numbers to manage its expenditures.

But let us consider income. As we noted in II.1, the Agency's income almost exactly matched the cost of performing a complete *gināu* offering every year. This means that if the Agency could simply make sure that it received all its income in a timely manner, it would have enough supplies to conduct the offerings. Here the important numbers were the amount of each commodity individual provinces still owed. With 4 commodities and 27 provinces this would involve at most 108 numbers, and if one removes entries for commodities particular provinces never paid, the figure drops to 91 numbers.

With this model in mind, we can return to the issue of precision. For operations to run smoothly in this model the 18 expenditure numbers and the 91 income numbers had to be quite

precise. As we will see, by and large, they were. However, any other figures recorded by the Agency did not have the same need to be precise, and quite often they were not.

3.3.1 Volumes

In modern accounting practice imprecision in figures is usually explicitly indicated by rounding them (personal communication Stephen Gauthier). For instance if a formula estimates a future expense as \$481,516.23, one might enter a figure of \$480,000, making it clear to the reader of the report that the number is not an attempt to predict costs down to the last cent. The *Gināu* Agency was less inclined to do this, and explicit instances of significant rounding are not easy to come by.

Most of the examples we do find can be explained by the Agency's reluctance to make calculations involving fractional *qa*. In Assyrian volume measuring this required using *kāsus* "cups." As these seem to have worked in a base 8 system, doing calculations with them would have been rather involved, and the Agency frequently rounded to avoid the problem. Interestingly, it was in the habit of rounding up when dealing with income, and down when dealing with its own expenditures.

Thus, in MARV 1 25 a shipment was found to contain only 84.5 *qa* of actual grain per 100 *qa* of nominal volume, a difference of 15.5 *qa*.⁹ In subsequent calculations the Agency rounded the figure up to 16 *qa* per 100 *qa*. In MARV 8 46, the Agency received a number of shipments measured in an awkward *sūtu* of about 11.7 *qa*. Here it seems to have directly measured the total volume of the incoming grain and then retroactively assigned exact volumes to the incoming shipments (Appendix B). As a result, these total to 2 *qa* more than the stated

⁹ Due to complications in the packing or measuring process, the amount of debris removed from the grain actually had a volume of 17 *qa*, resulting in the sample "100" *qa* having a measured volume of 101.5 *qa*.

total. Similarly, in MARV 9 95 the Agency seems to have converted a sum of 70000 *qa* by the small *sūtu* into 56000 *qa* by its standard. Then using a conversion ratio of 1:1.24 it converted that figure into 45161 *qa* according to a particular large boatman’s *sūtu*, which it rounded up to the nearest 10 *qa*, arriving at a figure of 45170 *qa*.

When dealing with expenditures in MARV 7 1, the Agency seems to have rounded an expenditure figure of 7.5 *qa* of oil down to 7 *qa*. In reckoning a theoretical oil yield, the same scribe seems to have taken 200 *qa* as 1% of 20820 *qa* to avoid dealing with the unpleasant actual figure of 208.2 *qa*.¹⁰

But all this does not mean that the Agency’s figures were all accurate to within a few *qa*. Here it behooves us to look at some of the mathematical errors in our texts. Where precision was not important the Agency presumably did not check its calculations, and as a result errors were not caught. As it turns out, such uncorrected errors were particularly common in the totals on *gināu* tables. In a number of cases the entries in a column are well enough preserved that we can check the totals. These are summarized in the following table:

Text		Grain	Honey	Sesame	Fruit
MARV 5 14	Stated Total	140890 <i>qa</i>	Correct	Correct	No data
	Actual total	≥ 148890 <i>qa</i>			
MARV 5 4	Stated Total	No data	No data	No data	7910 <i>qa</i>
	Actual Total				7370 <i>qa</i>
MARV 5 67	Stated Total	78080 <i>qa</i>	1055 <i>qa</i>	7120 <i>qa</i>	5040 <i>qa</i>
	Actual Total	78150 <i>qa</i>	1155 <i>qa</i>	7180 <i>qa</i>	5100 <i>qa</i>
MARV 6 9+	Stated Total	120650 <i>qa</i>	No data	No data	No data
	Actual Total	121850 <i>qa</i>			
MARV 9 1	Stated Total	No data	No data	No data	8733 <i>qa</i>
	Actual Total				8513 <i>qa</i>
MARV 9 12	Stated Total	Correct	Correct	12400 <i>qa</i>	Correct
	Actual Total			13600 <i>qa</i>	

Figure III.3-1: Summary of Errors in Full *Gināu* Tables

¹⁰ Entertainingly, in MARV 1 49 a scribe attempted to pull off the fractional part of a figure before a calculation and add it back at the end but botched the procedure.

From the table it is easy to see that only 5 of the 14 checkable sums were computed correctly.¹¹

The apparent lack of concern with getting sums exactly right is hardly confined to the tables. At least three small disbursement texts have incorrect totals, which are summarized in the following table:

Text	Stated Figure	Actual Figure
MARV 6 23	2280 <i>qa</i>	2378 <i>qa</i>
MARV 8 48	600 <i>qa</i>	700 <i>qa</i>
MARV 9 110	180 <i>qa</i>	132 <i>qa</i>

Figure III.3-2: Errors in Small Disbursement Texts

In the large disbursement text MARV 7 2 the amount expended by an *alahhinu* was given as 27745 *qa* instead of the correct figure of 27965 *qa*. In income documentation, MARV 6 70 totals up a number of grain shipments to 82550 *qa* instead of the correct figure of 87530 *qa*. MARV 9 17 gives a total of 169.5 *qa* of honey instead of the correct 271.5 *qa*, and also had an erroneous sesame figure, though it is not possible to reconstruct the exact value.

MARV 7 19 presents an even more extreme case. Not only was one of the totals in this text wrong (although the exact value cannot be reconstructed), in another section the scribe left a blank in which to write a total but never got around to actually writing in the number. This curious error offers a nice explanation for how the Agency could tolerate such consistently poor mathematical standards in its records. If the scribe had made even the slightest effort to check his work, he would have noticed the missing total. He clearly never bothered to do so. Having a correct total was simply not a high priority. This makes sense with our model. For short-term operations the Agency did not need precise figures for the total amounts received or expended and so it did not go to great lengths to obtain them. For long-term planning it might need rough estimates of total income and expenditures, but these did not need to be especially precise. After

¹¹ MARV 5 14: honey, sesame; MARV 9 12: grain, honey, fruit.

all, adjustments could be made a few weeks or months down the line as needed. What is more, as ballpark figures the totals in our texts are still quite workable. The percentage of errors in the various totals is summarized below:

Text	% Error	Relationship to Actual Value
MARV 5 14	> 5.4	Smaller
MARV 5 4	7.3	Larger
MARV 5 67	0.1	Smaller
	8.7	Smaller
	0.8	Smaller
	1.2	Smaller
MARV 6 9+	1.0	Smaller
MARV 9 1	2.6	Larger
MARV 9 12	8.8	Smaller
MARV 6 23	4.1	Smaller
MARV 8 48	14.3	Smaller
MARV 9 110	36.4	Larger
MARV 7 2	0.8	Smaller
MARV 6 70	5.7	Smaller
MARV 9 17	37.6	Smaller

Figure III.3-3: Analysis of Errors

As can be seen, most of the errors are less than 10%. Furthermore, the erroneous figures generally tended to be less than the actual figure. This is almost certainly because many errors involved missing numbers when adding up long lists, which would result in a sum less than the true total. As a result, if the Agency used the erroneous figures in planning, it would generally find itself with an unexpected surplus down the line, hardly an unpleasant scenario.

This does not mean that the Agency was always inattentive in computing totals. In MARV 6 64, a list of incoming millers, the scribe miscounted and arrived at a total of 19 instead of 20 millers. However, unlike in the previous texts, the scribe here seems to have checked the total and caught the mistake, since he subsequently adjusted the number up to the correct figure

of 20. It does not seem a stretch to think that the total was checked because the Agency had a strong interest in knowing exactly how many millers were on staff. Since it had to feed the millers from its grain reserves, having the wrong count would impact the grain usage functions and so cause it to incorrectly estimate the fund balances. And, of course, it seems rather harder to overlook a person on long-term assignment than to overlook a few missing sacks of grain.

3.3.2 Dates

Now, as outlined above, the essential information needed by the Agency did not consist only of volume measures. To estimate the amount used since the last time a fund balance was checked, the Agency needed to know how much time had passed since that checking. Put another way, the Agency needed to know the date when the check was carried out. Therefore, it is natural to ask how precise was the Agency in keeping track of dates?

Based on our model, the Agency need not have kept close track of dates when dealing with income, and the income documents show exactly this pattern. The best place to begin is the nicely defined corpus of full *gināu* tables. If we look at the dating information the tables contain, we find that only seven clearly had a full date containing month, day, and year.¹² In contrast, 14 tables had no dating information more precise than year names.¹³ The Agency mainly needed to know the amount of each year's obligations that the provinces still owed, and for this it only needed to record the year of the debt. Of course, if there were major complications like endemic phasing with the tax year, then a more exact date might be needed to avoid confusion.

Unsurprisingly, five of the seven texts with complete dates can be tied to instances of serious phasing (MARV 5 1, MARV 5 2, MARV 6 1+, MARV 6 16+, MARV 6 49+). Since the partial

¹² MARV 5 1, MARV 5 2, MARV 6 1+, MARV 6 16+, MARV 6 49+, MARV 9 6, MARV 9 9

¹³ MARV 2 21, MARV 5 14, MARV 5 4, MARV 5 67, MARV 6 32, MARV 6 46+, MARV 6 5, MARV 6 82, MARV 6 9+, MARV 7 27, MARV 7 31, MARV 9 1, MARV 9 12, MARV 9 2

tables were normally drawn up to deal with these sorts of complicated situations, it is no surprise that half of them give at least a month in their dates.¹⁴

The picture is equally striking in the various texts that summarize incoming shipments. These virtually never give precise dates for arriving shipments. Some of the texts mention only the date the tablet was composed (MARV 1 21, MARV 9 95), state only the year (MARV 5 35) or give no dates at all (MARV 6 88, MARV 8 74). MARV 6 3 organized shipments into six columns on chronological principles, but these cannot have had a precision better than half a month or so, as discussed in the edition of that text. Finally, MARV 1 56 and MARV 5 55, which seem to be a transcription of a full year's worth of shipping information from the Agency's writing board give no indication of dates apart from occasionally stating the month or months in which a particular block of shipments arrived. This again fits with our model. The Agency needed to know the amount of supplies carried by incoming shipments to deduct it from provincial arrears. But it did not need to know when the shipment arrived.

When we look at individual receipt texts, though, matters become more complicated. In the case of the formal receipts there is little to surprise us. The texts are dated, but so are most Middle Assyrian documents aspiring to a high level of formality; in fact, as noted in II.3, the Agency often used a formal date at the end of a text as one way of explicitly marking formality. What is surprising is that when we turn to informal receipts, these too tend to be dated. Of the receipts using tally marks, only one can be shown to have lacked any kind of date, against nine with a full date and one with a day of the month.¹⁵ The unusual dossier dealing with shipments

¹⁴ Full date: MARV 5 3, MARV 6 2, MARV 6 21, MARV 7 8, MARV 7 44
Month and year only: MARV 5 5
Year only: MARV 5 64, MARV 5 10, MARV 7 93, MARV 9 80
No date: MARV 8 40

¹⁵ No date: MARV 8 27
Day of the month only: MARV 10 86

from Arbela province during the *maddattu* crisis shows the same pattern. Four of these texts bear full dates (MARV 5 20, MARV 6 54, MARV 6 78, MARV 9 97) as opposed to only one which clearly lacked a date (MARV 5 38).¹⁶ If we turn to the other informal receipts, we find much the same pattern. Seven have full dates, and another has a year date, while only four can be shown to have lacked any date information.¹⁷

Yet, we can make sense of the precise dating used in these documents by noting that they are individual receipt tablets. The income figures the Agency needed to maintain operations was the amount of each commodity each province still owed. It could work this out by subtracting the volume of incoming shipments from the annual assessment totals. If one is simply keeping a list on a writing board, as the Agency normally seems to have done, it is easy to work out the sum of supplies received so far. But when one or a few shipments are recorded on an individual tablet, matters become more complicated. If the Agency was keeping running totals, it might become unclear whether or not the information from a particular receipt had been included. However, a date would allow the Agency to know if the document had been written since the last time the figures were updated. If the Agency was not keeping running totals, then some of the receipt texts could be several months old by the time they were needed. By this time it would be easy to confuse such texts with texts from previous years. One might keep them straight by careful sorting, but adding dates removed the possibility of confusion entirely. In both cases, the issue boils down to the very real possibility that the Agency would miss or double count shipments

Full date: MARV 5 57, MARV 6 69, MARV 7 22, MARV 7 46, MARV 7 61, MARV 7 83, MARV 8 13, MARV 9 16, MARV 10 88

Too damaged to tell: Llop 2009 167, MARV 8 30.

¹⁶ MARV 6 58 is also from this dossier, but too damaged to determine if it had a date.

¹⁷ No date: MARV 7 9, MARV 8 94, MARV 9 98, MARV 10 83

Year only: MARV 9 17

Full date: MARV 5 39, MARV 6 13, MARV 6 26, MARV 6 29, MARV 6 39, MARV 6 52, MARV 6 57

Too damaged to tell: Llop 2009 128, MARV 6 63, MARV 7 35, MARV 9 15.

when it computed provincial arrears. Note that in the case of summary texts neither problem was a serious possibility. In those texts the scribe had already collected the relevant documents to compile it and so there was no need to give a precise date for each shipment.

But let us turn now to expenditures. As mentioned above, the Agency had much more motivation to be precise in dating expenditures, and in general the documents bear this out. For instance, of the 89 small disbursement texts, at least 83 gave a full date. Of the remainder, one was dated to a day of the month without a month or year (MARV 6 44), and two more are too damaged to know whether they were dated (MARV 5 63, MARV 8 61). This leaves only three small disbursement texts which did not have dates (MARV 5 65, MARV 6 23, MARV 7 21), roughly 3% of the corpus.

Large disbursements show a similar interest in dates. As noted in II.3, individual texts could omit the beginning date, but always gave the month and day of the end of the account period. That, of course, was the day the fund balance was checked and hence exactly the date the Agency needed to manage short-term operations.

Before we leave the issue of the precision of dates, there is one last related matter we must look at, which is the choice of starting and ending dates for accounting periods. Obviously for one-off offerings, and periods of a few days the choice was governed by the Agency's short-term needs. But it is conceivable that the Agency had rather more flexibility in longer account periods, and one is inclined to wonder how the Agency settled on exact dates. Here we can pose two models. The Agency could have chosen dates based purely on its current short-term financial situation. In that case, we would expect the calendar dates to be nearly random. The vagaries of when ships arrived or loans could be taken out were not much affected by the

calendar date. That is to say, the accounting period precisely records the Agency’s financial reality.

Our second model is that the Agency chose the beginning and ending dates so that the resulting period would be easier to handle administratively. In this case we should expect periods to last round numbers of days or months, or to find starting and ending dates tied to festivals or particularly round days of the month. That is to say, the accounting periods would only imprecisely reflect the Agency’s financial reality. The account periods did not start or end when financial reality forced them to, but when the Agency chose to start or end them.

We will start with the large disbursement texts. Only five of the texts are well enough preserved to work out the starting and ending dates of their account periods. These are summarized in the following table:

Large Disbursement Account Periods			
Text	Start Date	End Date	Time Elapsed
MARV 5 28	V.27.Y ₁	VI.10. Y ₁	(13-14 days)
MARV 7 2	X.30.Y ₁	VIII.14.Y ₂	279 days
MARV 5 70	II.15.Y ₁	VII.2. Y ₁	(133-138 days)
MARV 5 62	II.1.Y ₁	VI.1.Y ₁	4 months
MARV 5 40	X.1.Y ₁	VI.1.Y ₂	8 months

Figure III.3-4: Large Disbursement Account Periods

Three of the account periods do not show any obvious pattern. They started and ended on apparently random days and their duration appears equally random. However, in two of the texts accounting periods are explicitly worked out in integer months. This is a clear example of the second system at work. If we look at the contents a nice explanation emerges. Both of these “rounded” texts deal with brewers. As noted in II.1, brewers did not operate on the same daily cycle as the *alahhinus*. Brewers needed a week or more to brew a batch of beer, and often brewed in batches large enough to last for several days at a stretch. This means that when a batch

of beer was ready, there could be some flexibility about when the next one needed to be started. Hence, it is not surprising that the Agency would sometimes delay or advance the next grain payment to the brewers to allow for rounder account periods.

But composing large disbursements was not the only occasion the Agency had to select account periods. In times of stress the Agency often reduced offerings. As before, with periods of a few days it seems clear that a harsh financial reality was dictating when offerings could be made. But in longer periods of reductions, the Agency may have had more flexibility. The following table summarizes all the account periods of at least ten days which occur in the offering logs:

Offering Log Account Periods Longer than 10 Days				
Text	Description	Start Date	End Date	Time Elapsed
KAJ 306a	Sub-period	II.27.Y ₁	III.14.Y ₁	17 days
	Total	II.25.Y ₁	III.14.Y ₁	(19 days)
MARV 2 14	Sub-period	III.16.Y ₁	III.26.Y ₁	11 days
	Sub-period	IV.2.Y ₁	VI.12.Y ₁	11 days
	Sub-period	IV.21.Y ₁	V.1.Y ₁	10 ⁷ days
	Sub-total	III.12.Y ₁	V.1.Y ₁	(48 days)
	Sub-total	VI.28.Y ₂	VIII.20.Y ₂	50 days
	Sub-total	II.27.Y ₃	III.17.Y ₃	21 days
MARV 6 37	Sub-period	VIII.29.Y ₁	IX.8.Y ₁	(9-10 days)
	Total	VIII.25.Y ₁	IX.11.Y ₂	(16-17 days)
MARV 6 65	Sub-period	V ⁷ .3.Y ₁	IX.8.Y ₁	(122-126 days)
	Sub-period	IX.26.Y ₁	X.16.Y ₁	21 days
	Sub-total	X.17.Y ₁	II.13.Y ₂	(113-117 days)
	Sub-period	V.3.Y ₁	X.21.Y ₁	198 days (sic!)
	Sub-period	X.22.Y ₁	XI.9.Y ₁	18 days
	Sub-period	XI.10.Y ₁	XII.25 ⁷ .Y ₁	45 days
	Sub total	XII.26.Y ₁	II.13.Y ₂	(46-48 days)
MARV 6 66	Sub-period	VIII.27 ⁷ .Y ₁	IX.12.Y ₁	16 days
	Sub-period	X.23.Y ₁	XI.10.Y ₁	18 days
MARV 7 52	Sub-period	VI.28.Y ₁	VII.26.Y ₁	(28-29 days)
	Sub-period	VII.27.Y ₁	VIII.6.Y ₁	(9-10 days)
MARV 7 73	Sub-period	I.20.Y ₁	I.29.Y ₁	(10 days)

Figure III.3-5: Offering Log Account Periods

MARV 9 19	Sub-period	VII.4.Y ₁	XI.4.Y ₁	4 months
	Sub-period	XI.5.Y ₁	XII.5.Y ₁	1 month
	Sub-period	XII.6.Y ₁	II.6.Y ₂	(2 months)
	Sub-period	II.7.Y ₂	IV.7.Y ₂	(2 months)
	Sub-period	IV.8.Y ₂	VI.29 ⁷ .Y ₂	82 ⁷ days
	Sub-period	VI.30 ⁷ .Y ₂	VIII.6.Y ₂	46 ⁷ days
	Sub-period	VIII.7.Y ₂	IX.15.Y ₂	38/39 days
	Sub-period	IX.16.Y ₂	X.3.Y ₂	18 days
	Sub-period	X.4.Y ₂	X.21.Y ₂	19 days
	Sub-period	X.22.Y ₂	XI.9.Y ₂	17 days
	Sub-period	VII.11.Y ₂	VII.26.Y ₂	(16 days)
	Sub-period	X.3.Y ₂	X.14.Y ₂	(12 days)

Figure III.3-5 (cont.): Offering Log Account Periods

Here the picture is somewhat different. Of the 33 periods we can reconstruct, only 4 were reckoned as integer months, and those form a continuous block of time in a single text. Apart from that, the durations of the periods do not show any obvious patterns. This becomes clearer still in the following graph which summarizes the frequency of those periods under 100 days¹⁸:

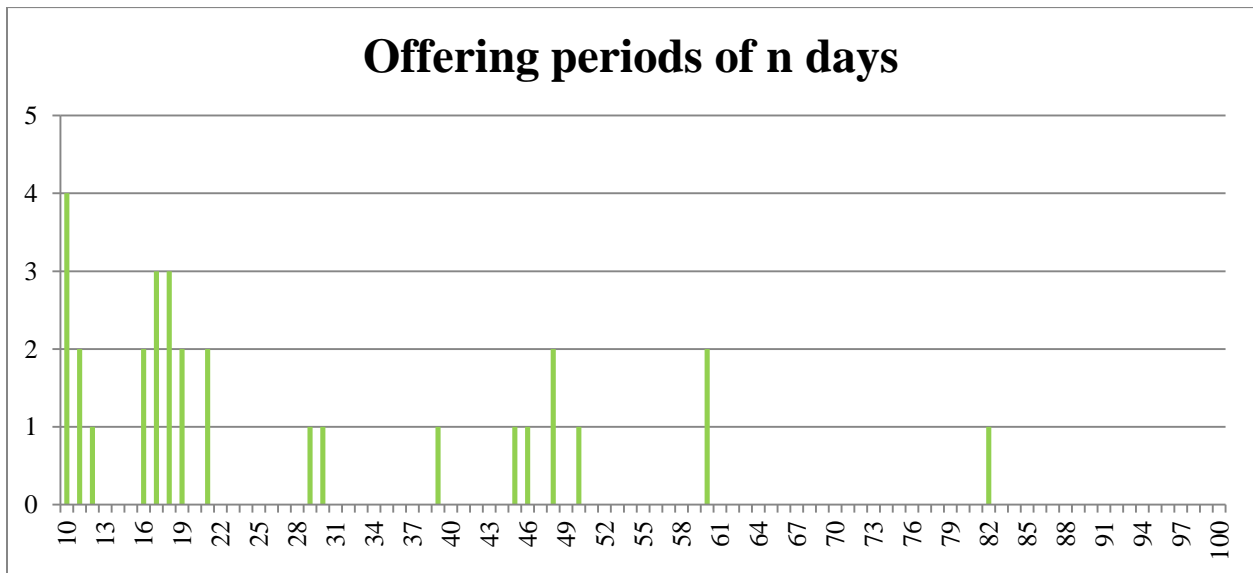


Figure III.3-6: Attestations of n-day Account Periods

¹⁸ Periods of n months are given as $n \times 30$ days, and uncertain periods are restored at their largest possible value.

Thus, it would seem that, apart from a single 9 month period, the offering reductions were dictated quite closely by the Agency's financial reality. That is to say, the periods were precisely chosen to reflect the Agency's financial reality.

If we look beyond the offering logs, a similar pattern emerges. From offering schedules we find that reductions in the *gināu* offerings were introduced on II.15 (MARV 6 35+) and IV.19 (MARV 7 4, cf. MARV 1 49). In the same vein, the offerings in MARV 8 15 seem to have occurred over a 37 day period, although the start and end dates cannot be reconstructed. There is also a reference to oil being poured out at the palace from VIII[?].1 to X.13 (MARV 6 14) and to extraordinary payments of beer distributed daily for 47 days from XII.29 to II.17 of the following year (MARV 5 7). In all these cases the account periods involved hardly seem round or convenient. The only clear exception is MARV 8 68, which refers to a large quantity of borrowed grain used to fund exactly three complete months of bread offerings.¹⁹ Summing up, then, the Agency could set up its account periods to last for whole numbers of months, or other round periods, but it rarely did so. Normally factors other than tidiness drove the choice of account periods.

Interestingly, if we move a tier up into second order summary documents, we find that the pressures for precise accounting periods largely dissipated. The Agency had considerable flexibility about when it drew up summary documents dealing with expenditures, and it seems to have taken full advantage of this to simplify its bookkeeping procedures. The most spectacular example is MARV 7 1, which summarizes the Agency's complete oil expenditures for a period of exactly one 360-day year. Instructively, though, the periods during which the text records alterations to the base offering schedule have the irregular lengths of 41, 10, and 19 days.

¹⁹ MARV 6 70 works out the amount of grain needed to sustain the offerings for a 30-day month, but this seems to have been an estimate for planning purposes rather than a record of actual payments.

We find something similar in the monthly summaries drawn up in the year Mudammeq-Bēl (II.3). The best preserved of these can be shown to have dealt with disbursements from VI.3 to VI.27 (MARV 7 48) and VI.27+x to VII.26 (MARV 7 24). This looks very much like the Agency was trying to draw up the tablets at the end of every month, even if it did not always time this perfectly. MARV 6 33 seems to show the same pattern but lasting two months. Most striking of all, MARV 8 75 breaks disbursements made to the brewer Tišpakiya into one month blocks with double rulings.

All this does not look so far removed from the loosely dated income summary documentation, but there is one important difference. The summary texts describing grain disbursements are meticulous in always giving the exact date and amount of individual disbursements. In income texts, precise dates were only useful for making sure the volume information was properly entered. After the information was extracted, only very rough dating was necessary. In contrast, in expenditure documentation the exact date of a disbursement was essential information and so it was nearly always transferred into summary documentation without any loss of precision.

Our discussion of accounting periods raises a final point. The Agency's choice of accounting periods frequently shows a cavalier disregard for boundaries between months and years. One suspects that they were not the only part of the Middle Assyrian state to do so, and, in fact, we can find a similar practice in the M 6 archive. The tablets of this archive were found neatly stored in a single jar (Pedersén 1985: 57), and Cancik-Kirschbaum and Johnson have argued that the jar contained records for the entire year *Sîn-šēya* plus an intercalary month designated as XII.Aššur-šēzibanni (Cancik-Kirschbaum and Johnson 2011-2012: 40-41). Having exactly one year's worth of records is quite intuitive, but it requires having an account period

line up with a calendar year. As we have seen, a one-year account period would be considerably neater than most of the account periods used by the *Gināu* Agency, making the reconstruction problematic. Indeed, a close inspection of the texts suggests that the archive had no pretensions of covering a single calendar year. Its last text, A 3189, is dated to XI.13.Sîn-šēya, a full month and a half before the end of the calendar year. In another archive this would not be so troubling, but in an archive with a density of about one tablet for every three days, more than a month with no texts is quite striking. What is more, that text seems to have been an outlier. The remainder of the dated documents fall between XII.1.Aššur-šēzibanni (A 2615) and IX.21.Sîn-šēya (A 1736). We also find an account dealing with the period from III.11[?].Sîn-šēya to IX.22.Sîn-šēya (A 113). This account shows that the M 6 archive was no stranger to irregular accounting periods. What is more, the period ends one day after the last dated record in the main group, and the sum of *nāmurtu* sheep it mentions is equal to the sum of sheep referred to in the individual texts (Pedersén 1985: 62-63). This fits very nicely with the hypothesis that after accounts were settled on IX.22 the jar was put into storage, although a stray tablet ended up in the jar a few months later.²⁰

3.4 How did they manipulate data?

3.4.1 Direct and object-oriented approaches

How one enters data into an information storage system is only part of the story.

Presumably the operators went to the hassle of storing the information so that they could retrieve and manipulate it at a later date. The process of retrieval required knowing on what tablet or

²⁰ If the M 6 archive was simply using an untidy accounting period, this would remove the main reason for seeing the tablets dated to Month XII of the year Aššur-šēzibanni as coming from an intercalary second Month XII. To explain the inclusion of the texts we need only posit a jagged accounting period that ran across a year boundary, something quite well attested in M 4 as we have seen.

writing board the information was recorded and where that text had been stored. As we will discuss in the next section, we do have some evidence about how the Agency stored its records, and we can develop a general picture about its storage procedures. However, the picture is too fuzzy to be of much use in reconstructing how the Agency went about finding individual documents.

Yet, for data manipulation, the picture is much better. Frequently the Agency manipulated data as part of composing a new tablet, and individual tablets, unlike document storage arrangements, had a quite good chance of surviving intact until the present day. Here it will be useful to distinguish between two methods of data manipulation. One method is to work directly with individual pieces of information, largely ignoring the documents in which they were originally recorded. We will call this the “direct” approach. The other method is to work with larger information structures, particularly whole tablets. Loosely borrowing programming terminology, we will refer to this as an “object oriented” approach. Here it is important to note that we are not making a claim that these are ontological categories of data manipulation, only useful archetypes with which to structure our discussion.

As it turns out, the Agency employed methods that fall into both categories. In particular, it showed a strong preference for object oriented approaches when dealing with formal bilateral tablets or large summary documents, and used a direct approach in most other contexts. But this is to anticipate our results. In principle, data manipulated in either type of structure should still result in the same assembly of information in the final document, making the method used largely invisible. However, there are two ways of determining the method. One is to see where second order documents explicitly refer to previous documents. This makes little sense in a direct approach since what matters there are only the individual pieces of data, not their source.

In contrast, it makes good sense for an object-oriented approach where a tablet is seen as an essential part of the information it contains. The other is to look at the curious practice of adding “cancellation” marks. While one might debate the exact meaning of these marks, clearly a large X drawn over the entire face of a tablet is intended to modify the meaning of the entire tablet as a data structure rather than affect particular entries.

One type of document often mentioned in our texts is the *tuppu šabittu* “formal document.” This term usually refers to formal debt notes. As noted above, the Agency was not in the general habit of drawing up formal debt notes for every obligation owed to it, and the texts bear this out. MARV 5 8, a list of numerous small loans being repaid by the Agency, refers to only one particularly complicated transaction as having generated a formal debt note. Similarly, MARV 6 42, which summarizes a number of outstanding debts to the Agency, mentions that a sum that had been outstanding since the last debt summary (MARV 7 5)—and still remained only partially paid—had been recorded on a formal debt note. In both cases, what seems to have been of interest was not the source tablet per se, but the fact that the source tablet was a formal debt note. Indeed, one could say that the formality was an important part of the tablet’s information.

These are not the only reference to formal documents in the archive. MARV 6 86 refers to a formal debt tablet containing Arbela’s consolidated debts from the early years of the *maddattu* crisis, and the summary text MARV 7 98 explicitly refers to a number of formal debt notes composed around the same time. In both cases the scribe went out of his way to mention that there was a formal record of the debt.²¹ Even more interesting, MARV 5 12, which lists three outstanding debts to the Agency, refers to one as *mehir tuppe ša ana hūle Sîn-nādin-ape ilqeu-ni* “copy of the tablet which Sîn-nādin-ape took on a journey” (13-14). Evidently the scribe

²¹ MARV 6 54 seems to have referred to the same or at least a similar debt tablet involving Arbela province, but it is too damaged to reconstruct the details.

thought that the fact that this information had been written on a formal debt tablet was worth recording, even though the original debt tablet itself seems to have disappeared by the time he wrote. Again, the source tablet had become a part of the information. This makes good sense. A formal, bilateral document could be used to bring a lawsuit and force payment in a way that an informal note about a debt could not.

But the Agency did not confine its object oriented approach exclusively to formal debt notes. A number of complex accounting documents explicitly refer to a previous summary tablet on which they were based. Most commonly this was implied by labeling the new document as *tuppi* 2.KÁM.MA (see I.3), but we do also find one tablet explicitly referring to a *tuppi* 1.KÁM.MA (MARV 6 40). Significantly, all of these texts seem to involve long-term information storage. Two are tables dealing with payments at least a full year late (MARV 6 1+MARV 6 17, MARV 7 8). Another refers to two sets of irregular oil offerings made at least four months apart. The two remaining texts are debt summaries. One refers to debts going back several years (MARV 6 40), and the other is an update of a debt summary composed about half a year before (MARV 6 42). Here again, the use of an object oriented approach is eminently practical. It would have been very easy for data stored in multiple writing surfaces over long periods of time to become misplaced or otherwise lost. Compiling all the necessary information into a single summary tablet greatly reduced the danger of this. But, this compilation process meant that the summary document did not simply record all the information in it but also indicated that this was *all* the relevant information when it was compiled. Knowing this, the Agency need not scour its records for additional documentation from several months or even years earlier. Using an object oriented approach made it easy to retain this extra information, and we can hardly be surprised that the Agency did so.

We can actually go a bit further. As we argued at some length in I.3, a number of texts use the phrase *urkittu zakkūtu* to indicate that they contain all the relevant information to be found in the Agency's writing boards, which could therefore be erased and reused. This notation strongly favors an object oriented approach. First, it is an explicit indication that the resulting tablet contained all relevant information. As noted above, the fact that information on the tablet was complete was itself quite valuable and would encourage the use of an object oriented approach in any subsequent data manipulations.

Second, it implies that the writing boards had a binding force which could be cleared (*zakkû*). Indeed, the term used for this, *zakkû*, is the same term normally used to describe the clearing of legal obligations. It is attractive to understand this as meaning not just that all the individual pieces of relevant information had been extracted from the boards, but that the boards had been entirely eliminated as a useful locus of information for the matter at hand. To use programming terminology, one might say that the writing-board file was "closed."

We have one final indication of an object oriented approach. This is the fact that a tablet could be "cancelled" by drawing oblique lines across the text. We do actually find two instances where individual entries were cancelled (MARV 5 12: 21-23, MARV 6 48: 4-7), but most cases involved the lines being drawn across nearly the entire surface of the tablet. In these tablets, the implication seems to be that the entire tablet was no longer valid in some sense. This, of course, sounds very much like an object oriented approach, and in fact we find that the cancelled texts are quite similar to the other object oriented texts we have already seen. Three of them involved the accounts of the Agency's associated oil-presser, Mār-Āpie (MARV 7 32, MARV 7 78, MARV 7 79). The remaining texts are all sealed disbursement texts (MARV 5 6, MARV 6 19 + MARV 9 46, MARV 6 24, MARV 7 76, MARV 9 69). Moreover, all but the extremely damaged

MARV 9 69 can be clearly shown to have involved outsiders. We can nicely understand the cancellation, then, as referring to the status of the entire external transaction described in the texts. The exact meaning of the cancellation marks on each tablet is harder to explain, and what efforts we can make in that direction are best left to the text editions.²² What matters for us here is that the documents are all bilateral in some sense, and several are marked explicitly as formal with sealings.²³

Taking this all together, then, we find that the object oriented approach was used whenever a document contained more information than could be expressed by listing its individual entries. This could occur with formal debt notes, which had a legal power that could be used to collect on the sums they described. In the same way, summary tablets often indicated that the information they contained was complete. In the case of the writing boards, they could not be summarized by their contents at any one time because they always had the potential to be updated. To summarize the contents of a writing board it was necessary to put an end to the possibility of further revisions. Like a butterfly in a museum, it could only be displayed when no longer alive. Finally, when a text described a transaction with outsiders, it proved useful to tie the tablet to the transaction it described. A cancelled tablet indicated a cancelled transaction, whatever that might mean in a given case. Yet, when the tablets did not contain more information than their individual pieces of information, the direct approach proved simpler. Under most circumstances, this is what the Agency used.

²² Maul suggests that this was done to indicate that a debt had been repaid (2013: 568). This is possible with the exemplary text he cites, MARV 7 76, but it is difficult to generalize a coherent cancellation system from this.

²³ Based on the copies, MARV 5 21, MARV 5 41, MARV 9 97, and MARV 9 116 may have also been cancelled, but the marks may simply be fortuitous cracks. Collation is required to decide the matter.

3.4.2 Copying

Before we leave the topic, we should nuance the picture a bit. Regardless of whether it was using a direct or object-oriented approach, much of the data the Agency drew from particular tablets was encoded in the same way: the information was represented as a string of cuneiform characters. It is natural to wonder to what degree this string of characters, or the Akkadian wording underlying it, was treated as an essential part of the information. To answer this we must look at the instances of near verbatim copying that appear in the archive.

When it comes to the particular cuneiform characters used to represent information, it seems the Agency was quite flexible. There are often minor spelling variants between copies, as summarized in the following table:

Text	Original / Copy	
MARV 6 20: 6	Original	^m ŠEŠ- <i>la-a</i> -mur
MARV 7 48: 4	Copy	^m ŠEŠ- <i>la-^r</i> mur ^r
MARV 6 20: 7	Original	^m r ARAD ^r - <i>aš-šur</i>
MARV 7 48: 2	Copy	^m ARAD- ^d <i>a-šur</i>
MARV 6 20: 11	Original	UDU.SISKUR.MEŠ- <i>te</i>
MARV 7 48: 6	Copy	UDU. ^r SISKUR ^r .MEŠ
MARV 6 11: 5	Original	^m ARAD- <i>aš-šur</i>
MARV 7 48: 15	Copy	^m ARAD- ^d <i>a-šur</i>
MARV 1 11: 7	Original	^m ku- ^r ta-hu ^r
MARV 7 24: 11 ^r	Copy	^m ku- <i>ut</i> - ^r ta- ^r hu ^r
MARV 7 5: 11	Original	1 ^r DUG ^r . <i>šap-pu-tu</i>
MARV 6 42: 23	Copy	1 DUG. ŠAB
MARV 6 15: t.6	Original	^m AGRIG-IBILA-É.ŠÁR.RA
MARV 6 15: e.3	Copy	^m GIŠ.TUKUL- <i>ti</i> -IBILA-É.ŠÁR.RA
MARV 6 24: t.13	Original	^m siq-qi- ^d <i>a-šur-DIB</i> -bat
MARV 6 24: e.5	Copy	^m siq-qi- ^d <i>a-šur-^r</i> aš ^r -bat
MARV 6 86: t.17	Original	DUB.SAR
MARV 6 86: e.1 ^r	Copy	LÚ .[DUB]. ^r SAR ^r

Figure III.3-7: Variations in Copied Text

The scribes also regularly took liberties with large-scale syntax. This is clearest in the case of envelopes, where the copied text is often preceded by the phrase *tuppu ša* “tablet which . . .” which can force nouns into the genitive and verbs into the subjunctive. But we also find this in the small disbursement summary MARV 7 48, which consistently writes *u ’u* “grain” in the nominative case, even though its source documents put it in the accusative (MARV 6 11, MARV 6 20). Thus, it seems clear that the scribes were not especially attached to the exact spelling and grammar of any texts they copied, regardless of the data manipulation approach they were using.

If we look more closely, though, we once again see a neat distinction between direct and object oriented approaches. In the direct approach we find that, apart from minor spelling and grammar changes, information is copied over nearly verbatim. We only find two types of major changes. One is that the order of disbursements could sometimes be permuted as can be seen in the following table:

	Original Order	Order in MARV 7 48 Copy
MARV 6 20	Aššur-šuma-iddina Ahī-lāmur Urad-Aššur Aššur-taklāk	Urad-Aššur Aššur-šuma-iddina Ahī-lāmur Aššur-taklāk
MARV 6 11	Urad-Aššur Ahī-lāmur Aššur-šuma-iddina	Urad-Aššur Aššur-šuma-iddina Ahī-lāmur

Figure III.3-8: Reordering of Names in Copied Text

This new ordering for the names is also found in the other entries of MARV 7 48. Therefore, we can nicely explain the changes as an effort to make all the entries of the summary list their names in a consistent order, making the document as a whole rather easier to consult.

The other major change is that some details of the original text could be omitted. Thus MARV 6 20 is qualified as *nubattušu* “in the evening” while its copy in MARV 7 48 is not. Similarly, MARV 1 11 describes its transaction as happening *ina šearāte* “in the morning” while

its copy in MARV 7 24 does not. Such fine details were likely no longer relevant when the summaries were being composed, and so they were simply dropped.

In all this, a clear pattern emerges. If a scribe felt the need to copy a particular piece of information while using a direct approach, he normally replicated the Akkadian language in which it was coded quite closely. This is perhaps best explained as an economy of effort rather than a strict devotion to the written text. Thinking up a new way to phrase something takes effort and it is not a great challenge to remember a few lines exactly in one's short-term memory. Oftentimes the scribes were still willing to abandon the old phrasing, but if the new tablet needed to say essentially the same thing, it would often be easier to "cut and paste" the old wording than to rewrite the passage.

When we turn to instances of object-oriented approaches, we find that the link between information and its representation as Akkadian language are much looser. The summary texts MARV 7 5 and MARV 6 42 both refer to a debt of barley from Katmuhhu owed by a certain Uznānu the boatman. The version in MARV 7 5 mentions that the debt was reckoned with the open *50-qa sūtu*, but omits the name of Katmuhhu province, which is implied by a heading earlier in the text. The second version omits the measurement information, but adds in the province name. In MARV 1 73, Kulišhinaš's fruit payment is described simply as *azamru* "fruit" while the tablet specifies that the fruit payment was made of *mirqu*. The envelope also omitted the year of the obligation met, the Babylonian month equivalency, and two of the three men from Kulišhinaš who made the transfer, and it also neglected to state that the *šakin māte* Aššur-kētī-šēši had formalized the transaction. One might explain both of these sets of changes as condensing the entries, just as we saw in the direct approach.

However, if we look at other examples matters become more complicated. Sometimes the copy actually added information. In MARV 1 25 the outsiders in the transaction are described as *qēpūtu* “deputies” on the envelope but not the tablet. Likewise MARV 6 90+ added a Babylonian double date on its envelope not recorded on the tablet. In other texts the changes are more drastic. In MARV 6 24 quite a few phrases from the tablet were shifted around when the text was rewritten on the envelope. What is more, the envelope refers to the transaction as involving *iškārus* and grain taken from the house of Kiditê, while the tablet mentions neither Kiditê nor *iškārus*. Instead, it refers to the grain as coming from Šūdu province, which was not mentioned on the envelope. MARV 6 86 is equally striking. When discussing payment on a set of old arrears recorded in a formal debt document, the tablet refers only to the amount paid, and the envelope only to the amount outstanding.

Taking this together, then, there is no consistent pattern in how information would be copied in the object-oriented approach. Scribes could add or remove things seemingly at will. We can explain this somewhat prosaically. In order to write a copy of a text on an envelope one must first form the envelope around the tablet, making the original text invisible before the copy is even begun. This means that short of writing out an extra copy of the text on some other medium, the scribe would have to make his copy from memory. We can posit that our scribes generally did not go through the hassle of writing out an extra copy and most of the changes are in fact memory errors. Indeed, since copying precisely line-for-line was not an option anyway, it is not unreasonable to think that scribes felt freer to intentionally alter the text if a better way of saying something came to him the second time around. But in the debt summaries MARV 7 5 and MARV 6 42 there was no envelope, and though the entry for Uznānu the boatman in MARV 7 5 was only two lines long, the scribe did not copy it verbatim into MARV 6 42.

If we step back a bit, though, there is also a theoretical reason for such inexact copying. In an object-oriented approach, what mattered were the whole tablet and the transaction it described, not the individual components of it. Therefore the goal of copying the text was not so much to replicate all the information on the original tablet, but rather to produce another account of the whole transaction. If different aspects came to mind when this was done the result could be a rather different tablet.

In sum, then, scribes showed little regard for the exact spelling or grammatical context of their source material. When doing direct data manipulation they were prone to replicating the underlying Akkadian language. When using an object-oriented approach they were much more prone to make major changes when copying. Of course, there are only about a dozen instances of near verbatim copies in the published archive, so the sample size is too small to make these conclusions especially firm.

4 The sub-archives

Now that we draw near to the end of our study, we have had a chance to say a great deal about why the documents were made and about the Agency that made them. But all this relates to how the tablets functioned as part of a living archive. Our starting point was not a living archive, but one long dead. To return to the imagery of the introduction, we have spent this whole time wandering through a cemetery. We must now answer how these tablets reached their final resting place in a back storeroom of the Aššur temple.

Here the scrupulous records of the excavators give us an entry point. As was common practice in Middle Assyrian times, the *Gināu* Agency kept much of its archive in a collection of clay jars (Postgate 2003: 127-129). When the archive was discovered, many of the texts were associated with the remains of 10 jars (Pedersén 1985: 43). Thanks to the excavators' careful

numbering we are able to reconstruct most of the contents of these jars, which Pedersén has designated with the letters A, B, C, D, E, F, G, H, I, and K (1985: 43). In addition there were a number of texts near but not in the pots, which Pedersén designated as group L (1985: 43). Finally, Pedersén gave the designation M to those texts whose damaged excavation numbers did not allow them to be linked to any of the other sub-archives (1985: 43). Thus, we have at our disposal the information to investigate how the archive was organized when it was deposited.

As it turns out, reconstructing the archive's organization is exceptionally complicated. When one looks at the text grouped into each jar, there is little obvious pattern apart from one jar (M 4A), which contained a cache of old debt notes. Texts from entirely different genres and dated more than half a century apart are routinely found in a single pot. Adding to the confusion, only the jar containing M 4A was actually recovered intact; for the other jars one cannot be entirely certain that all the tablets found in their general area were originally in them (Freydank 2011: 434-435). Likely at least some of the tablets were indeed assigned to the wrong pot, and Freydank has cast doubt on the reliability of the find numbers as a whole, arguing that the tablets' contents must be the final authority in determining their original organization (2011: 434-435).

This line of reasoning, however, assumes the tablets were originally distributed among the jars in a well-organized manner, and we have good reason to doubt this was the case. On a theoretical level, records do not organize themselves. It takes a considerable amount of skilled labor to create and maintain a good filing system, and it is not hard to think that the Agency often did not have the resources to do so. A poorly organized archive would hardly be an anomaly in the history of government. Leonard White describes a particularly amusing case from the U.S. federal government where

"Two tons of General Land Office records were found in 1833 'deposited in the attic of the [Treasury] building, immediately under the roof, in the utmost confusion, in bundles arranged neither in chronological order, nor in the order of consecutive numbers.'" (White 1954: 545)²⁴

On a more concrete level, even in the case of those tablets found inside the intact jar A, while the bulk of tablets are debt notes from the reign of Ninurta-apil-Ekur or earlier, there is also a large disbursement text, evidently from the reign of Aššur-dān I (MARV 3 61) and a small disbursement text from the year Adad-apla-iddina (MARV 3 29) dating well into the reign of Tiglath-pileser I. Adding to the confusion, the jar bears the inscription *ša Šamaš-aha-ēreš mār Rīš-Marduk* "of Šamaš-aha-ēreš son of Rīš-Marduk," but the two names do not appear in any texts in the jar, or indeed anywhere else in the archive (Postgate 2013a: 91).²⁵ It would seem that a coherent archive of old debt notes was deposited in a re-purposed jar, picking up a few additional, unrelated texts in the process; that is, we are dealing with a secondary deposit. As we will see, if we assume the other jars were likewise secondary deposits and that similar activities took place in the transfer, we can create a workable model of how the tablets could end up distributed in the way the excavation numbers suggest.

Before we do this, though, we must look at what primary storage in the archive must have been like. Here our clearest information is the two remaining inscribed jars, which indicated what tablets were originally stored in them. They read:

Jar I: *bēt kanīkāte ša nikkassē ša šīrāšē ša bēt Aššur ša qāt Ezbu-līšer rab gināe ša bēt Aššur urad Tukulti-apil-Ešarra šarre danne šar kiššete šar māt Aššur* (Postgate 2013a: 91n.5)

²⁴ For a more general discussion of the poor level of much government record-keeping in Jacksonian America see White (1954: 544-548).

²⁵ There is a boatman of this name in MARV 9 95, but his father is given there as Urdī, and hence he must be a different person.

Container of the sealed documents of the accounts of the brewers of the Aššur temple, who are under the management of Ezbu-līšer the *gināu* supervisor of the Aššur temple, the servant of Tiglath-pileser I, mighty king, king of the world, king of the land of Assyria.

Jar B: *ša kakardinne u šāhite ša bēt Aššur ša qāt Ezbu-līšer rab gināe ša bēt Aššur urad Tukulti-apil-Ešarra šarre danne ša kiššete šar māt Aššur šippu ūm 20 līmu Ištu-Aššur-ašāmšu* (Postgate 2013a: 91n.6)

Of the *kakardinnu* and oil presser of the Aššur temple who are under the management of Ezbu-līšer the *gināu* supervisor of the Aššur temple, the servant of Tiglath-pileser I, the mighty king, king of the world, king of the land of Assyria I.20.Ištu-Aššur-ašāmšu .

We can derive from these two inscriptions two general principles for grouping texts. In the first inscription we find formal texts grouped by category and people involved, but evidently with less concern as to date. The particular texts in questions are probably large disbursement texts involving the brewing staff; none of those which survive are sealed, but other extant large disbursements were. Such an organizing principle would explain how the M 4A archive originated. A number of formal debt notes were kept together for a number of years. If one adds the caveat that old debt notes and accounts were normally destroyed when repaid or supplanted by a new account, it is not hard to see the same pot holding records of a particular type for a dozen years or more. When it was eventually decided to start a new jar, perhaps at the accession of a new *gināu* supervisor, one would end up with a group of texts like that which appears in M 4A. Indeed, that jar's main contents cut off in the year Pišqiya, the last year of the *gināu* supervisor Sîn-nādin-āle—and of the king Ninurta-apil-Ekur.

Interestingly, the inscribed jar I seems to have been repurposed since, despite the inscription, its published contents are rather short on sealed documents involving brewers. As the last documents in it come from what was likely Ezbu-līšer's last years as *gināu* supervisor (Appendix C), one can posit that on his retirement the old pot of sealed brewers' accounts was

cleaned out and those considered worthwhile were transferred to a new pot with the appropriate inscription while the old pot was repurposed to store some miscellaneous old documents. In effect, it is the other side of what must have happened when the M 4A archive was transferred into a re-purposed pot at the end of Šîn-nādin-āple's tenure.

The second inscribed jar refers to tablets involving particular people, the *kakardinu* and oil presser, at a certain date. One rather doubts the jar originally held tablets from only a single day. Rather, it probably was intended to give a *terminus post* or *ante quem* for the documents it contained. One suspects the jar was made to deal with the rather confusing array of documents produced during the first year of the *maddattu* crisis, which seems to have spilled over in to the first month of the year Ištu-Aššur-ašāmšu (III.3; MARV 5 57, MARV 7 58, MARV 7 67, MARV 8 88, MARV 9 50), and for which the date I.20.Ištu-Aššur-ašāmšu would be a nice *terminus ante quem*. Extrapolating from this inscription, it would seem that texts could be organized by largely chronological principles. Indeed, we find 112 tablets from ten consecutive months gathered together in a single pot in M 6 archive (Postgate 2003: 128). Note that, as with the other jar, few texts in jar B actually fit the description written on it. Only two involve an oil presser and none involve a *kakardinu*. What is more, there are at least six texts from several years after the given date, and also texts from more than a half century before it. It would seem that this jar too was repurposed.

Let us return to the archive as it was found. Aside from M 4A, none of the other sub-archives can be easily explained by the two storage methods suggested by the jar inscriptions. However, we can explain the sub-archives as the contents of a number of jars mixed together and redeposited into new jars as part of a general purge of the archive following Ezbu-līšer's retirement or death.

To work out what the contents of those original jars may have been, we need to develop some principles for reconstruction. First, the picture will be noisy on account of what we might term “stray texts.” Undoubtedly, in antiquity texts did not always end up in the right jar or any jar (e.g. sub-archive L), and as stated before, there is a good chance some of the tablets were associated with the wrong jar during the excavation. Hence, individual out-of-place texts should not give us too much concern.

The easiest source groups to spot are those that ended up largely in a single jar in the finished sorting. This is clearest for the eleven texts from the years Aššur-šuma-ēreš and Ninuaya that ended up in Jar I, comprising nearly half the jar’s known contents, and all but two of the texts from those years with preserved excavation numbers.²⁶ It is attractive to assume that a number of texts from these two years had been kept together for the few years between the end of the Ninuaya crisis and the purge which produced the final archive, and that they were simply slid into the repurposed pot I as a group.

We find something similar with texts from the period from the three-year period between the years Ištu-Aššur-ašāmšu and Šamaš-apla-ēreš. Seven texts from this period made their way into jar D, but only four can be linked to other jars. Again, it would seem that these were stored as a group and redeposited into the same jar. Interestingly, a number of other texts from this period ended up on the ground next to the tablets. Comparing the contents, one finds that the texts not in jars are small disbursements, receipts with tally marks, and a single large disbursement text, while those in jars include a wide variety of management and receipt documents. Thus, it would seem that the documents from these three years had been roughly

²⁶ The excavation number of MARV 6 12 puts it in jar E.

sorted and the important ones were put into jar D while the unimportant ones were simply left near the pots.

A version of this principle seems to have been in widespread use during the creation of the archive. Only one of the 51 tablets known to have been outside the pots was sealed. Since it is easy to see if a tablet has a seal and seals correlate with formality in most documents, it is not hard to think that the Agency made a concerted effort to get all sealed tablets into pots during the transfer.

Unfortunately for us, these two groups and M 4A were the only groups which the Agency put largely into a single pot. But, the situation is not hopeless. When transferring tablets to new pots, there would be little incentive to actively randomize the tablets, even if there was no active effort to preserve their order. If the tablets were transferred more than one at a time, we would expect clumps of them to end up in some pots while few or none ended up in others. Conversely, even if tablets were being moved individually, the position the pots happened to be in at the time a particular jar was being emptied would probably make it easier to put tablets in some pots than others. In either case, we would expect tablets from one jar to cluster in a few pots.

As a working premise, let us assume that the original jars were organized at least partially on chronological principles. We need postulate nothing stronger than that during a certain period of time many tablets were placed a single container for storage. This is quite simple to execute and reasonably convenient for short-term record keeping. Almost certainly the Agency used this procedure in some fashion, and indeed, the inscription on Jar B explicitly states that its contents were selected on chronological grounds. Now, if we take the tablets from Tiglath-pileser I's first twenty-three years and arrange them by sub-archive and year, we arrive at the following table:

Regnal Year	A	B	C	D	E	F	G	H	I	K	L	Total (including unplaced)
87.1			4		1	2	2	1	1			16
87.2				2		2					6	15
87.3				3	1					1	2	9
87.4				2								4
87.5			1	1	1		1			1		7
87.6			2	2	1		1		1	1		10
87.7		1	1		1		1					6
87.8		1	2	1	2	2					2	11
87.9		4	3	2	2	2	1				4	20
87.10												0
87.11												0
87.12			1						1		2	5
87.13					1	1					2	5
87.14			4	4	4	4			1	1	7	32
87.15					1					1		3
87.16												0
87.17			1	1	2						4	9
87.18												0
87.19					2							2
87.20		1				1			1			4
87.21	1											2
87.22					1	1			4			7
87.23									7			10

Figure III.3-9: Dated Texts from the Reign of Tiglath-Pileser I by Sub-archive

Certainly the picture is noisy, but it is not without some order. It certainly does not look random; a chi-squared test indicates that the probability of this distribution arising by chance from tablets randomly surviving in different amounts in different years is much less than 0.01.

In making sense of this picture, it will be best to start with the gaps. Years 10-11, 16, and 18 are not attested at all in the archive. We can nicely explain these gaps by assuming that the texts from those years were stored together in pots that for whatever reason did not get cleaned out during the purge. Assuming that these years were stored together as chronological groups in turn lets us divide up the remaining texts. It seems unlikely that the original chronological

orderings would skip full years. This leaves us with a minimum of four different chronological groups combined to form this part of the archive, covering year 1-9, 12-15, 17, and 19-23.

By examining the distribution of the texts into pots more closely we can improve this resolution. If tablets from two years were originally stored together, then, as we discussed above, we would expect them to have disproportionately ended up in the same pots in the final purge. So if we find texts from consecutive years in the same pot, it would favor that the texts from those years were originally stored together. To limit the confounding effects of the occasional stray tablet, we will begin by only looking at pots that contain at least two tablets from each of two consecutive years. Doing so, we can isolate coherent subgroups covering years 1-4, 8-9, and 22-23. Combining this with the larger groups already outlined above we arrive at the following chronological subgroups:

Subgroup	Years covered
i	87.1-4
ii	(87.5-7)
iii	87.8-9
iv	87.10-11
v	87.12-15
vi	87.16
vii	87.17
viii	87.18
ix	(87.19-21)
x	87.22-23

Figure III.3-10: Reconstruction of Original Subgroups

Strikingly, many of these can be tied to major administrative events in the archive. Groups i, ii, and iii each include one of the three great *maddattu* payments issued to the Agency during the *maddattu* crisis. Group v includes the chaotic personnel transition of the year Mudammeq-Bēl. Finally group x can be tied to the Ninuaya crisis.

This clustering raises a question. Why were the relatively uneventful years 16-18 each stored separately, while the years around major crises were often bundled together? As noted in the previous source chapters, crises tended to produce an inordinate amount of documentation, and this can provide the solution. During the crisis the Agency would need access to much of this documentation to keep track of all the irregular arrangements being made, and so it would have to keep them in short-term storage. However, once the crisis had wound down, the Agency would no longer need access to those texts. At the same time, the large volume of texts generated by the last crisis would take up much of the Agency's short-term storage space. Thus, it would make sense that the Agency would purge its short-term storage en masse when the crisis was over. In contrast, when affairs were more in order, the Agency could clean its short-term storage more regularly, producing smaller, more evenly distributed groups of texts.

One further reflection is in order. These post-crisis purges would involve a great deal of documents from the last years before the purge and a smattering of earlier documents that had found their way in. Agency officials may also have taken the opportunity to dispose of any additional texts lying around from earlier years not originally stored with the main cache of crisis texts. This process would yield the classic "dead archive curve," where the median tablet date is considerably closer to the end than the beginning of the period covered (Postgate 2013a: 85).

If we look at the documentation from the last regnal year of Aššur-rēša-iši I and the first two dozen regnal years of Tiglath-pileser I, we find that most of the texts can be formed into four reasonably clear dead archive curves with peaks during the first and third *maddattus*, the transition year Mudammeq-Bēl, and the Ninuaya crisis. Furthermore, in keeping the previous line of argument, these curves can be arranged so that no subgroup is split between more than one curve. The results of this decomposition are presented in the following graph:

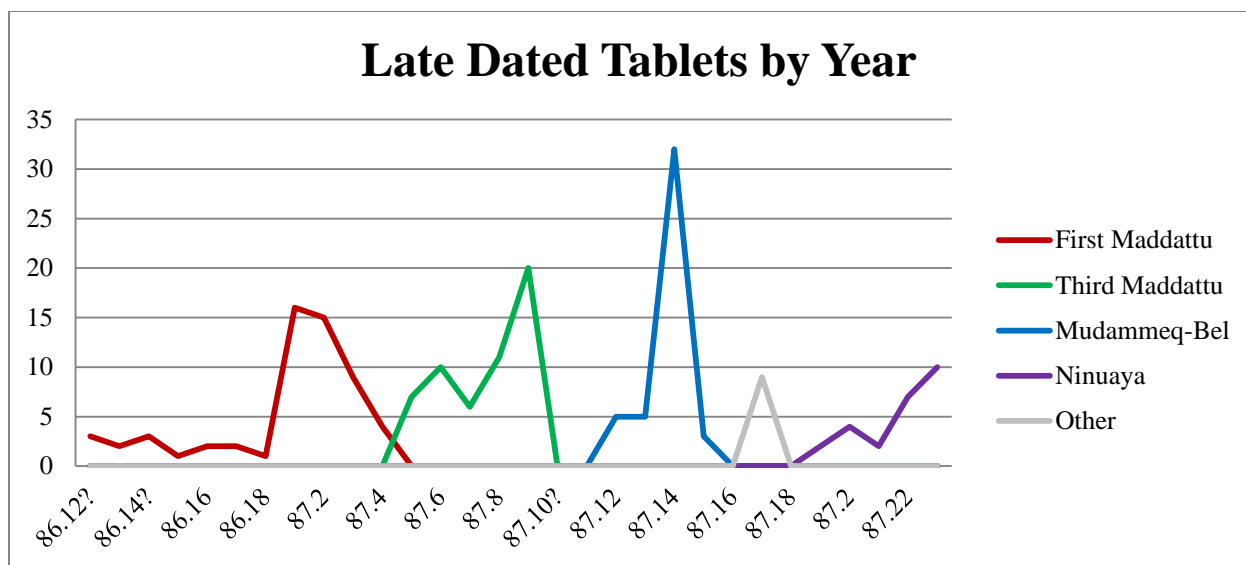


Figure III.3-11: Number of Dated Tablets by Year, Late Reign of Aššur-rēša-iši I and Reign of Tiglath-Pileser I

Unfortunately, our textual record is too meager and our understanding of the dating too poor to pursue this same sort of analysis for the reign of Aššur-dān I and the early reign of Aššur-rēša-iši I. However, we have enough texts from the reign of Ninurta-apil-Ekur to carry out a similar procedure. The attestations of particular years in a given sub-archive for his reign and the start of the next are summarized in the following table:

Regnal Year	A	B	C	D	E	F	G	H	I	K	L	Total (including unplaced)
81.5	1											2
82.1	1			1								2
82.2												0
82.3												0
82.4	4							2				6
82.5	1				1	1		1				4
82.6	1									1		2
82.7	1											2
82.8				1	3						1	7
82.9	2		1	2	1	1						6
82.10	2											2

Figure III.3-12: Dated Texts from the Reign of Ninurta-apil-Ekur by Sub-archive

82.11	3	1				1				2	7
82.12	4	1		1			1			1	9
82.13	1	1				2			1		8
83.1				1	1						3
83.2		1				1				1	5
83.3				1							2

Figure III.3-12 (cont.): Dated Texts from the Reign of Ninurta-apil-Ekur by Sub-archive

Since the total number of texts is much smaller than in Tiglath-pileser I's reign, we will relax the conditions a bit and take as evidence of an original subgroup any instance where tablets from consecutive years were stored in the same pot. If we do this, we arrive at linked groups in years (i) 81.5-82.1, (ii) 82.4-7 and (iii) 82.8-13. Once again, this fits nicely with the major administrative events of the period. The last group (iii) nicely overlaps with the start of the Liptānu crisis, which began in 82.8 and ran into Aššur-dān I's reign.

In addition, this time period also neatly fits with Sîn-nādin-āpe's tenure as *gināu* supervisor, which began in year 82.9 and seems to have ended sometime in the year 82.13. We can explain the grouping by assuming that he purged the Agency's files on arrival, keeping only the documents from his predecessor's last year (82.8) when the Liptānu crisis had begun. When he left office around the accession of Aššur-dān I, the records were again purged.

Moving earlier we find that the previous subgroup (ii) fits neatly with the tenure of the *gināu* supervisor Sîn-uballiṭ, who took office sometime midway through the year 82.4 and left office in 82.8. As some of the documents from year 82.4 explicitly mention his predecessor, Aba-lā-īde, it would seem that he too kept a number of documents from his predecessor's last year in office. Finally, group (i) fits nicely with the accession crisis. Although Aba-lā-īde held office before and after the crisis, it does not seem a stretch to think that he purged the archive after the crisis had resolved, just like Ezbu-līšer was to do several times over the course of Tiglath-pileser I's reign. The resulting dead archive decomposition is presented below:

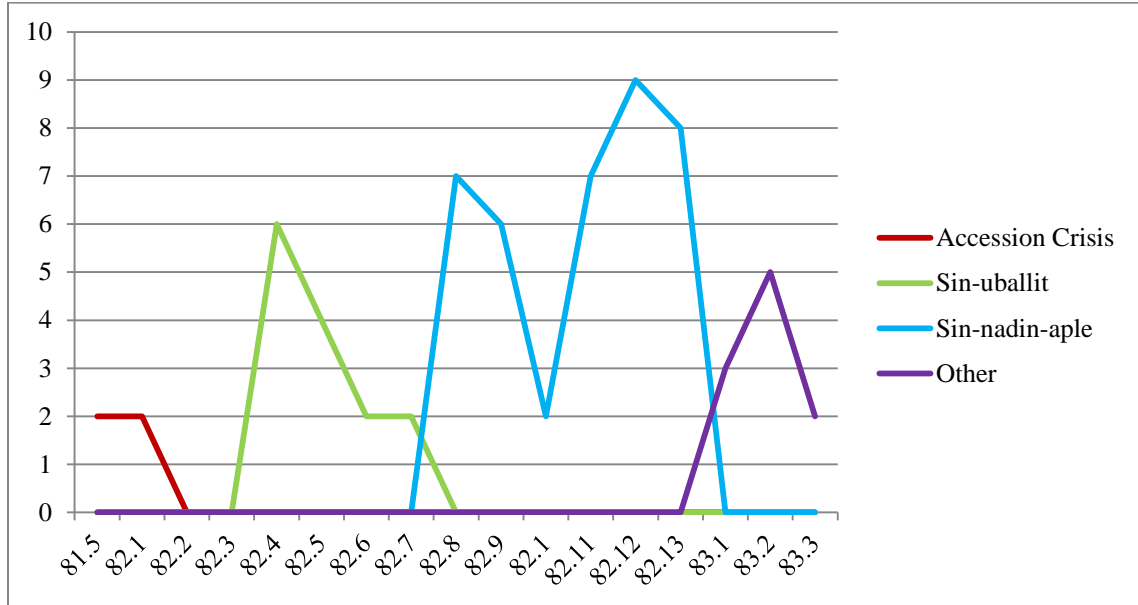


Figure III.3-13: Dated Tablets from the Reign of Ninurta-apil-Ekur and First Years of Aššur-dān I by Year

In sum then, the distribution of texts in our archive is not entirely random. Many of the tablets seem to have originally been sorted on chronological principles and sometimes by content as well, but that original order was lost long before they met their final end. Periodically the tablets were purged from short-term storage and redeposited in a long-term storage area. Most of these purges can be linked to major administrative events documented in the archive. At the end of Ezbu-līšer’s tenure it seems that the Agency decided to clean out this long term storage area and move the documents it wanted to retain to a more remote storage location in a back corner of the administrative compound attached to the Aššur temple. The particular space they settled on seems to have been a shallow depression which had formed by a wall midway up an old ramp (Pedersén 1985: 43). One pot of old debt notes, M 4A was simply moved to the new location, but the Agency was not so careful with the other texts. These were simply tossed by the handful

into—and next to—some spare pots in that location. Officials made a quick check to make sure the important sealed documents were all in pots and left to go about their business.

This was not quite the end. A few tablets continued to find their way into the archive in the next few years. Tablets from 87.24 (MARV 7 87) and 87.25 (MARV 8 46) were deposited during or shortly after the great purge. A few years later, in 87.32, two more stray tablets made their way in (MARV 6 77, MARV 10 85), but that was to be the end of it. The texts filed away in remote storage were largely ignored if not completely forgotten by the end of Tiglath-pileser I's reign.

5 Conclusions

In our discussion of the Agency's documentary system we have finished turning over the last stones. The model we have built up has incorporated every published tablet from the archive. This has served two purposes. First, it has limited the potential aggregate error in our reconstructions. The ways to interpret a single administrative text are nearly limitless, for a single text greatly underdetermines the circumstances which produced it. The ways to parsimoniously interpret 400 tablets are much fewer; there are far more constraints and so the model has less space in which to wander from reality. Of course, we still have no guarantee that the model is right in every detail, only a reasonable assurance that the total error of the model is less than if we examined the texts individually or in small groups.

In this last chapter we have looked closely at the formal debt notes and larger debt summaries which the Agency produced. These texts, with their stereotyped language and formal markings, come closest to the modern popular image of bureaucracy. Without systematic study it would be easy to assume the Agency's operations were awash in such red tape. Yet a close

investigation shows that this was not the case. Formal debt notes were not generally used to record regular operations, but rather breakdowns and divergences from regular practice. For a provincial governor or other official to end up on the wrong side of a formal debt note his debts normally had to be at least a year old, if not much older. If the Agency was lending supplies to outsiders as virement, it had a rather stronger incentive to draw up formal, bilateral documents, and we find a great many virement loans made by the Agency. Also, when contracting with third parties for services like oil pressing, the Agency often found the security of having a formal contract document on hand well worth the hassle of drawing one up.

Looking at the documentary system a bit more abstractly, we see patterns emerge. I have argued that the *alahhinus* and their children wrote most of the Agency's documents, although the *gināu* supervisor could write them as well. When the Agency had control over the timing and other properties of an action, it tended to wait until a convenient time to record it. However, when faced with arriving shipments, where timing and volume were almost entirely out of its control, the Agency often scrambled to produce documents as the cargo was unloaded and measured lest any crucial information be lost or distorted before it could be written down.

When they entered data, the Agency's members did not show an obsessive concern with precision for its own sake. For its regular operations it needed to know the precise volume of individual shipments, and the precise volume and timing of disbursements made to its executive staff, and in general this information is recorded precisely. With other information the Agency did not have the same need for precision. In these circumstances, we find examples of explicit rounding of volumes and account periods, and a formidable amount of uncaught mathematical errors in computing totals. The scribes were only as precise as they needed to be.

This same variable level of precision underpins the way the Agency manipulated data. Where a complete document implied information not obvious from a list of its individual entries, the Agency used an object oriented approach that recorded explicitly the sources of its information. Where the document did not offer such additional information, the Agency did not go through the hassle of recording its sources and directly extracted the data that it needed.

When it came to storing the documents the Agency may have been fairly precise initially, but the original groupings became distorted as the tablets were transferred into long-term and then remote storage. Therefore, how the documents finally ended up in and around ten pots in a back room of the Assyrian capital cannot be easily answered by an appeal to some obvious sorting system. It is instead periodic bouts of “housekeeping” following major administrative events that offer a workable model for how the archive reached its final resting place. The archive was not produced by any army of bureaucrats obsessed with formality, precision, and order. It was written by a handful of men who spent most of their time actually making offerings, not writing about them.

6 Numerical Appendix: Texts by year

The following table lists all the years in the archive which can be at least tentatively sequenced, and all tablets which can be dated to each year. In the cases where tablets contain dating information but the final date cannot be reconstructed with complete certainty, the last year mentioned on the tablet is assumed to be the year in which it was composed.

Regnal year	<i>Līmu</i>	Number of Texts	Texts
80.1	Aššur-nērārī III	0	
80.2	Salmānu-aha-iddina	1	MARV 1 56
80.3	PN	1	MARV 5 55
80.4-6	(Unsequenced)		
81.1	Enlil-kudurrī-ušur	0	
81.2-4	(Unsequenced)		
81.5	Haburrāru	2	MARV 3 34, MARV 9 17
82.1	Ninurta-apil-Ekur	2	MARV 3 26, MARV 5 35
82.2	Lab'u	0	
82.3	Aššur-šuma-iddina	0	
82.4	Saggiu	6	MARV 3 21, MARV 3 24, MARV 3 28, MARV 3 47, MARV 5 1, MARV 5 2
82.5	Bēr-nāšir	4	MARV 3 52, MARV 6 29, MARV 6 57, MARV 9 80
82.6	Uzibu	2	MARV 3 25, MARV 7 101
82.7	Marduk-šumu-līšer	2	MARV 3 22, MARV 9 24
82.8	Salmānu-zēra-iqīša	7	MARV 6 5, MARV 6 32, MARV 6 37, MARV 6 40, MARV 7 31, MARV 7 68, MARV 9 12
82.9	Liptānu	6	MARV 3 49, MARV 3 60, MARV 5 64, MARV 5 67, MARV 6 9+, MARV 6 21
82.10	Salmānu-šumu-līšer	2	MARV 3 14, MARV 3 31
82.11	Erīb-Aššur	7	MARV 32, MARV 3 38, MARV 3 51, MARV 5 51, MARV 6 42, MARV 7 5, MARV 7 92
82.12	Marduk-aha-ēreš	9	MARV 3 9, MARV 3 20, MARV 3 30, MARV 3 48, MARV 3 50, MARV 5 8, MARV 7 94, MARV 8 60, MARV 8 91
82.13	Pišqīya	8	KAJ 306a, MARV 3 6, MARV 3 42, MARV 5 10, MARV 5 66, MARV 7 71, MARV 7 73, MARV 9 21
83.1	Aššur-dān I	3	MARV 5 3, MARV 6 2, MARV 6 82
83.2	Ātamar-dēn-Aššur	5	MARV 5 5, MARV 5 12, MARV 7 52, MARV 7 65, MARV 7 82
83.3	Aššur-bēl-li'te	2	MARV 2 14, MARV 5 14
83.4-21	(Unsequenced)		
83.22 [?]	PN [?] (MARV 9 6)	1	MARV 9 6
83.23 [?]	Sikildu [?]	2	MARV 7 66, MARV 9 9
83.24 [?]	Aššur-iddina	1	MARV 5 14
83.25 [?]	x-Ninurta	0	

Figure III.3-14: Summary of Dated Texts By Year

83.26 [?]	Pa'uzu	3	MARV 2 21, MARV 7 93, MARV 9 1
83.27 [?]	Sāmidu	0	(A 854)
83.28 [?]	Da''ānī-Ninurta	2	MARV 6 39, MARV 9 19
83.29 [?]	Da''ānī-Ninurta (2)	1	MARV 6 66
83.30 [?]	Da''ānī-Ninurta (3)	2	MARV 5 18, MARV 6 73
83.31 [?]	Da''ānī-Ninurta (4)	0	
83.32 [?]	Da''ānī-Ninurta (5)	1	MARV 5 13
83.33 [?]	PN [?]	0	
83.34 [?]	Rīš-Aššur [?]	0	
83.35 [?]	Sarniqu [?]	1	MARV 6 16+
83.36 [?]	Habakar [?]	1	MARV 6 49+
83.37 [?]	Tāhulu	0	
83.38 [?]	Tāhulu (2)	1	MARV 6 65
83.39-45	(Unsequenced)		
83.46	Pišqīya / Aššur-šēzibanni	0	
84.1	Sîn-šēya	1	MARV 8 63
85.1	Mutakkil-Nusku	0	
86.1	Aššur-rēša-iši I	2	MARV 9 30, MARV 9 100
86.2-11	(Unsequenced)		
86.12 [?]	Aššur-šuma-ašbat	3	MARV 5 9, MARV 6 61, MARV 7 20
86.13 [?]	Aššur-kēna-šallim	2	MARV 5 21, MARV 7 61
86.14 [?]	Ninurta-ašarēd	3	MARV 6 14, MARV 6 71, MARV 7 79
86.15	Aššur-aplu-lēšir	1	MARV 8 56
86.16	Berê	2	MARV 5 7, MARV 6 55
86.17	Berê (2)	2	MARV 7 99, MARV 8 78
86.18	Berê (3) / Ninurta-nādin-apli	1	MARV 7 91
87.1	Tiglath-pileser I	16	MARV 1 49, MARV 1 70, MARV 1 73, MARV 2 2, MARV 6 15, MARV 6 69, MARV 6 70, MARV 6 80, MARV 7 4, MARV 7 7, MARV 7 74, MARV 8 79, MARV 8 87, MARV 9 42, MARV 9 49, MARV 9 108
87.2	Ištu-Aššur-ašāmšu	15	KAJ 302, MARV 1 21, MARV 5 57, MARV 6 52, MARV 6 88, MARV 7 22, MARV 7 42, MARV 7 46, MARV 7 58, MARV 7 59, MARV 7 67, MARV 8 13, MARV 8 50, MARV 8 88, MARV 9 23
87.3	Aššur-šallimšunu	9	MARV 6 3, MARV 6 22, MARV 6 23, MARV 7 36, MARV 7 53, MARV 7 62, MARV 7 98, MARV 8 92, MARV 9 81

Figure III.3-14 (cont.): Summary of Dated Texts By Year

87.4	Šamaš-apla-ēreš	4	MARV 6 26, MARV 6 86, MARV 7 50, MARV 9 95
87.5	Hiyašāyu	7	MARV 1 62, MARV 3 85+, MARV 5 42, MARV 6 1+, MARV 6 31, MARV 7 44, MARV 9 16
87.6	Ina-iliya-allak	10	MARV 2 24, MARV 3 36+, MARV 6 7, MARV 6 19+, MARV 6 24, MARV 6 67, MARV 7 3, MARV 7 29, MARV 9 14, MARV 9 115
87.7	Šadānayu	6	MARV 5 6, MARV 5 27, MARV 6 53, MARV 7 2, MARV 9 90, MARV 9 116
87.8	Aššur-mudammeq	11	MARV 5 16, MARV 5 26, MARV 5 50, MARV 5 68, MARV 6 4, MARV 6 68, MARV 6 84, MARV 6 89, MARV 7 47, MARV 8 12, MARV 9 69
87.9	Ibri-šarre	20	MARV 5 11, MARV 5 22, MARV 5 23, MARV 5 25, MARV 5 48, MARV 5 49, MARV 5 70, MARV 6 33, MARV 6 35+, MARV 6 41, MARV 6 60, MARV 6 73, MARV 6 76, MARV 7 21, MARV 7 40, MARV 7 80, MARV 7 96, MARV 7 97, MARV 8 6, MARV 8 8
87.10 [?]	Aššur-kētti-šēši	0	
87.11 [?]	Mutakkil-Aššur	0	
87.12	Mušēzib-Aššur	5	MARV 5 54, MARV 7 32, MARV 7 78, MARV 7 95, MARV 9 32
87.13	Ippitte	5	MARV 6 18, MARV 6 79, MARV 7 75, MARV 7 83, MARV 9 10
87.14	Mudammeq-Bēl	32	MARV 1 11, MARV 5 20, MARV 5 29, MARV 5 39, MARV 5 62, MARV 6 11, MARV 6 20, MARV 6 38, MARV 6 51, MARV 6 83, MARV 7 24, MARV 7 38, MARV 7 48, MARV 7 57, MARV 7 69, MARV 7 77, MARV 7 84, MARV 7 85, MARV 8 22, MARV 8 48, MARV 8 96, MARV 9 11, MARV 9 22, MARV 9 31, MARV 9 103, MARV 9 106, MARV 9 110, MARV 9 111, MARV 9 114, MARV 10 87, MARV 10 88, MARV 10 91
87.15	Aššur-apla-iqīša	3	MARV 6 36, MARV 7 90, MARV 9 104
87.16	Šahhutu	0	

Figure III.3-14 (cont.): Summary of Dated Texts By Year

87.17	Bēl-libūr	9	MARV 3 76, MARV 5 40, MARV 5 76, MARV 6 78, MARV 7 1, MARV 7 49, MARV 7 51, MARV 10 68, MARV 10 89
87.18	Nusku-ālik-pānī	0	
87.19	Aplaya	2	MARV 6 27, MARV 6 90+
87.20	Ninurta-aha-iddina	4	MARV 1 25, MARV 5 24, MARV 6 47, MARV 7 54
87.21	Adad-apla-iddina	2	MARV 3 29, MARV 8 59
87.22	Aššur-šuma-ēreš	7	MARV 5 43, MARV 5 65, MARV 6 12, MARV 6 72, MARV 6 81, MARV 7 12, MARV 7 70
87.23	Ninuaya	10	MARV 5 41, MARV 5 44, MARV 7 56, MARV 7 76, MARV 7 86, MARV 7 89, MARV 8 9, MARV 8 75, MARV 9 34, MARV 9 112

Figure III.3-14 (cont.): Summary of Dated Texts By Year

Conclusions

Sand makes them nervous.

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

*I placed a jar in Tennessee,
And round it was, upon a hill.
It made the slovenly wilderness
Surround that hill.*

*The wilderness rose up to it,
And sprawled around, no longer wild.
The jar was round upon the ground
And tall and of a port in air.*

*It took dominion everywhere.
The jar was gray and bare.
It did not give of bird or bush,
Like nothing else in Tennessee.*

-Wallace Stevens "Anecdote of the Jar"²

The men of the *Gināu* Agency knew little of the woods of Tennessee even if they could perhaps appreciate a good jar when they saw one. Yet, Stevens' image of a lone manufactured jar in the wild Tennessee woods neatly encapsulates what the members of the Agency did. Every day they struggled to produce a neat 400 loaves of bread with accompanying beer, honey, oil, and fruit. If they succeeded, the tidy numbers of a realized ideal would cast their shadow over the varied and chaotic numbers produced by the natural world. We might even say the Agency made order from chaos, but this obscures the point. The *gināu* offerings did not really make a chaotic world ordered. Rather they were a small piece of order placed, like a solitary jar, upon that world.

1 Exposition: major themes

¹ (Richardson 2004: 7)

² (Stevens 1990: 76)

As the previous chapters have shown, making that simple daily offering was an immensely complicated undertaking. This should not come as a surprise. The Assyrian state was attempting to impose its own order on nature, and it paid dearly for such hubris. Here we will briefly review this bewildering administrative complexity, keeping in mind three overarching explanatory themes.

The first point is ideology. The motivation for the *gināu* offering was surely ideological as Maul (2013) and many others before him have argued. Up to this point we have not dwelt on ideology though. This was intentional. For one, we have no texts that ruminate on the underlying ideology of the system. We must conjecture the ideology from the administrative actions it necessitated and this requires that we work out the administrative details first. Beyond that, though, ideology is a dangerous starting point. Knowing how the Assyrians thought their system worked and how they thought it ought to work is not the same as knowing how it actually worked. Now as we review our results, we are in a better position to reflect on the points where ideology has left a clear imprint on the Agency's activities.

Ideology is not the only thing we must keep in mind. Time and again in the previous chapters we have seen how the Agency struggled with risk and uncertainty and how the forces of chaos often gained the upper hand. Our Agency failed, and it did so frequently. We can hardly blame it. Contemporary societies devote enormous resources to ironing out uncertainty and are still subject to a great deal of risk. Without the aid of our staggering wealth surpluses and armies of statisticians the Assyrians could hardly fare much better. In many ways the story of the *Gināu* Agency is a story about the perils of uncertainty. Chance is our chief villain, and we must be ever on the lookout for his capricious hand.

The final theme is administrative cost. If the Agency would fight chance in the cause of some noble ideology, administration was the weapon it would have to use. But that weapon could be costly, and the Agency had profoundly limited resources. If it was to overcome risk even some of the time it had to allocate those resources very carefully.

2 Development

2.1 Income

In the first three chapters we looked at the Agency's income. As we saw in I.1, the Agency pulled its income in from the provinces by assigning each provincial governor a fixed annual quota of grain, honey, sesame, and fruit. The ultimate motivation for this was surely ideological. It would have been much simpler to supply the offering from state resources in the general vicinity of the capital where transport costs would be minimal or to ship supplies in from a handful of locations upstream on the Tigris. Arranging shipments from 27 separate provinces was hardly the most efficient way to supply an offering.

But, given that constraint, there was a certain administrative simplicity to how the Agency handled the problem. By assigning the liability for payments to individual governors, the Agency avoided having to directly manage producing or collecting the supplies it needed. Since the amounts were not excessively large it seems that the system of governors that was already in place was able to handle the Agency's requirements without serious issue.

Further simplifying matters, the roster of provinces which paid the *gināu* and the amounts that they paid remained essentially unchanged for the entire duration of the archive. This might have been ideological at its root, emphasizing the constancy and order of the Assyrian State, but it could just as easily have been the path of administrative least resistance. As we saw in the

discussion of the particular assessment values, there are clear patterns in the numbers that suggest that most of the quotas were assigned as part of a single systematic effort. There is even some reason to think that those numbers were based on state agricultural holdings in each region. Over time, though, whatever correlation there might have been between the assessments and the resources of particular provinces was greatly weakened, leading to some astonishingly delinquent provinces like Ša-ṣille and Šumēla being left on the rolls. It was, in all likelihood, just too costly to fix the rosters. The Agency would need to arrive at new capacity estimates for the provinces and, more importantly, it would probably have to secure the aid of the central government to impose the changes. Without any compelling reason to pay these costs, the Agency simply left the rosters as they were.

Simple as it might have been to keep in place, this fixed assessment scheme dealt very poorly with risk. As we saw, the amounts collected would just barely meet the expenses of supplying the *Gināu* offerings. What if there was a bad year and a province could not meet its assessment? Perhaps the original hope was that this risk would be handled by the governors, who—with the application of enough pressure—would find some way of coming up with the funds. But in practice this was not so, and much of risk inherent in pre-modern agriculture and transport was passed downstream to the Agency. It tried sometimes to shift liabilities to provincial officials other than the governors or enlist officials from the central government to pressure the governors, but these were hardly more successful. Therefore, without a surplus to buffer out the shortages that made it down the supply chain, the Agency struggled to ensure smooth operations. It had satisfied ideological concerns and administrative simplicity at the cost of assuming a grave amount of risk.

When it came to shipping the supplies, the Agency tried much the same approach. Rather than maintain its own fleet, the Agency and the governors liable to it made use of the pre-existing Middle Assyrian shipping network, sending what they could as supernumerary cargoes. This did not require a lot of administrative overhead, and involving a wide range of professionals in the offering process may have been an ideological bonus. But, using a large number of individuals with limited obligations and connections to the Agency was risky. It often failed, forcing the Agency to commission boatmen or even send its own personnel to ensure shipments arrived in a timely manner or at all. Again, the system achieved other goals at the expense of assuming risk.

Given the risk it assumed, it is perhaps not surprising that the Agency documented its income in a flexible manner. As we have seen most, incoming shipments seem to have been logged on writing boards, which, unlike a tablet, could be continuously updated to reflect unexpected events. These were supplemented by a range of informal receipt documents. Only when dealing with high officials did the Agency go to the trouble of composing formal receipts. However, to get sense of just how much income it had received and—more importantly—how much it might still extract, the Agency took to drawing up the distinctive large summary tables for which its archive has become most famous in contemporary scholarship. The tables encapsulate the ideological and administrative tidiness of the income system. At the same time, though, the unsettlingly high totals in the arrears tables make clear just how risky the whole enterprise was.

2.2 Expenditures

In the second section we looked at how the Agency spent what it received. As we saw in II.1, the Agency's core staff consisted of a fixed group of seven positions. The *gināu* supervisor

managed the enterprise, and below him were the three major *alahhinus*, the minor *alahhinu*, and the two brewers. Here we see the same neatness we find in the assessment system. There is even some reason to think that there were three major *alahhinus* because each was supposed to process exactly 100 *qa* of grain. If a third of the grain's volume was lost in milling, this would be just enough to provide the 200 *qa* of bread needed in the offering. But, as we saw in our discussion of milling, the actual loss figure was closer to 37%. This seems to have been solved by enlisting the minor *alahhinu* to process the additional bit of grain required and handle other issues that arose. It is fitting that one of the Agency's core positions can be seen as an ad hoc fix applied to an otherwise elegant system. In its day-to-day operations such short-term fixes and improvisations abounded.

As we saw, there was tremendous variation in when and how much grain these officials received. While we can work out that a major *alahhinu* received an average of 100 *qa* per day, and the minor *alahhinu* and brewers roughly half to three quarters of that, there is no standard number of days for which a disbursement might be issued. We find disbursements large enough to last for more than three quarters of a year and small enough to cover just the day on which they were issued. Trapped between its fickle supply chain and the fixed ideal offering size, the Agency's administrative practices became complicated and irregular.

Beneath its seven top officials the Agency also employed a mass of some fifty millers. It seems to have arranged for these millers to be sent in from all the major provinces, likely for the same ideological reasons it obtained its supplies in that way. But, when faced with shortages the Agency reduced the milling staff, and at least once during the Ninuaya crisis, seems to have eliminated it entirely. The Agency achieved some additional flexibility with its personnel by

contracting out its oil pressing needs to outsiders and, on occasion, employing outside bakers on some projects.

The composition of the offerings was a model of ideological elegance. For the entire duration of the archive the size of an ideal *gināu* offering remained the same. Surprisingly, this offering was relatively simple, eschewing the complicated delicacies we find in other Middle Assyrian offering texts like MARV 3 16. If the Agency was going to put on this offering day after day with its limited resources and personnel, then the offering's components could not be excessively complicated. Indeed, the Agency's resources were limited enough that the daily *gināu* was essentially the only offering it produced. Though there were major monthly feasts on days 5, 17, and 26, and annual festivals in Months IX and XII, the Agency's contribution to these was always just a full *gināu* offering. Few agencies in the Assyrian government could have had a more straightforward goal.

In documenting the Agency's expenditures, risk reigned supreme. When it had large reserves the Agency issued a few large disbursements which required minimal documentation and administrative effort. More often than not, though, it was living hand to mouth and had to issue frequent small disbursements designed to last for only a few days at a time. Any more and it would lose the fine-grained control it needed to keep its operations running smoothly. Indeed, even in its second order documents, the Agency's expenditures show a remarkable amount of variation. A whole range of ad hoc formats were devised for particular purposes and quickly abandoned. Perhaps most emblematic, though, is the varied group of texts that record reductions to the size of the finished offering. These are perhaps the clearest testament to the fact that the Agency could and did fail to achieve its goals. Sometimes ideology had to bend to practicalities.

Stepping back, the Agency's expenditures show an impressive level of administrative complexity in pursuit of a tantalizingly simple goal. If the Agency had been provided with a reliable income stream the process would have been straightforward and documents would have been simple and few. But, in the face of the risks to which the Agency was exposed and its unbending ideological goals, it was administrative simplicity which buckled.

2.3 Management

As we saw in the income section, the Agency's system for obtaining income exposed it to high levels of risk. At the cost of considerable complications in managing its expenditures the Agency was able to buffer much of this risk, but sometimes it simply failed. In III.1 we looked at the particular crises that afflicted the Agency. On one extreme, the Liptānu, Da'ānī-Ninurta and *maddattu* crises each lasted the better part of a decade and involved periods of crippling shortages. Other crises hit more briefly or with less severity, but still with noticeable impacts of the offerings that were ultimately produced. Indeed, in Tiglath-pileser I's reign when the picture is clearest, it seems that mediocrity was the norm, and rare were the times when an entirely complete *gināu* could be provided for months on end.

In III.2 we saw some of the overarching patterns in how the Agency dealt with crises. Its first line of defense was to seek out external sources of funding to buffer out shortages. Here it helped to have friends in high places, and we find the Agency frequently involved the *šakin māte* in its affairs during periods of crisis, though it might seek funds from other high officials or even the king himself. This was a natural extension of the web of informal virement payments and loans that helped the Agency and other entities in the capital buffer small cash-flow problems. When it worked this approach was reasonably simple to implement, but it proved to be only a short-term measure. If the crisis persisted, such officials quickly ran out of either spare grain,

goodwill or both and the Agency was left to scrounge what it could from other individuals. It might try to exert pressure on delinquent provinces or simply keep detailed records of what was owed it in the hope of future repayment, but neither activity seems to have been particularly effective. External consultants might even be attached to the Agency to help it put its affairs in order in troubled times, but there were limits to what they could do as well. In some of the Agency's darkest moments we find the *gināu* supervisor issuing massive quantities of his own grain to the Agency and the *alahhinus* taking out personal loans to keep the offerings going on a handful of feast days. At those times when the *gināu* stopped, risk and administrative desperation overwhelmed even the deepest ideological foundations of the Agency.

In III.3 we saw that the informal web of virement that offered the first line of defense against crises was often couched in formal debt notes. There is surely some irony that one of the most fluid and informal of the Agency's activities should lie behind one of the most standardized and formal text genres in our archive. Yet, despite the many ad hoc genres and text formats in our archive, when we consider it as a whole, a certain administrative simplicity emerges throughout. By and large the Agency only recorded information that it needed and then only with the precision necessary for the task at hand. Administrative convenience trumped any bureaucratic concern with documentary order. This point is writ large by the manner in which the documents were discovered. They were not carefully filed away in neatly sorted jars, but haphazardly shifted from location to location with stray tablets being lost and added throughout until they met their final end in a forgotten alcove next to an old stairwell.

3 Recapitulation

Perhaps in his time processing bond claims at The Hartford Wallace Stevens heard the old saying “What is always true about the assumptions in an actuary's model?—They are always

wrong.” The point of the saying is not that the models do not work (Stevens would have needed a different day job if they didn’t), but that there is always some error in models. Things like the observed mortality rate will never be exactly what was predicted, though it might be extremely close. We simply cannot predict the future with absolute precision. I would argue that we face much the same issue when it comes to studying the past. In the introduction we stated that our ultimate goal in this work was to explain why the texts of the M 4 archive ended up scattered among ten pots in a disused corner of the Aššur temple. By using a comprehensive nominalist model we have arrived at a plausible answer to that question. It was my goal that this should be the most reasonable model that could be constructed given the available data. That does not ensure that it is correct in every detail, but it should be hard for such a reconstruction stray too far from the truth. Happily, it will be possible to test this point in the future since a third of the archive remains almost entirely unpublished in Istanbul. To borrow terms from data science, the Berlin tablets were the training data, and the Istanbul texts will be the test data.

But why carry out this long and detailed study? It is hard to justify it on the grounds of better understanding the ideological foundations of the *gināu* offerings. Most of what can be said about that has already been said and our investigation, despite its bulk, has not added all that much resolution to the picture. Ideology tends to be amenable to studies based on small groups of carefully chosen texts. Where we break new ground is in the study of risk and administrative practice. To discuss how things might go wrong one must have some idea what normal operations looked like. Similarly, to understand administrative measures one must have some idea what challenges the administrators actually faced. As this work has shown, many phenomena that are essentially invisible at the level of individual texts and small sub archives come into clear focus when one has a large-scale model.

What is more, our conclusions on both topics run counter to ideas that are common in the study of administration in the Middle Assyrian kingdom. Perhaps the most striking issue is that studies almost never focus their attention on risk. Certainly scholars are aware that things do not always go as planned, and many have invoked the principle to explain individual texts. But it has largely lurked in notes and passing comments. There have been few, if any, synthetic discussions of how Middle Assyrian or other Mesopotamian institutions handled risk. As we have seen, risk pervaded most of the activities of the *Gināu* Agency, and many of its actions make little sense without it. One suspects our Agency was not the only institution to fight a long and often losing battle with chance.

When we turn to administrative activity the issues are less obvious. As we have seen, there has been a great deal of scholarship on how Middle Assyrian institutions worked and much of it has been quite insightful. Yet this scholarship has often had difficulty going beyond qualitative observations, and has often struggled to integrate numerical data effectively. In our own archive being armed with good estimates of the Agency's annual income and average daily expenditures allowed a host of obscure passages and activities to be brought into the light. We were also able to put clear bounds on the Agency's size and resources, and on the amount of documentation it produced. Gone are any vestiges of the archetypical "bureaucratic official" with his compulsive recording and the ill-defined notions of "complexity" or "sophistication." At the higher levels of resolution offered by our comprehensive model what we meet are instead real people trying to meet real challenges using the imperfect tools available to them.

Stepping back, one might say that the *Gināu* Agency was not founded on the rock of human systems and order. Foolish though it might seem it was built on the sands of unpredictable chance. To keep it standing on that shifting foundation required often heroic

administrative achievements. Yet, though the rain descended, and the floods came, and the winds blew, and beat upon that house, it did not fall. It somehow stood upon that hill despite it all. Perhaps the sand made them all nervous, but as long as there remained an Assyrian king there was a *gināu* offering in his ancestral capital. It was like nothing else in that kingdom—or in Tennessee.

APPENDICES

Appendix A: Chronology

*They think of the whole day
as sunset.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

One of the most active areas in Middle Assyrian research in recent decades has been chronology. This research has focused on two major issues. First, scholars have tried to develop a chronological sequence of the holders of the *līmu* office. Second, there has been a lively debate on whether the Middle Assyrian state used a purely lunar calendar, which would wander against the seasons, or somehow intercalated extra months to keep the calendar aligned with the solar year. We will discuss both issues in turn.

1 On sequencing *līmus*

It is important to know the chronological sequence of the *līmu* officials because the Assyrians referred to an individual calendar year by naming the official who held the office of *līmu* during it. Since a term of office as *līmu* corresponded neatly to a single calendar year, the name of the *līmu* could be treated as the name of the year without any great difficulty. The problem comes with putting these *līmus* in order. Working from the names alone it is far from obvious how this should be done. The Assyrians themselves kept the sequence straight by compiling lists of *līmus* in chronological order. We have recovered such documents from Old Assyrian and Neo-Assyrian times, but we have nothing like a full list for the Middle Assyrian period.

As a result, scholars have been forced to piece together the Middle Assyrian *līmu* sequence using internal evidence from various texts. Happily, great strides have been made in

¹ (Richardson 2004: 17).

this endeavor in recent years, and we now have workable eponym sequences for large chunks of the Middle Assyrian period. There is still debate on some finer points, but the general outline has become fairly clear.

Since chronology is not the focus of the present work, we will only weigh in on points directly relevant to the administrative history of the *Gināu* Agency. On two occasions our reconstruction involved proposing an order for previously unsequenced eponyms. We did this for a number of years in the middle of Aššur-dān I's reign (during the Da'ʾānī-Ninurta crisis), and for years 8-12 of Tiglath-pileser I (III.1). Otherwise we have used the eponym sequences furnished by Bloch (2012c) and Jeffers (2013) without comment. Where their reconstructions can be checked against internal evidence from the M 4 archive they fit quite nicely. However, to meaningfully weigh in on the accuracy of their work in other periods would take us much too far afield. For simplicity, we will follow their chronology in other periods as well, but this should not be taken as an endorsement for their positions where there is still disagreement in the scholarly community.

2 On intercalation in the Assyrian calendar

The second chronological issue is whether the Middle Assyrian state used a purely lunar calendar. Here a bit of background will be useful. The Mesopotamians insisted that each month should line up with exactly one lunar cycle, and that each calendar year should be composed of an integer number of months. The problem is that there are 12.37 lunar cycles in a solar year. If one uses a calendar year of 12 months, then it will be 10.87 days shorter than a solar year. If one uses a calendar year of 13 months, it will be 18.66 days longer. Throughout much of Mesopotamian history the solution was to use a default year of 12 lunar months and periodically

add an extra intercalary month to keep dates roughly aligned with the solar year. The question for us is did the Middle Assyrian kingdom use such an intercalation process, or were all their calendar years composed of 12 months?

If intercalation was used, then we can expect Assyrian dates to at least roughly correspond with seasons. If they did not, then Assyrian dates will have to be significantly modified to resolve seasonal phenomena since any given date would move 10.87 days earlier in the seasonal cycle every year. Given that much of our investigation is related to the annual agricultural cycle and hence the seasonal year, the matter is obviously of considerable importance. A great deal of scholarship has been devoted to answering this question, but an extended digression into the history of chronological scholarship on the Middle Assyrian period would take us too far afield. Fortunately, the history of the scholarship on the topic was recently summarized by Cancik-Kirschbaum and Johnson (2011-2012: 2-6).

Much of the discussion hinges on the interpretation of texts with “double dates” that give both an Assyrian and a Babylonian month name for a single calendar date. Since the present investigation of the M 4 archive has allowed us to reconstruct some of the administrative context of these dates, a short digression on this subject seems warranted.

In their recent work, Bloch (2012a) and Jeffers (2013: 159-211) have both argued that the double dates show the relation between the Assyrian and Babylonian calendars when the dated texts were composed. They were then able to show that the attested equivalences follow a pattern that is consistent with the Assyrian calendar losing 10.87 days each year. However, Cancik-Kirschbaum and Johnson have provided an interesting alternative suggestion. They argue that the dates reflect a separate Assyrian cultic calendar using Babylonian month names and need not correspond to the current date in use in Babylonia (2011-2012: 57). As we will see, what we

know of the larger administrative context fits very poorly with this suggestion and favors the reconstruction offered by Bloch and Jeffers.

Let us suppose that such a ritual calendar was indeed in use. The most logical place to use such dates would be in documents involving cultic activities that were conducted according to this calendar. Yet, among the 43 texts dealing with the actual offerings in the archive, not a single one has such a date. All are dated by the Assyrian calendar alone. Similarly, only 3 of the 123 small disbursement texts have equivalences, though dating by the cultic calendar would seem more convenient given that disbursements were not infrequently made to finance offerings on particular important days on the cultic calendar (II.2). In contrast, the least logical place to use a special cultic calendar would be in interactions with outsiders. If the Agency conducted its internal affairs using the Assyrian calendar rather than its special cultic calendar, it is reasonable to think that other agencies of the Assyrian government were equally or more disinclined to use the special cultic calendar. Presumably, then, they too used the Assyrian calendar in their internal affairs. But, if both the Agency and the outsiders were using the Assyrian calendar for their day-to-day operations, it would make little sense for them to include a cultic calendar when interacting with each other.

In contrast, this distribution would be quite logical if the Assyrian months are the cultic calendar and the Babylonian months reflect a civil calendar. We can posit the following scenario. During the reign of Tiglath-pileser I the transition to the new Babylonian calendar had begun but was incomplete. Given that the double dates tend to occur on more formal documents, it is not unreasonable to think that the civil calendar had been imposed from above. When left to their own devices, most agencies continued to use the old calendar to which they were accustomed,

but in formal situations the new calendar date was added in. This would fit generally with Jeffers' reconstruction of the transition to the Babylonian calendar (2013: 174-185).

Alternatively the Babylonian calendar could have been in active use among parts of the administration, in which case using double dates would be necessary to coordinate their activities. The fact that the portion of the great steward's archive (M 7) from this period used only Assyrian months argues against this, but our documentation from Tiglath-pileser I's reign does not cover a broad enough range of government agencies to entirely disprove the idea. It is not inconceivable that the last holdouts of the old calendar were in the capital. We could posit that the *Gināu* Agency interacted with a wide enough variety of provincial officials who used the new calendar that it was convenient to start using it in formal contexts. If the great steward's activities were generally confined to a more circumscribed portion of the kingdom, he may have felt less pressure to use the new calendar.

One might still argue that the Babylonian calendar was employed as part of a rota system for assigning provinces to make deliveries, as suggested by Cancik-Kirschbaum and Johnson (2011-2012: 48-51). This would explain why the double dates generally show up in contexts involving deliveries. Yet, the only potential evidence that such a rota existed is the damaged and cryptic text KAV 155, which cannot be clearly connected to the archive. Now, the text does use Babylonian month names, and it is true that all extant double dates from administrative texts are from M 4 (Cancik-Kirschbaum and Johnson 2011-2012: 49). However, that may be because the system was only adopted under Tiglath-pileser I, and the M 4 archive includes the vast majority of published texts dated to his reign. Furthermore, if we assume the new calendar was in widespread use in the provinces but not the capital, then the Agency's unique position of coordinating dozens of shipments to the capital from all over the kingdom would offer a

workable explanation of why only its scribes felt the need to use month equivalences on a regular basis.

The presence of a *mašennu* in KAV 155 does not prove the tablet came from M 4 either (*pace* Cancik-Kirschbaum and Johnson 2011-2012: 49) since men with this title did not regularly work for the Agency, and none with a name ending in –Ninurta is attested in the archive. Indeed, from the context, it seems likely that this is the name of an eponym. Also, lamentably, the text is both severely damaged and without parallel in the archive, which makes it hard to generalize about administrative practice from it, or indeed to be certain precisely what administrative action it described.

There are still other problems with the rota scheme, despite its elegance. First, the scheme leaves months IV, VI, VIII, and X unsupplied, yet we have evidence for the *gināu* being made in all these months. A bigger problem is that we know the individual provinces paid vastly different amounts of commodities. In the rota scheme presented by Cancik-Kirschbaum and Johnson, the amounts showing up in a given month would vary wildly. In particular, months IX and XII in this reconstruction would not have any grain supplied, since the scheme assigns to them only provinces that did not pay a grain assessment. On top of these objections, there is the fact that the datable texts describing deliveries from the archive do not appear to follow any such rota pattern. This suggests that the rota hypothesis must be abandoned, at least until clearer evidence of it can be found. Taking all this together, then, there is no good reason to think that the doubles dates were not an attempt to synchronize the Assyrian and Babylonian calendars.

If the double dates are indeed synchronisms, then the fact that the exact month equivalences vary dramatically over time would favor that the Assyrian calendar was not closely tied to the solar year like its Babylonian counterpart (Jeffers 2013: 385-389). This is exactly

what we would expect if the Middle Assyrian calendar was purely lunar and did not have intercalary months (Jeffers 2013: 385-389).

In addition to this line of reasoning, we should note that Cancik-Kirschbaum and Johnson's argument also relies strongly on a rather troubling assumption about Assyrian accounting practice. As discussed in III.3, their argument requires that the M 6 archive was assembled over an accounting period lasting exactly one calendar year. However, as we saw there, neat accounting periods of exactly one calendar year are quite rare in Assyrian accounting practice and a short messy account period of about half a year can better explain the temporal distribution of the M 6 tablets. If we add to this the arguments about the double dates and the other evidence adduced by Bloch and Jeffers, the case for a purely lunar Middle Assyrian calendar seems quite compelling. Therefore, I have used it without qualification throughout the dissertation.

This assumption does, unfortunately, require us to do some unpleasant calculations whenever we want to look closely at dates. If we assume that the Middle Assyrian kingdom did not add intercalary months, then each Assyrian calendar year would shift forward 10.87 days against the solar year. To tie particular Assyrian dates to seasonal phenomena we must have some way of accounting for this shift.

We can calculate this shift in the following way. Let us take an arbitrary Assyrian year. To make our calculations easier we will not treat this as a collection of a discreet number of days, but a continuum of time, measured in the unit of days. We will say that the year began at the start of I.1 having lasted 0 days and that by the end of the day I.1 it had lasted 1 day. By the end of the year it will have lasted 354.37 days, the length of 12 full lunar cycles. Our question is, if we move n years, how far will a particular moment in the Assyrian calendar have shifted

against some fixed point in the solar year? If we advance forward one lunar year of 354.37 days, we will have reached the same instant on the Assyrian calendar while 10.87 days still remain to reach the same point on the solar calendar. Therefore, for each year we advance forward, any given instant on the Assyrian calendar will occur 10.87 days earlier in the solar year. Conversely, for every year we go backwards, a fixed instant on the Assyrian calendar will fall 10.87 days later in the solar year.

We can restate this in the following way. Let us choose a particular instant p on the Assyrian calendar that in a particular year was equivalent to some instant d_p on the solar calendar. Then after n years have passed, our instant p will correspond to the moment d_{pn} in the solar calendar, which is given by the formula $d_{pn} = \text{mod}_{365.24}(d_p - 10.87n)$. Here we have added a mod function since instants 365.24 days apart occur at the same moment of their respective solar years. Thus we have a straightforward formula for calculating the shift.

As it turns out, the problem is not so much in deriving that formula, as finding a fixed point in the solar year on which to anchor it. Our best approach here is to use the double dated texts from our archive following the lead of Jeffers (2013: 384-390). These dates equate Assyrian months with Babylonian ones. Since the Babylonian calendar did intercalate, those Babylonian months should bear some relation to the solar year. Admittedly, this situation is not ideal. The Babylonian calendar kept in sync with the solar year by periodically adding a leap month. As a result, the drifting of the Assyrian calendar shows up in these dates as a series of discreet jumps rather than a more tractable continuous movement. What is more, based on comparative evidence we have some reason to think that the Babylonians may not have been entirely regular in when they inserted leap years, although their months did keep at least a rough equivalence with the solar year (see Cancik-Kirschbaum and Johnson 2011-2012: 37-38).

Under these circumstances, it seems overly optimistic to look for precise equivalencies between Assyrian days and the solar calendar (*pace* Bloch 2012a). Instead we will settle for matching months. Since the Babylonian months were generally seasonal, we will use them as a proxy for the solar calendar. For the reign of Tiglath-pileser I, we have the double dates to guide us in mapping Assyrian to Babylonian months in many years, and, indeed, the mechanics of this have already been worked out by Jeffers (2013: 384-390). The issue then is how to fill in the gaps and arrive at Babylonian equivalences for other years. We can model the month equivalencies numerically by computing the number of months by which the Babylonian calendar was ahead of the Assyrian, modulo 12. Thus, if Babylonian Month VIII was simultaneous with Assyrian Month IV, the shift would be +4. If Assyrian Month XII was simultaneous with Babylonian Month I, then the shift would be +1. For simplicity, in our high level calculations we will assume each Assyrian year had the same shift throughout. Strictly speaking, the shift would happen whenever a Babylonian leap month happened to be added, which would only occasionally line up with the start of the Assyrian year. But, the minor improvement in accuracy afforded by noting the exact month of the change seems outweighed by the cumbersomeness of dealing with fractional years in our calculations. Where our investigation requires such precision we will take account of the date of the shift, but otherwise we will content ourselves with using a single shift number for a whole year.

We can estimate the shift that occurred over n years by dividing the total number of days shifted against the solar year by the length of an average lunar month, 29.5 days. For simplicity we will also round the numbers down to the nearest full month. Putting all this together we find that for a given instant on the Assyrian calendar, a shift of n years will result in it being in a month m_{pn} months behind the current Babylonian month according to the formula:

$$m_{pn} = \left\lfloor \frac{\text{mod}_{365.24}(d_p - 10.87n)}{29.5} \right\rfloor$$

The final issue is to calibrate this formula by choosing a particular fixed point in the Assyrian calendar, p , and finding its corresponding date in the solar year, d_p . For our p we will take the start of the first full regnal year of Tiglath-pileser I. Now, we know that for that year and the three following it, the Babylonian months were shifted 5 months ahead of their Assyrian counterparts (see Jeffers 2013:385-386). If one is intercalating ideally, four months without an intercalation ought not to happen and in fact our formula intercalates too regularly for us to obtain such a sequence. However, if we take d_p to be 185, we find that our model matches perfectly every synchronism apart from Tiglath-pileser I's first year, for which the estimated shift is one higher than the attested value. In sum, then, for any Assyrian month that occurred n years after the first regnal year of Tiglath-pileser I, we can estimate its shift m_n (in months) using the formula $m_n = \left\lfloor \frac{\text{mod}_{365.24}(185 - 10.87n)}{29.5} \right\rfloor$. By assigning negative values of n to years before Tiglath-pileser I's first regnal year we can extend the formula to cover the entire Middle Assyrian period. The results of this procedure are summarized in the table at the end of the chapter².

In sum, then, this dissertation did not offer many new chronological results. This is to be expected; refining chronology was not one of the major goals of our investigation and much of the basic legwork was already done. Still, for some of the crisis reconstructions it was necessary to improve the existing eponym sequences. We did this on a small scale for Tiglath-pileser I's reign and on a much larger scale for the middle years of Aššur-dān I. Perhaps the biggest chronological result, though, was that so few new results were needed to carry out an

² As noted in II.2, there is some reason to think that intercalation was in fact used in Shalmaneser I's reign. Here we offer hypothetical shift values for his reign assuming that there was no intercalation. If there was intercalation, then the shift would have been roughly +5 for his entire reign.

investigation of this size. The eponym schemes offered by Bloch and Jeffers by and large fit with the reconstruction offered. Their reconstruction of the Assyrian calendar without intercalary months also proves to be a much better fit with the data from the M 4 archive than the intercalating calendar reconstructed by Cancik-Kirschbaum and Johnson. Hopefully the data in this dissertation will help scholarship on Middle Assyrian chronology come closer to settling these debates.

3 Table of Chronological Data

Regnal year	<i>līmu</i>	Source of <i>līmu</i> Sequence	Years after Tiglath-pileser I.1	Calculated Shift	Attested Shift
Shalmaneser I.1	Shalmaneser I	Bloch 2012c	-161	+3	
Shalmaneser I.2	Mušabšiu-Sebettu	Bloch 2012c	-160	+3	
Shalmaneser I.3	Šerrīya	Bloch 2012c	-159	+3	
Shalmaneser I.4	Aššur-kāšid	Bloch 2012c	-158	+2	
Shalmaneser I.5	Aššur-mušabši (son of Iddin-Mēr)	Bloch 2012c	-157	+2	
Shalmaneser I.6	Aššur-mušabši (son of Anu-mušallim)	Bloch 2012c	-156	+1	
Shalmaneser I.7	Qibi-Aššur (son of Šamaš-aha-iddina)	Bloch 2012c	-155	+1	
Shalmaneser I.8	Aššur-nādin-šumē	Bloch 2012c	-154	+1	
Shalmaneser I.9	Abī-ilī	Bloch 2012c	-153	+0	
Shalmaneser I.10	Aššur-ālik-pāni	Bloch 2012c	-152	+0	
Shalmaneser I.11	Mušallim-Aššur	Bloch 2012c	-151	+0	
Shalmaneser I.12	Ilī-qarrād [?]	Bloch 2012c	-150	+0	
Shalmaneser I.13	Qibi-Aššur (son of Šilli-Marduk)	Bloch 2012c	-149	+11	

Figure A-1: Summary of Middle Assyrian Chronological Data

Shalmaneser I.14	Ina-pī-Aššur-lišlim	Bloch 2012c	-148	+11	
Shalmaneser I.15	Adad-šamšī	Bloch 2012c	-147	+11	
Shalmaneser I.16	Kidin-Sîn	Bloch 2012c	-146	+10	
Shalmaneser I.17	Bēr-šumu-līšer	Bloch 2012c	-145	+10	
Shalmaneser I.18	Aššur-dammeq	Bloch 2012c	-144	+9	
Shalmaneser I.19	Ištar-ēreš	Bloch 2012c	-143	+9	
Shalmaneser I.20	Bēr-bēl-līte	Bloch 2012c	-142	+9	
Shalmaneser I.21	Lullāyu	Bloch 2012c	-141	+8	
Shalmaneser I.22	Aššur-da''issunu	Bloch 2012c	-140	+8	
Shalmaneser I.23	Rīš-Adad	Bloch 2012c	-139	+8	
Shalmaneser I.24	Aššur-kētti-īde	Bloch 2012c	-138	+7	
Shalmaneser I.25	Ekaltāyu	Bloch 2012c	-137	+7	
Shalmaneser I.26	Nabû-bēla-ušur	Bloch 2012c	-136	+6	
Shalmaneser I.27	Usāt-Marduk	Bloch 2012c	-135	+6	
Shalmaneser I.28	Ellil-ašarēd	Bloch 2012c	-134	+6	
Shalmaneser I.29	Ittabši-dēn-Aššur	Bloch 2012c	-133	+5	
Shalmaneser I.30	Ubru	Bloch 2012c	-132	+5	
Tukulti-ninurta I.1	Tukulti-Ninurta I	Bloch 2012c	-131	+5	
Tukulti-ninurta I.2	Qibi-Aššur (son of Ibašši-ilī)	Bloch 2012c	-130	+4	
Tukulti-ninurta I.3	Mušallim-Adad	Bloch 2012c	-129	+4	
Tukulti-ninurta I.4	Adad-bēl-gabbe	Bloch 2012c	-128	+4	
Tukulti-ninurta I.5	Šunu-qardū	Bloch 2012c	-127	+3	
Tukulti-ninurta I.6	Libūr-zānin-Aššur	Bloch 2012c	-126	+3	
Tukulti-ninurta I.7	Aššur-nādin-aple	Bloch 2012c	-125	+2	
Tukulti-ninurta I.8	Urad-ilānī	Bloch 2012c	-124	+2	
Tukulti-ninurta I.9	Adad-uma''i	Bloch 2012c	-123	+2	
Tukulti-ninurta I.10	Abattu (son of Adad-šamšī)	Bloch 2012c	-122	+1	
Tukulti-ninurta I.11	Abattu (son of Adad-šumu-līšer	Bloch 2012c	-121	+1	
Tukulti-ninurta I.12	Aššur-da''ān	Bloch 2012c	-120	+1	
Tukulti-ninurta I.13	Etel-pī-Aššur	Bloch 2012c	-119	+0	
Tukulti-ninurta I.14	Ušur-namkūr-šarre	Bloch 2012c	-118	+0	
Tukulti-ninurta I.15	Aššur-bēl-ilānī	Bloch 2012c	-117	+0	
Tukulti-ninurta I.16	Aššur-zēra-iddina	Bloch 2012c	-116	+11	
Tukulti-ninurta I.17	Bēr-nādin-aple	Bloch 2012c	-115	+11	
Tukulti-ninurta I.18	Ina-Aššur-šumī-ašbat	Bloch 2012c	-114	+11	

Figure A-1 (cont.): Summary of Middle Assyrian Chronological Data

Tukulti-ninurta I.19	Ninuaya	Bloch 2012c	-113	+10	
Tukulti-ninurta I.20	Adad-šamšī	Bloch 2012c	-112	+10	
Tukulti-ninurta I.21	Abī-ilī (son of Katiri)	Bloch 2012c	-111	+10	
Tukulti-ninurta I.22	Salmānu-šuma-ušur	Bloch 2012c	-110	+9	
Tukulti-ninurta I.23	Ellil-nādin-ape [?]	Bloch 2012c	-109	+9	
Tukulti-ninurta I.24	Ninurta-nādin-ape [?]	Bloch 2012c	-108	+8	
Tukulti-ninurta I.25	Kaštīliašu [?]	Bloch 2012c	-107	+8	
Tukulti-ninurta I.26	Bēr-išmanni [?]	Bloch 2012c	-106	+8	
Tukulti-ninurta I.27	Ilī-padâ	Bloch 2012c	-105	+7	
Tukulti-ninurta I.28			-104	+7	
Tukulti-ninurta I.29			-103	+7	
Tukulti-ninurta I.30			-102	+6	
Tukulti-ninurta I.31			-101	+6	
Tukulti-ninurta I.32			-100	+6	
Tukulti-ninurta I.33			-99	+5	
Tukulti-ninurta I.34			-98	+5	
Tukulti-ninurta I.35			-97	+4	
Tukulti-ninurta I.36			-96	+4	
Tukulti-ninurta I.37			-95	+4	
Aššur-nādin-ape.1	Aššur-nādin-ape I	Bloch 2013c	-94	+3	
Aššur-nādin-ape.2	Erīb-Sîn	Bloch 2013c	-93	+3	
Aššur-nādin-ape.3	Ubru	Bloch 2013c	-92	+3	
Aššur-nādin-ape.4			-91	+2	
Aššur-nerari III.1	Aššur-nērārī I	Bloch 2013c	-90	+2	
Aššur-nerari III.2	Salmānu-aha-iddina	MARV 1 56, MARV 5 55	-89	+1	
Aššur-nerari III.3			-88	+1	
Aššur-nerari III.4			-87	+1	
Aššur-nerari III.5			-86	+0	
Aššur-nerari III.6			-85	+0	
Enlil-kudurri-ušur.1	Enlil-kudurrī-ušur	Bloch 2013c	-84	+0	
Enlil-kudurri-ušur.2			-83	+0	
Enlil-kudurri-ušur.3			-82	+11	
Enlil-kudurri-ušur.4			-81	+11	
Enlil-kudurri-ušur.5	Haburrāru	Bloch 2013c	-80	+11	

Figure A-1 (cont.): Summary of Middle Assyrian Chronological Data

Ninurta-apil-Ekur.1	Ninurta-apil-Ekur	Bloch 2013c	-79	+10	
Ninurta-apil-Ekur.1	Lab'u	Bloch 2013c	-78	+10	
Ninurta-apil-Ekur.2	Aššur-šuma-iddina	Bloch 2013c	-77	+9	
Ninurta-apil-Ekur.3	Saggiu	Bloch 2013c	-76	+9	
Ninurta-apil-Ekur.4 [?]	Bēr-nāšir	Bloch 2013c, III.1	-75	+9	
Ninurta-apil-Ekur.5 [?]	Marduk-šumu-līšer	Bloch 2013c, III.1	-74	+8	
Ninurta-apil-Ekur.6 [?]	Uzibu	Bloch 2013c, III.1	-73	+8	
Ninurta-apil-Ekur.7	Salmānu-zēra-iqīša	Bloch 2013c, III.1	-72	+8	
Ninurta-apil-Ekur.8	Liptānu	Bloch 2013c, III.1	-71	+7	
Ninurta-apil-Ekur.9	Salmānu-šumu-līšer	Bloch 2013c	-70	+7	
Ninurta-apil-Ekur.10	Erīb-Aššur	Bloch 2013c	-69	+6	
Ninurta-apil-Ekur.11	Marduk-aha-ēreš	Bloch 2013c	-68	+6	
Ninurta-apil-Ekur.12	Pišqīya	Bloch 2013c	-67	+6	
Assur-dan I.1	Aššur-dān I	Bloch 2013c	-66	+5	
Assur-dan I.2	Atāmar-dēn-Aššur	III.1	-65	+5	
Assur-dan I.3	Aššur-bēl-li'te	III.1	-64	+5	
Assur-dan I.4			-63	+4	
Assur-dan I.5			-62	+4	
Assur-dan I.6			-61	+4	
Assur-dan I.7			-60	+3	
Assur-dan I.8			-59	+3	
Assur-dan I.9			-58	+2	
Assur-dan I.10			-57	+2	
Assur-dan I.11			-56	+2	
Assur-dan I.12			-55	+1	
Assur-dan I.13			-54	+1	
Assur-dan I.14			-53	+1	
Assur-dan I.15			-52	+0	
Assur-dan I.16			-51	+0	
Assur-dan I.17			-50	+0	
Assur-dan I.18			-49	+11	
Assur-dan I.19			-48	+11	
Assur-dan I.20			-47	+11	
Assur-dan I.21			-46	+10	
Assur-dan I.22 [?]	PN [?] (MARV 9 6)	III.1	-45	+10	
Assur-dan I.23 [?]	Sikildu [?]	III.1	-44	+10	
Assur-dan I.24 [?]	Aššur-iddina	III.1	-43	+9	
Assur-dan I.25 [?]	Rīš [?] -Ninurta	III.1	-42	+9	
Assur-dan I.26 [?]	Pa'uzu	III.1	-41	+9	

Figure A-1 (cont.): Summary of Middle Assyrian Chronological Data

Assur-dan I.27 [?]	Sāmidu	III.1	-40	+8	
Assur-dan I.28 [?]	Da''ānī-Ninurta	III.1	-39	+8	
Assur-dan I.29 [?]	Da''ānī-Ninurta (2)	III.1	-38	+7	
Assur-dan I.30 [?]	Da''ānī-Ninurta (3)	III.1	-37	+7	
Assur-dan I.31 [?]	Da''ānī-Ninurta (4)	III.1	-36	+7	
Assur-dan I.32 [?]	Da''ānī-Ninurta (5)	III.1	-35	+6	
Assur-dan I.33 [?]	PN [?]	III.1	-34	+6	
Assur-dan I.34 [?]	Rīš-Aššur [?]	III.1	-33	+6	
Assur-dan I.35 [?]	Sarniqu [?]	III.1	-32	+5	
Assur-dan I.36 [?]	Habakar [?]	III.1	-31	+5	
Assur-dan I.37 [?]	Tāhulu	III.1	-30	+4	
Assur-dan I.38 [?]	Tāhulu (2)	III.1	-29	+4	
Assur-dan I.39			-28	+4	
Assur-dan I.40			-27	+3	
Assur-dan I.41			-26	+3	
Assur-dan I.42			-25	+3	
Assur-dan I.43			-24	+2	
Assur-dan I.44			-23	+2	
Assur-dan I.45			-22	+2	
Assur-dan I.46	Pišqīya/ Aššur-šēzibanni	Bloch 2013c	-21	+1	
Ninurta-tukulti-Assur.1	Sîn-šēya	Bloch 2013c	-20	+1	
Mutakkil-Nusku.1			-19	+0	
Assur-resa-isi I.1			-18	+0	
Assur-resa-isi I.2			-17	+0	
Assur-resa-isi I.3			-16	+0	
Assur-resa-isi I.4			-15	+11	
Assur-resa-isi I.5			-14	+11	
Assur-resa-isi I.6			-13	+11	
Assur-resa-isi I.7			-12	+10	
Assur-resa-isi I.8			-11	+10	
Assur-resa-isi I.9			-10	+9	
Assur-resa-isi I.10			-9	+9	
Assur-resa-isi I.11			-8	+9	
Assur-resa-isi I.12			-7	+8	
Assur-resa-isi I.13			-6	+8	
Assur-resa-isi I.14			-5	+8	
Assur-resa-isi I.15			-4	+7	

Figure A-1 (cont.): Summary of Middle Assyrian Chronological Data

Assur-resa-isi I.16	Berê	Jeffers 2013	-3	+7	
Assur-resa-isi I.17	Berê (2)	Jeffers 2013	-2	+7	
Assur-resa-isi I.18	Berê (3) / Ninurta-nādin-apli	Jeffers 2013	-1	+6	
Tiglath-pileser I.1	Tilgath-pileser I	Jeffers 2013	0	+6	+5
Tiglath-pileser I.2	Ištu-Aššur-ašāmšu	Jeffers 2013	1	+5	+5
Tiglath-pileser I.3	Aššur-šallimšunu	Jeffers 2013	2	+5	
Tiglath-pileser I.4	Šamaš-apla-ēreš	Jeffers 2013	3	+5	+5
Tiglath-pileser I.5	Hiyašāyu	Jeffers 2013	4	+4	+4
Tiglath-pileser I.6	Ina-iliya-allak	Jeffers 2013	5	+4	+4
Tiglath-pileser I.7	Šadānayu	Jeffers 2013	6	+4	+4
Tiglath-pileser I.8	Aššur-mudammeq	Jeffers 2013, III.1	7	+3	
Tiglath-pileser I.9	Ibri-šarre	Jeffers 2013, III.1	8	+3	
Tiglath-pileser I.10 [?]	Aššur-kētti-šēši	Jeffers 2013, III.1	9	+2	
Tiglath-pileser I.11 [?]	Mutakkil-Aššur	Jeffers 2013, III.1	10	+2	
Tiglath-pileser I.12	Mušēzib-Aššur	Jeffers 2013, III.1	11	+2	
Tiglath-pileser I.13	Ippitte	Jeffers 2013	12	+1	
Tiglath-pileser I.14	Mudammeq-Bēl	Jeffers 2013	13	+1	
Tiglath-pileser I.15	Aššur-apla-iqīša	Jeffers 2013	14	+1	
Tiglath-pileser I.16	Šahhutu	Jeffers 2013	15	+0	
Tiglath-pileser I.17	Bēl-libūr	Jeffers 2013	16	+0	
Tiglath-pileser I.18	Nusku-ālik-pānī	Jeffers 2013	17	+0	
Tiglath-pileser I.19	Aplaya	Jeffers 2013	18	+11	+11
Tiglath-pileser I.20	Ninurta-aha-iddina	Jeffers 2013	19	+11	+11
Tiglath-pileser I.21	Adad-apla-iddina	Jeffers 2013	20	+11	
Tiglath-pileser I.22	Aššur-šuma-ēreš	Jeffers 2013	21	+10	+10
Tiglath-pileser I.23	Ninuaya	Jeffers 2013	22	+10	

Figure A-1 (cont.): Summary of Middle Assyrian Chronological Data

Appendix B: Metrology

*They are continually astonished
at the thousands of ways we have invented
to say I am dying.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

The M 4 archive has an impressive number of notes about measurement, usually of the form *ina sūte ša . . .* "by the *sūtu* of . . ." At first glance it would seem the Agency employed a truly formidable variety of different metrical systems and somehow used this bewildering mass of notes to keep the whole thing straight. Freydank suggested that there might be some chronological method in this madness (1991: 70-71), but he was unable to make much headway in sorting it out. Fortunately for us, it turns out that the complicated measurement terminology masks a fairly simple reality. As we will see, the Agency seems to have only used two basic measurement systems for volumes. It conducted most transactions with the *sūtu* "of the god's rations," likely equal to the *sūtu* of the *hiburnu* that was in widespread use throughout the Assyrian government. In addition, it occasionally used a *sūtu* which was 1.25 times this size when dealing with boatmen. Despite the limited number of metrological systems in use, the details of the actual measuring and storage process could vary considerably. As a result there could often be doubts about the reliability of particular measures or the particular individuals who would be liable if the measurements were found to be incorrect. As we will see, much of the remaining tangle of metrological terms was employed to sort out these fine details of liability.

1 Basic *sūtu* measures

¹ (Richardson 2004: 16).

1.1 The *sūtu* of the *gināu* and “of the god’s rations”

The vast majority of the texts in the archive do not specify the base *sūtu* used when giving volumes. This suggests that the base *sūtu* employed in these texts could be readily inferred from context. That is to say, there must have been some default *sūtu*, which we will call the “Agency standard” for convenience. Conceivably this could have changed over time, but the remarkable consistency in the *gināu* assessments (I.1) suggests that at least when it came to measuring its income, the Agency used the same base *sūtu* throughout the entire period covered by the archive. It would be reasonable to think the Agency used the same base *sūtu* for both income and expenditures, and indeed we have evidence of this. This is clearest in MARV 7 1, whose calculations involve both the Agency’s annual sesame income and daily sesame oil expenditures. The calculations require that the same base unit was used throughout the text, and hence that the same base unit was used for both income and expenditures. MARV 6 70 makes similar calculations with grain income and expenditures. More generally, if the Agency used different base measures for income and expenditures, one would expect a conversion calculation would show up at least once or twice in the published corpus of more than 400 documents. Taking all this together, then, we have good grounds for thinking the Agency used a single base measure, at least in texts where the measuring procedure is not specified. The question, then, is what was this base measure?

Here MARV 9 112 neatly provides the answer. The text opens with two grain quantities for which the base measure is not specified. The third entry refers to an amount that equaled 700 *qa* when measured by the *sūtu* of Mār-Āpie, but *ana 880 ina sūte ša kurummat ili ittūar* “turned to 880 *qa* (when measured) by the *sūtu* of the god’s rations” (5-6). What is more, this 880 *qa* figure is the one used to arrive at the text’s grand total. Therefore, the other unmarked

measurements in the text must also use the *sūtu* of the god's rations as their base unit.² As noted above, it seems that the same base unit was used for both income and expenditures throughout the duration of the archive. Hence, if the unmarked amounts in this text use the *sūtu* of the god's rations as their base unit, so should the other texts in the archive. One could hardly think of a more appropriate name for the Agency's standard measuring unit.

While the Agency could leave it unsaid that volumes were measured according to the *sūtu* of the god's rations, it often had to be explicit about its base unit when interacting with outsiders. Generally this occurs in the context of loans³, although it can also occur in summaries of deliveries (MARV 3 9, MARV 9 112).

There is one final complication. In a few instances one finds the term *sūtu ša gināe* “*sūtu* of the *gināu*,” which could potentially be another measure in regular use by the Agency.⁴ All three clear attestations of this measurement are confined to the period before the accession of Ninurta-apil-Ekur, whereas the references to the *sūtu* of the god's rations do not begin until after his accession. We could postulate that the Agency changed its base measure at the accession of this new ruler. Yet, the *Gināu* table MARV 7 27 would be in this earlier period, but it shows the same assessment values made in later tables when the *sūtu* of the god's rations was in use. It seems simpler to assume that the measure itself did not change, but only the term used to describe it. After all, it is not a stretch to think that the phrase “rations of the god” referred to the food of the *gināu* offering. In fact, in MARV 9 86 we find the phrase *ša kurummat ile* “of the

² The text also uses the “50 *qa sūtu*” for one entry. As discussed below, this term refers to a particular measurement practice using the base unit of the *sūtu* of the god's rations.

³ In loans: MARV 3 20, MARV 3 42, MARV 3 50, MARV 8 60

In summary texts dealing with loans: MARV 3 6, MARV 6 40, MARV 7 5

⁴ MARV 3 27, MARV 3 35, MARV 3 40

rations of the god” used to describe grain belonging to the Agency, rather than the more usual expression *ša gināe* “of the *gināu*.”

1.2 The boatman’s *sūtu*

Although the vast majority of texts in our archive used the Agency standard for their measurements, we do occasionally find another base *sūtu* in use. Here it is best to start again with MARV 9 112. That text gives a conversion factor, indicating that 700 *qa* by the measure of a certain Mār-Āpie equaled 880 *qa* by the Agency standard. This implies that his *sūtu* was 1.257 times the size of the Agency standard. The text gives further information on this particular transaction, noting *ina qāt malāhē ša endāte lā naṣṣū* “it was not taken from the hands of the boatmen of the *emittus*” (6-7). Hence, it would seem that a measure about 1.25 times the size of the Agency standard was being used to load certain boats.

It seems likely the “*sūtu* of 13 *qa*” that Mār-Āpie used in MARV 6 88 is just another way of referring to this base unit. Rather than write out 12.5 *qa* with the rather cumbersome Assyrian notation for fractional *qa*, the number was simply rounded to the nearest *qa*. In fact, we can use this to explain why the amount of grain measured, 300 *qa*, is not divisible by thirteen. If he were measuring with a 13-*qa sūtu* we could expect him to measure out an even number of *sūtu* and hence for the total to be divisible by 13 in the Agency *sūtu*.

Now, one might posit that the figure of 30 *sūtus* = 300 *qa* was measured in terms of the 13 *qa sūtu* and so would come out to 390 *qa* by the Agency standard, but the 300 *qa* number is added to measurements in the Agency standard to arrive at the total and so must be in that measurement system. However, if we assume the real measure was about 12.5 *qa*, then we can posit Mār-Āpie measured out an even 240 *qa* in his measurement system, which was converted by rough calculation to 300 *qa* in the Agency standard. Similarly, it does not seem a stretch to

think that the “*sūtu* of 12 *qa*” used by the boatmen Himsatēya refers to a measure of at least roughly the same size, but rounded down (MARV 8 3). While the numbers are damaged, here too we find the amounts appear to be in even 100 *qa* when measured by the Agency standard, something quite easy to arrive at with a 12.5-*qa* base unit, but quite challenging to get with a 12-*qa* base unit.

We also find boatmen using an unusually large *sūtu* again in MARV 9 95. Here the paid and unpaid obligations of a number of boatmen are summed to a total of 45170 *qa*. We are subsequently informed that 70000 *qa ana sūte šeherte ta’ur* “it turned into 70,000 *qa* in the small *sūtu*” (26). This indicates that the *sūtu* the boatmen were using was 1.550 times the size of the small *sūtu*. Now, we know from other sources that the *sūtu* of the *hiburnu* was equal to 1.25 small *sūtus* (Postgate forthcoming: 10). Hence, the boatmen’s *sūtu* was equal to about 1.24 *sūtu* of the *hiburnu*. Yet, the *sūtu* of Mār-Āpie was 1.257 times the size of an Agency *sūtu*, and the other 12-13 *qa sūtus* used by the boatmen seem to have been of similar size. Thus if we assume the large measure in MARV 9 95 was the same as that used in the other boatmen texts, we find that the Agency standard was 1.013 times the size of the *sūtu* of the *hiburnu*. It does not seem a stretch to think that this 1.3% difference was due to rounding errors and the like and that the *sūtus* were in fact of the same size. That is, the phrase “*sūtu* of the god’s rations” refers to one or several measuring vessels in the Agency’s control whose base unit was equal to the *sūtu* of the *hiburnu*. Indeed, this would nicely account for MARV 8 9’s cryptic reference to a measurement made *ina sūt hiburni alahhinē* “by the *sūtu* of the *hiburnu* of the *alahhinus*” (9-10). Even so, this line of argument is not strong enough to prove the point conclusively. Rather, it must be taken as the working model that most neatly accounts for the current evidence.

1.3 Other possible base measures

Before we leave the topic of different base units, we must look at a few remaining anomalous *sūtus*. First in MARV 8 66 we read about measurements made *ina sūte rabīte* “by the large *sūtu*” (obv. 4’). One suspects this is a name for the large base measure used by the boatmen, but the text is too damaged to prove this.

The second measure is the *sūtu ša endāte* “the *sūtu* of the *emittus*” in MARV 8 59. It is tempting to see this as a name for the boatmen’s *sūtu* or the Agency standard and neither of these can be ruled out. However, it is striking that at least two of the disbursements are 220 *qa*, a number divisible by 11. I would suggest that this refers to the same 11-*qa sūtu* evidently used in setting many of the *gināu* assessments. However, until we find more attestations this must remain purely speculative.

Finally, there is the curious text MARV 8 46. As discussed in more detail below, that text seems to have involved measurements built on a base *sūtu* of 11.72 *qa*. There may also be traces of a similar base *sūtu* of 11.87 *qa* in MARV 7 5, though this is more doubtful. Unfortunately, the number does not appear to have any neat numerical relation with one of the other known Assyrian *sūtus*. Why it was that size—and what it was called—must remain a mystery for the time being.

2 Methods of measuring

Based on the above arguments, we have good reason to think that the Agency used a single metrological system for most of its measuring, and only used one other base system with any frequency. That an institution tried to use one consistent measuring system for most of its metrological needs is hardly surprising. What is curious, though, is that many measures made in

this standard system are further qualified. In particular, we find amounts clearly measured by the Agency standard described as being measured by the “50-*qa sūtu*” and by the “across the hand *sūtu*.” As we will see, both these terms can be linked to the Agency’s habit of receiving and storing grain in 50-*qa* units.

2.1 The “*sūtu* of 50 *qa*”

Let us begin with the 50-*qa sūtu*. In MARV 9 112 one sum measured by this measure is added to figures in the Agency standard without conversion, indicating that the two shared the same base unit. One finds similar evidence in MARV 3 9 and MARV 6 40. Thus, if it is not redundant, the term cannot have been used simply to indicate capacity, but must refer to something about the measuring process. The simplest explanation is that the measuring was done with a 50-*qa* vessel, as suggested by Postgate (Postgate forthcoming: 13). Yet, a closer investigation suggests matters were slightly more complicated. It seems that the grain was not only measured in 50 *qa* increments, but that it was actually stored in units of 50 *qa* for long periods of time, as suggested by Maul (2013: 566). For convenience we will follow Maul’s terminology and call these 50-*qa* units “sacks,” without ruling out that the grain was kept in jars or some other sort of container (2013: 566). Certainly, it would be a convenient size for a sack of grain, since it is on the cusp of what an adult man can comfortably handle, and, as noted by Maul, one on either side of donkey would amount 100 *qa*, that is, one *emār* “donkey load” (2013: 566n.21). But this anticipates our results.

It is best to start with the issue of how exactly the Agency stored its grain. As we saw in II.1, the Agency generally kept its grain in a *nakkamtu* storehouse. This is, at first, quite surprising since the term *nakkamtu* in Middle Assyrian normally describes general-purpose warehouses used for non-edible goods rather than dedicated granaries (Faist and Llop 2012:

27n.50). If the *nakkamtu* was simply an empty storeroom and not a dedicated grain-storage structure, it would seem prudent to keep the grain in some sort of container rather than in an open pile on the floor where it could be ruined by vermin and moisture. Hence, the use of a *nakkamtu* storehouse for grain gives us reason to think that the Agency kept its grain in containers.

We can obtain more details about these containers from MARV 7 7. The first section of that text notes *8000 qa u'u ina sūte 50 qa pāniu ina bēt Aššur madid sīrāšū iṭṭaššū* “8000 *qa* was measured out previously by the 50-*qa sūtu* in the Aššur temple—the brewers took it” (1-3). The implication of this passage would seem to be that the grain was already measured when the brewers took it from the storehouse. The next sections also refer to disbursements. One of these was apparently measured when it was removed (4-8), but the other was also taken (*našāu*), having already been measured by the 50 *qa sūtu* (9-13). In the same vein, MARV 5 17 states *5450⁷ qa u'u ina sūt 50 qa madid ina Ša-sarrāte ūm 27 Urad-Kube imtadad* “5450⁷ *qa* of barley was measured by the 50 *qa sūtu* on VIII.27—Urad-Kūbe measured it” before describing a number of activities well into the following month (1-4). While it is less clear than MARV 7 7, again it looks like the Agency had a quantity of grain in storage which had already been measured using the 50 *qa sūtu*. These passages imply that the Agency had some way of storing grain in pre-measured amounts. Since those amounts were all measured by the 50-*qa sūtu*, one intuitive way to do this would be to put each 50-*qa* unit into a separate container as it was measured out.

This is not idle speculation. We have a number of texts in which a volume of grain is associated with a series of tally marks. As noted by Gaspa (2011a: 242), these are generally in the ratio of one mark per 50 *qa*. This is consistent with the Agency measuring grain into 50 *qa* units

and then counting the resulting total. In principle the grain in these text could already have been in 50 *qa* units on arrival, but MARV 9 16 includes both tally marks and the note *madid* “it was measured” (3). Hence at least some grain was genuinely being measured on arrival. On the other side, one might posit that grain was being measured out and then dumped into a large pile.

However, MARV 10 86 argues against this. This text describes a two-part shipment. One part was accompanied by tally marks in the usual equivalence of one mark per 50 *qa*. The other part had no tally marks at all. The total, however, was accompanied by tally marks made at the ratio of one per 250 *qa*. As noted in the edition of that text, we can see this as the Agency measuring one incoming shipment into 50-*qa* sacks and then combining it with another shipment that had already been measured into 50-*qa* units. For ease of counting these were then put into piles of five, which, of course, would require that the 50-*qa* units were not dumped out once measured.

Thus, on philological grounds, we have reason to think that the Agency kept grain in pre-measured units of 50 *qa*. A numerical analysis provides strong confirmation of this assumption. If the Agency were regularly storing grain in 50 *qa* units it would be convenient to make disbursements by simply counting out an integer number of these units. Hence, there should be a pronounced tendency for disbursements to be made in amounts divisible by 50 *qa*. In fact, a full 86% of disbursements to Agency staff and consultants were made in multiples of 50 *qa* (the data for this is presented in a table at the end of the chapter).

But we can take this one step further. While the Agency clearly re-measured some grain into 50-*qa* sacks on arrival, the shipped grain must also have been measured in some manner when it was loaded onto the boat. Under the right circumstances provincial authorities could conceivably spare the Agency the hassle of re-measuring arriving shipments by measuring grain into 50-*qa* units when they put it on a boat. As we noted above, MARV 10 86 seems to have

involved one shipment that was already measured into such units when the on-site measuring was conducted. In the same vein, MARV 8 13 records a shipment from Idu province with tally marks and the verb *madādu* “to measure,” but summarizes shipments from other provinces with the verb *mahāru* “to receive” and no tally marks. This again can be nicely explained by assuming that only the shipment from Idu was actually measured on arrival while the others came in pre-measured units. More generally, shipping texts like MARV 6 3 and MARV 8 74 often refer to arriving shipments that were received from particular boatmen and measured according to the *50-qa sūtu*, which could also be nicely explained as references to pre-measured grain.

MARV 1 25 appears to describe in some detail the practice of receiving grain in pre-measured units and the problems that could result from it. In that text, we find that a shipment of grain had been incorrectly packaged. As a result it contained a considerable amount of chaff and had only 84.5% of its nominal grain volume. The error was eventually uncovered by re-measuring a test sample of 100 *qa*, but this occurred only after the grain had been distributed, forcing the Agency to issue awkwardly sized supplementary payments to each official. If the grain was measured on arrival, the error would have become apparent long before the grain was issued and the nominal value of the disbursements presumably marked down to match reality. That the error was only caught after the disbursements were made suggests that the grain was not measured between when the shipment arrived and when it was disbursed. That is to say, the grain must have arrived in pre-measured units. As all the nominal disbursement values are multiples of 50 *qa*, our 50-*qa* sacks are an attractive candidate for those units.

Now, pre-measuring grain into standardized units might generate extra work for provincial authorities, and would require the Agency to have confidence in the accuracy of measurements it did not directly perform. Both can hardly be taken as givens, and so it is

reasonable to think that only a certain subset of provinces were in the habit of regularly sending pre-measured grain. The data bear this out and are summarized in the following table:

Province	Texts mentioning the “ <i>sūtu</i> of 50 <i>qa</i> ”	Other Texts
Arbela	MARV 6 86	
Kilizu	MARV 6 90, MARV 3 32	
Halahhu	MARV 6 10, MARV 6 77, MARV 6 88, MARV 8 66	
Idu	MARV 6 88 ⁷	MARV 1 25
Katmuhhu	MARV 6 3, MARV 6 88, MARV 7 5, MARV 3 14	
Šīme	MARV 3 44	
Kalhu	MARV 6 88	

Figure B-1: Texts Mentioning the *Sūtu* of 50 *Qa* by Province

We find references to the 50-*qa sūtu* concentrated in texts describing shipments from the northeastern and central provinces, with Halahhu and Katmuhhu by far the best attested. As we learn from texts like MARV 6 3 and MARV 6 88, these provinces could also pay in other ways, but they had the option of using pre-measured sacks. Indeed, the three provinces whose grain was simply listed as “received” in MARV 8 13 (Katmuhhu, Kalhu, Kilizu), are all among the provinces attested using pre-measured shipments. In contrast, the western province of Šūdu and the southern provinces which pay grain (Libbi-āle, Turšan, the Lower Province) never use the measure. Provinces that do not pay grain are never attested using the measure, but this is likely because the practice was only used with grain.

Taking this together, then, we can neatly account for the appearances of the *sūtu* of 50 *qa* as references to pre-measured units of 50 *qa* used both by the Agency and some of its suppliers. It did not involve a separate base unit. The 50 *qa* volume was reckoned by the Agency standard *sūtu*. However, there is one last complication. We find occasional references to grain *ša pī sūt 50 qa*, literally “which is of the ‘mouth’ of the 50-*qa sūtu*.” From the Akkadian alone it is far from obvious what this phrase might mean.

Since the word *pû* “mouth” can also have the sense of “opening” or “entrance” in Middle Assyrian, one might argue that the phrase refers to 50-*qa* units that had been opened. Indeed, MARV 7 7 refers to quantities of 780 *qa* and 70 *qa* that were measured by this unit. In the same vein, MARV 7 5 refers to an amount of 465 *qa* reckoned by this measurement. We could see this as the bags being opened to allow for disbursements in amounts that were not multiples of 50 *qa*. However, most other attestations of the phrase refer to amounts that were divisible by 50 *qa*. In fact, the two disbursements in MARV 7 7 also sum to 850 *qa*, and one might easily posit that the two recipients split a group of 17 50-*qa* sacks among themselves.

We get more traction by looking at a curious event from the Liptānu crisis. During the worst years of the crisis we find that a certain boatman named Uznānu was supposed to deliver grain from Katmuhhu province (MARV 3 14, MARV 6 42, MARV 7 5). Strikingly, the grain he was supposed to bring is described as being measured by the *sūtu ša pī 50 qa*. This is not an anomaly. MARV 3 44 also refers to an unpaid debt measured by this unit. Therefore, it would seem that this phrase could be used to describe grain that had never reached the Agency.

Here, it is useful to note that the phrase *ša pī* is often used in Middle Assyrian texts with the idiomatic meaning “according to the wording of” a document. I would suggest that the present phrase had a similar meaning and referred to grain that was ostensibly in 50-*qa* units, but whose exact volume the Agency was unable to verify. We can then nicely explain the two loans as referring to grain already measured into sacks that was awaiting delivery. In the case of Uznānu, the difficulties that had dragged Katmuhhu province into default at that time probably also prevented him from getting to the grain he was supposed to deliver. Similarly, the disbursements issued by this measure in MARV 7 7 were both made to outsiders. We can interpret the reference to mean that these outsiders were simply issued a certain number of sacks,

and that the Agency had not bothered to check if the sacks actually contained their nominal volume.

This interpretation would also explain a curious passage that states 8000 *qa u'u ina sūte ša pī 50 qa ša PN mār Ninurta-Mušallim lā iše''ala iṣabbat* “8000 *qa* of grain (measured) by the ‘mouth’ of the *sūtu* of 50 *qa*, of PN son of Ninurta-mušallim—he will not argue but will take it” (MARV 8 62: 2'-5'). We can hypothesize that the Agency was not entirely certain the nominal 50-*qa* units actually held 50 *qa* of grain. At this time the Agency evidently had more pressing problems and so the instructions were given to just take whatever was delivered regardless of its exact size.

The other occurrences of the ‘mouth of the 50-*qa sūtu*’ can be explained along the same lines. One passage in MARV 3 6 refers to grain belonging to outsiders which was measured by the ‘mouth’ of the *sūtu* of 50 *qa* (1-5), and we can posit that the grain was already measured into sacks when the outsiders delivered it to the Agency. In another passage we read 900 *qa ina sūte ša pī 50 qa ša Bēt Aššur kī qēme madid ša Aššur-mušēzib ina qāt Sîn-šumu-līšer ša Kār-Tukulti-Ninurta 3 alahhinū ana miṭrēšunu mahrū* “900 *qa* (of grain[?]) (when measured) by the *sūtu* of the ‘mouth’ of 50 *qa* of the Aššur temple—it was measured as flour; (it was the property) of Aššur-mušēzib; the three *alahhinus* received it via Sîn-šumu-līšer of Kār-Tukulti-Ninurta for their *miṭru* bread” (MARV 6 40: 7'-10'). One could understand this also as a reference to grain that had been measured offsite by its donor. However, this entry is part of a section whose total is given only in grain, and it seems preferable to understand this passage as a volume conversion. The amount was actually measured as flour since it had already be been milled outside the Agency. A conversion factor was then used to arrive at how many sacks of grain would have been required to make it. Finally, we might note that MARV 8 74 seems to give at least one equivalence

between the nominal volume of a shipment reckoned by the *sūtu ša pī 50-qa* and its actual volume, though this restoration is not entirely certain.⁵

As we noted above, there also seem to be examples of shipments arriving at the Agency in pre-measured amounts which are described as measured by the *50-qa sūtu* rather than by the “mouth” of that measure. This suggests that the issue is one of markedness. We can hypothesize that the *ša pī* terminology gave the Agency a way to explicitly mark the volume of pre-measured amounts as uncertain. Where volumes were certain because they had been tested or the source was trusted, there was no need to flag the volume as suspect.

2.2 *pirik ritte* “across the hand”

Now, if the Agency had a way to indicate that grain was stored and even received in *50-qa* sacks, it is reasonable to think that it had some other phrase to indicate that grain was not stored or transferred in such a sack. As it turns out, the term for this was *pirik ritte*.

As with any other metrological notation in Middle Assyrian, one might first wonder if it does not just refer to the base unit of yet another measurement system, but this idea does not hold up to scrutiny. On several occasions we find the phrase *pirik ritte* used to qualify a measurement whose base unit was already specified. For instance, we read, *ina sūte ša kurummat ile pirik ritte madid* by the *sūtu* of the god’s rations—it was measured *pirik ritte*” (MARV 3 42: 2-4) and *ša sūte ša kurummat ile pirik ritte* “of the *sūtu* of the god’s rations, *pirik ritte*” (MARV 8 60: 3-4). Similarly, we hear of sesame *ina sūt hiburni pirik ritte maddū* “by the *sūtu* of the *hiburnu*—it was measured *pirik ritte*” (MARV 3 60: 2-4).⁶ One could argue that the actual measurement was

⁵ The phrase also appears in damaged or otherwise laconic contexts in MARV 1 21:13, MARV 6 77: 7’, MARV 6 88: 39-40, and MARV 8 66: o.2’, o.7’, r.5’, r.10’, r.12’.

⁶ The phrase was also used with stated base measures in MARV 6 40, but damage to the text does not allow us to state what measure this was.

performed with one base measure but then converted to another mathematically, but this seems needlessly complicated. It seems simpler to assume that the term *pirik ritte* refers to something about the measuring process different from the base measure used.

A close philological look at the phrase supports this idea. Literally, the term *pirik ritte* should mean something like “across of the palm,” which is a rather strange way to talk about a measuring vessel. However, when pouring grain into a container, the grain could easily be understood to be flowing “across the hand.” This would imply that measurements described as *pirik ritte* were arrived at by actually pouring out grain into a measuring container and not simply counting pre-measured units.

In keeping with this idea, in at least two texts we find this phrase explicitly connected with actual measuring. In MARV 1 25 a sample of a shipment that had already been disbursed was measured *pirik ritte*, by which it was determined that it was considerably less than its nominal volume. Clearly grain was actually measured as part of this procedure since the nominal volume figures were found to be in error and had to be corrected.

A more complex situation occurs in MARV 8 46. There we find a number a small shipments arriving at the *Gināu* Agency, whose total volume is described as *ina sūte ša pirik ritte* “(measured) by the *sūtu* of the *pirik ritte*” (28). As argued in the edition of that text, most of these ships seem to have been loaded with grain measured in the same base unit, equal to about 11.7 *qa* in the Agency’s measuring system. Clearly the cargoes had been re-measured according to the Agency’s measuring system. In principle these could have been calculated using a conversion factor, but the figures suggest something messier. In particular, we find both 351 *qa* and 352 *qa* as the volume of 3 *sūtu* cargoes, depending on whether the Agency needed to divide the number by 3 in the text or not, and the total of the entries is 2 *qa* shy from the stated total.

What seems to have happened is that the grain was measured en masse and then roughly calculated values were assigned to the individual shipments. This explains why the total was not started in the blank space on the upper edge—the total was written first on the left edge to allow space for the entries to be added later, but the scribe slightly overestimated how much space he would need and ended with two blank lines. Excluding the last entry, which was measured according to a different system, we find that the incoming cargo had a volume of 25 *sūtu* in its original measuring system. Based on the total in the text, this would mean that each *sūtu* was exactly 11.72 *qa* in the Agency's measurement, a number that is rather difficult to work with in the Assyrian volume counting system where fractional *qa* were treated in base 8. Evidently the resulting 117.2 *qa* figures were rounded down, while the 224.4 *qa* and 351.6 *qa* figures were rounded up. However, the last figure was rounded down in those entries where the total needed to be divided by three, since 351 evenly divides by three. The results of this procedure did not quite add up to the total in the end, which is why the scribe felt the need to explicitly state that the total had been measured.

The other attestations of the phrase are less explicit about the measuring process, but show clear patterns. Many of the attestations occur in texts where the outsiders Siqqi-Aššur-ašbat and Aššur-baissunu provided the grain.⁷ This makes sense. Since these men did not normally work for the Agency, they may not have shared its habit of storing grain in easily distributed 50-*qa* units. Moreover, actually measuring the grain avoided both accusations of foul play and the administrative nightmare of fixing under-volume transactions between agencies, which was already challenging enough when dealing with the Agency's normal suppliers (MARV 1 25).

⁷ Siqqi-Aššur-ašbat: MARV 6 19, MARV 6 24, MARV 7 36.
Aššur-baissunu: MARV 6 81, MARV 7 86.

In other texts we find the phrase frequently used with grain shipments received by the Agency.⁸ It is also occasionally used with supplies leaving the Agency as loans to outsiders or payments on its own loans.⁹ Both contexts make sense. In the first the Agency made sure it has received the full amount due, and in the second its debtors made sure they were only repaying grain they actually borrowed.

2.3 Other *sūtu*s

Before we leave the topic of metrology there are a few remaining odds and ends to be tidied up.

2.3.1 The *sūtu* of the *hiburnu*

While the *sūtu* of the god's rations may have been the Agency's standard, we find a number of explicit references to the *sūtu* of the *hiburnu* in the archive. As we noted above, there is good reason to think this measure was the same size as the *sūtu* of the god's ration (Postgate forthcoming: 10). Though there was apparently no difference in absolute size, the two terms do not seem to have been entirely interchangeable. Now, based on our above discussion of the 50-*qa sūtu*, we might first try and explain the appearance of this term as describing the units in which the grain was stored. However, the loan MARV 3 60 describes a quantity of grain that was measured by the *hiburnu sūtu* with the added qualification that the measurement was made *pirik ritte*. The implication would seem to be that the *hiburnu sūtu* was actually used in the measuring process and not simply the unit in which the grain had already been measured, though one cannot rule entirely out that it was measured into *hiburnu* units.

⁸ MARV 1 21, MARV 2 24, MARV 6 3, MARV 6 40, MARV 6 88, MARV 8 46, MARV 9 14

⁹ MARV 3 42, MARV 3 60, MARV 6 80

MARV 8 29 also uses the phrase *pirik ritte* but it is too damaged to be entirely sure how to classify it.

Even so, we can model the distribution much better by assuming the choice of term is related to who measured the grain. In particular we can hypothesize that the phrase “by the *sūtu* of the *hiburnu*” was used to indicate that important outsiders had measured the grain themselves, rather than the Agency’s staff. In this vein, the Agency loaned supplies to a *rab sīrāšē* and a *šāqiu* by the *hiburnu sūtu* (MARV 3 39, MARV 3 47). While we can say little about the *rab sīrāšē*, we learn from events in the *maddattu* crisis that the *šāqiu* was a fairly important person in temple administration (see MARV 8 50). Similarly, the Agency made a loan by this measure to the *mušākilu* of Šamaš-aha-iddina at the latter’s order (MARV 9 86). It also made a loan cryptically described as *ana batiqti ša pūri ša Aššur-balāssu-ēreš* “for the cessation of the lot of Aššur-balāššu-ēreš” by this measure (MARV 3 37: 9-11). As a man of that name was *līmu* around that time, it would seem the transaction involved some fairly important people. This was also the measure used when the Agency repaid portions of a loan from the *rab ēkalle Sīn-ēreš*.¹⁰ Perhaps the most striking though is that a disbursement was made by the *sūtu* of the *hiburnu* to a *rab zammārē* at the explicit order of one of the king’s eunuchs.

Similarly, when the Agency received grain from irregular outside sources, it frequently described it as measured by the *sūtu* of the *hiburnu*. If the Agency was receiving a substantial sum from outsiders, it is not difficult to think that sometimes it was measured by the lender, particularly since officials with the resources to lend to the Agency tended to be rather important people. We find the measure used for an emergency flour loan the Agency took out via Siqqi-Aššur-ašbat (MARV 7 56) and another grain loan during the Ninuaya crisis (MARV 8 9). In the same vein, the enormous disbursements of grain made to the *alahhinus* by the *sūtu* of the *hiburnu* in MARV 6 48 during the *maddattu* crisis are almost certainly from an outside source,

¹⁰ Interestingly, the same official took out a small loan from the Agency measured by the *sūtu* of the god’s rations.

although the text itself is silent on the matter. Interestingly, when Aba-lā-īde bailed out the Agency with his own personal funds the payment he made was also described as being made with the *hiburnu sūtu*.

2.3.2 *sūtu* ša PN

Another group of metrological notations refer to measurements made by the *sūtu* of some named individual. As noted above, the *sūtu* of Mār-Āpie seems to have been another term for the 12.5 *qa* boatman's *sūtu* that appears from time to time in the archive (MARV 9 112). He evidently was not the only boatman to use his own *sūtu*. We also find references to the *sūtus* of the boatmen Šūzub-Marduk (MARV 6 3:13, MARV 8 74: 5-6), Kidinniya (MARV 6 3: 15), and Uppu-x (MARV 8 3:o. 3'). The "*sūtu* possessors" in MARV 6 88 and MARV 3 6 may also have been boatmen, although this is not certain. Presumably, if scribes simply wanted to specify that the larger boatman's *sūtu* was in use, they would have found some more convenient way than referring to each boatman's *sūtu* as a separate measure.

Happily, a curious dossier of documents involving the workmen of the Urad-Aššur offers a better explanation. In one version of the text we find that his milling staff *kī qāt Urad-Aššur-ma ina sūtēšūnu-ma mahrū* "received it [the grain] using their own *sūtu* as though via Urad-Aššur" (MARV 7 67: 7-9). As we learn from the parallel passages, his men took out this grain for *iškāru* work assignments (MARV 7 22: 14, MARV 5 57: 7). We can explain the incident as follows. Urad-Aššur was unavailable to make the disbursement to his work team, and so the team members took the grain themselves. Presumably the salient fact in all this was not the exact volume measure they used, but the fact that the measuring was done by people not on the executive staff. While it cannot be proven, we can understand the references to other *sūtus* of

particular individuals in the same way. The issue was not so much that the size of these varied from the Agency standard, though at least for Mār-Āpie it did. Rather the issue was the grain had been measured by someone unusual. By recording the name of the measurer, the Agency had a way of determining who was liable if deficiencies were discovered later down the line.

2.3.3 Kisittu

Before we leave the topic of measurements we should mention one last *sūtu*, the *sūtu ša kisitte*. As discussed in the edition of MARV 3 6, this phrase appears to indicate that the quantity was tied up in a package suitable for travel.

3 Conclusions

As we close our discussion of metrology, the picture is somewhat clearer. What at first appeared to be a staggering array of different measurement systems collapsed into a relatively small set of systems. As we have seen, the Agency conducted the vast majority of its business with a single standard *sūtu* “of the gods rations” which was likely equal to the *sūtu* of the *hiburnu* that was in widespread across the Middle Assyrian Kingdom. In some circumstances the Agency chose to give more detail about the measuring process. It could use the phrase by the *sūtu* of 50 *qa* to indicate that supplies had arrived in already measured into the 50 *qa* sacks the Agency used for day-to-day operations. It could also use the phrase “the across the hand (*pirik ritte*) *sūtu*” to indicate explicitly that supplies in question had actually been measured by the Agency staff.

In a few cases the Agency did genuinely use other measurement systems. The best attested of these were the large boatman’s *sūtu* which was 1.25 times as large as the Agency standard and the mysterious 11-*qa sūtu* that lurks behind many figures, but a few other systems

also left a small imprint in the Agency's records. The occasional appearance of non-standard measures is to be expected in an archive dealing with individuals from an area as large as the Middle Assyrian Kingdom. What is perhaps more remarkable is just how infrequently those non-standard measures actually appear. The Agency frequently could not make its offering at a fixed size, but it almost always made its measurements that way.

4 Table of completely preserved disbursements to Agency staff and consultants

The following table lists all instances in the archive where a disbursement was made to the Agency's staff or consultants and the exact amount of the disbursement is preserved. For the above investigation the salient detail is the exact amounts given rather than the recipient, and so only the amounts are given here.

Text	Amount (in <i>qa</i>)
MARV 1 11	1000
	700
	600
	626
MARV 1 25	1000
	1000
	1000
	1000
	400
MARV 3 6	200
	200
	500
	70
	230
MARV 3 29	1500
	1500
	1500
	500
	1080
MARV 3 76	200
	200
	200
MARV 5 6	10600
	10600
	10600
MARV 5 11	500
MARV 5 16	1010
	1010
	1010
	286
	700
	540
MARV 5 17	1575
MARV 5 18	200
	250
	200
	200

Figure B-2: Summary of Completely Preserved Disbursements to Agency Staff

MARV 5 21	100
	100
	100
	100
MARV 5 22	100
MARV 5 23	750
	700
	700
MARV 5 24	200
	200
	200
	100
MARV 5 25	200
	200
	200
	100
	200
	200
	200
	100
100	
MARV 5 28	700
	700
	700
MARV 5 29	400
	400
	400
	400
	300
	300
	300
	326
	300
	300
	300
	500
500	

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

	500
	200
	200
	400
MARV 5 40	21000
MARV 5 43	200
	100
	300
	300
MARV 5 48	100
	50
MARV 5 49	400
MARV 5 54	92
MARV 5 62	1734
MARV 5 65	300
	300
	210
	250
	100
MARV 5 76	200
	200
	200
	200
MARV 6 12	100
	100
	100
	100
MARV 6 15	140
	140
	140
MARV 6 18	800
	10

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 6 19+	400
	400
	400
	400
	400
	360
MARV 6 20	100
	100
	100
	50
MARV 6 23	500
	500
	500
	600
MARV 6 24	600
	600
	500
	400
	400
	300
	200
MARV 6 33	2000
	2000
	1500
	1500
	1500
	600
	600
	600
	300
	300
	300
	300
	300
	300
300	

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 6 36	100
	200
	200
	300
	100
	300
	200
	100
MARV 6 38	2700
	500
	600
	600
	500
MARV 6 48	22360
	22470
MARV 6 68	1610
	3750
MARV 6 69	400
	400
	400
	400
	400
	200
MARV 6 73	100
	100
	100
	100
	100
MARV 6 84	300
	300
	200
MARV 7 2	30822
MARV 7 7	8000
	4000
	3150

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 7 12	1000
	1000
	1000
	400
	400
	200
MARV 7 15	600
	200
	760
	650
	200
	300
MARV 7 19	5300
	600
	2100
	60
	1600
	700
	400
	300
	1000
	70
	4500
	70
	200
	1600
	80
	300
	300
	5400
	600
	400
	1800
1500	
750	
50	

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 7 20	700
	700
	700
	620
	340
	470
MARV 7 24	1000
	700
	600
	626
	2000
	1850
	1400
	1000
	1000
MARV 7 36	1000
	1000
	1000
MARV 7 40	200
	300
	300
MARV 7 43	200
	200
	100
	60
	40
	50
	30

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 7 48	100
	100
	100
	50
	50
	1500
	1000
	1000
	1000
	226
	200
	100
	200
MARV 7 53	200
	600
MARV 7 54	1200
	1200
	1200
	300

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 7 61	1100
	100
	100
	1000
	1000
	900
	900
	200
	400
	100
	100
	100
	190
	900
	900
	1910
400	
MARV 7 67	100
MARV 7 75	180
MARV 7 77	2850
	2820
	2850
	100
	20
MARV 7 84	200
	350
MARV 7 86	1090
	1000
	700
	700
	700
	400

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 7 96	1200
	1000
	1000
	1000
MARV 7 97	500
	400
	700
	400
	50
	100
	100
	100
	50
MARV 8 3	400
	300
	300
MARV 8 8	500
	500
	500
	500
MARV 8 9	100
	100
	100
MARV 8 12	400
	400
MARV 8 26	527
	515
	515
	540
MARV 8 29	700
	700
	700
	1300
	1300
	1300

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 8 48	200
	200
	200
	100
MARV 8 49	200
	200
	200
	100
MARV 8 62	2850
	3820
	1850
	1000
	1000
MARV 8 63	80
	100
	100
	80
	70
	70
	150
	150
	150
	150
	100
	100
	100
	100
	100
100	
MARV 8 75	200
	50
	20
	300
MARV 8 79	100
	100
	100

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

MARV 8 96	1800
MARV 9 8	2550
	1800
MARV 9 14	600
	600
	500
	300
	400
	400
	400
	400
	400
	500
	700
	4200
	4000
MARV 9 22	100
	100
	100
MARV 9 30	500
MARV 9 32	50
	50
	10
MARV 9 34	100
	100
	400
MARV 9 97	700
	700
	800
	600
	500
	500
MARV 9 103	200
	200
	200
MARV 9 104	200

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

	200
	200
	100
MARV 9 107	600
	600
	600
	528
	500
MARV 9 110	55
	11
	11
	11
MARV 9 114	200
	200
MARV 9 116	200
	200
	200
MARV 10 87	1850
	1500
	100
	200
	726
MARV 10 89	100
	100
	100
	80
Reculeau and Feller 2012 46	5500
Reculeau and Feller 2012 47	300
	200
	400
	100
	100
	300
	100
	200

Figure B-2 (cont.): Summary of Completely Preserved Disbursements to Agency Staff

Appendix C: Prosopography

*They have computed the human life span
to the nearest hundred years.*

-James Richardson, "The Encyclopedia of the Stones: A Pastoral"¹

1 Principles

Throughout this work we have had to make frequent reference to the individual members of the *Gināu* Agency, the offices they held, and the time during which they held them. However, showing that a particular individual held a particular office in the Agency at a particular time is often quite involved. This information was usually obvious to the members of the Agency, and so they rarely went out of their way to explicitly state it. To learn what our informants took for granted we must bring together and organize a large mass of laconic appearances of personal names and the occasional chatty digression about their activities. This appendix will do just that and arrive at a fleshed out prosopography of the members of the *Gināu* Agency.

Before we dive in though, we should reflect a moment on how best to go about this. Following the traditional practice in Assyriological works, we could compile dossiers on individuals and file them alphabetically or by profession. This would make life easier for someone wanting to know about a particular individual separate from the Agency as a whole. However, since virtually none of the individuals mentioned here appear outside the Agency's archive, there is little need to consider individuals in isolation. What matters for us is how the individuals participated in the Agency, and they mostly did this in groups. Hence, we will present most officials not as individuals but as teams who held the same office at the same time.

¹ (Richardson 2004: 9)

More specifically, we will use a layered approach, going through the teams active in a particular office over the course of the archive and then explaining their relationships with holders of offices already discussed. We will start with the heads of the Agency attested over time. Then we will move in sequence through the major *alahhinus*, the minor *alahhinu*, and the brewers.

In reconstructing the careers of these various individuals, the following principles are used. First, since the exact sequence of eponyms is often not clear and many texts do not have legible dates, there is some flexibility in how to arrange the various attestations chronologically. I have used the principle that attestations should be arranged to maximize continuity of office. That is to say, where possible we will minimize the number of times offices changed hands. For the time of Tiglath-pileser I this leads to a chronological reconstruction consistent with our other chronological evidence, as shown by Joshua Jeffers (2013), and similar results can be shown for the well sequenced texts of Ninurta-apil-Ekur's reign (see Bloch 2012c). Hence we have good reason to think offices were generally held for continuous periods of time and did not follow a rota scheme or some other complicated arrangement. Texts with damaged dates or no dates at all have been put into the framework of the dated texts using this principle.

A second issue is the appearance of the same name with different titles. When the titles are separated by a few decades it is reasonable to think the attestations refer to different people. However, we find the names Urad-Aššur and Urad-Gula both given the title *alahhinu* and brewer often only a few days or months apart. Now, the *alahhinus* of these names are both well-known personalities in the archive, while the brewers are non-entities. To reduce the total number of people in our reconstruction I have assumed that the two *alahhinus* occasionally served as ersatz brewers and received the title "brewer" when they did this. However, little of significance in the

reconstruction changes if we assume that on two occasions the Agency used the temporary services of an outside brewer who just so happened to have the same name as an *alahhinu* active in the Agency at that time.

For the reader's convenience the full reconstruction of the Agency's executive staff is summarized in the following table. The precise cutoffs between the tenures of various office holders are often quite difficult to pin down, and the exact arrangement in the table is only one possible reconstruction.

	<i>Gināu</i> Supervisor	Major <i>Alahhinus</i>	Minor <i>Alahhinu</i>	Brewers		
Early times	Aba-lāmur [?]	?	?	?		
Enlil-kudurrī-ušur.5	Aba-lā-īde	Team 1	Pa'usu			
Ninurta-apil-Ekur.1						
Ninurta-apil-Ekur.2						
Ninurta-apil-Ekur.3						
Ninurta-apil-Ekur.4						
Ninurta-apil-Ekur.5	Sîn-uballiṭ		Pa'usu [?]			
Ninurta-apil-Ekur.6						
Ninurta-apil-Ekur.7						
Ninurta-apil-Ekur.8						
Ninurta-apil-Ekur.9						
Ninurta-apil-Ekur.10	Sîn-nādin- aple		Team 1 [?]		Team 1	
Ninurta-apil-Ekur.12						
Ninurta-apil-Ekur.13	(Vacant [?])					
Aššur-dān I.1	Adad-iqīša [?]	Team 1 [?]		?		
Aššur-dān I.2						Adad-iqīša
Aššur-dān I.3						
Aššur-dān I.4						
Aššur-dān I.5						
Aššur-dān I.6						
Aššur-dān I.7						
Aššur-dān I.8						
Aššur-dān I.9						
Aššur-dān I.10						
Aššur-dān I.11						
Aššur-dān I.12						
Aššur-dān I.13						

Figure C-1: Summary of Agency Personnel Attested in the Archive

Aššur-dān I.14				
Aššur-dān I.15				
Aššur-dān I.16				
Aššur-dān I.17				
Aššur-dān I.18				
Aššur-dān I.19				
Aššur-dān I.20				
Aššur-dān I.21				
Aššur-dān I.22				
Aššur-dān I.23				
Aššur-dān I.24				
Aššur-dān I.25				
Aššur-dān I.26				
Aššur-dān I.27				
Aššur-dān I.28				
Aššur-dān I.29				
Aššur-dān I.30				
Aššur-dān I.31				
Aššur-dān I.32				
Aššur-dān I.33				
Aššur-dān I.34				
Aššur-dān I.35				
Aššur-dān I.36				
Aššur-dān I.37				
Aššur-dān I.38				
Aššur-dān I.39				
Aššur-dān I.40				
Aššur-dān I.41				
Aššur-dān I.42				
Aššur-dān I.43				
Aššur-dān I.44				
Aššur-dān I.45				
Aššur-dān I.46				
Ninurta-tukul-Aššur.1				
Mutakkil-Nusku.1				
Aššur-rēša-iši I.1				
Aššur-rēša-iši I.2				
Aššur-rēša-iši I.3				
Aššur-rēša-iši I.4				
Aššur-rēša-iši I.5				
Aššur-rēša-iši I.6				
Aššur-rēša-iši I.7				
Aššur-rēša-iši I.8				
	?			

Figure C-1 (cont.): Summary of Agency Personnel Attested in the Archive

Aššur-rēša-iši I.9				
Aššur-rēša-iši I.10				
Aššur-rēša-iši I.11				
Aššur-rēša-iši I.12				
Aššur-rēša-iši I.13			Nathāu	
Aššur-rēša-iši I.14	Ezbu-līšer	Team 4	?	Team 3
Aššur-rēša-iši I.15				
Aššur-rēša-iši I.16				
Aššur-rēša-iši I.17				
Aššur-rēša-iši I.18				
Tiglath-pileser I.1				
Tiglath-pileser I.2				
Tiglath-pileser I.3				
Tiglath-pileser I.4				
Tiglath-pileser I.5				
Tiglath-pileser I.6				
Tiglath-pileser I.7				
Tiglath-pileser I.8				
Tiglath-pileser I.9				
Tiglath-pileser I.10				
Tiglath-pileser I.11				
Tiglath-pileser I.12				
Tiglath-pileser I.13		Team 5		Team 4 [?]
Tiglath-pileser I.14				Team 4
Tiglath-pileser I.15	Ezbu-līšer [?]	Team 6	Aššur-taklāk [?]	Team 5
Tiglath-pileser I.16				
Tiglath-pileser I.17				
Tiglath-pileser I.18				
Tiglath-pileser I.19				
Tiglath-pileser I.20				
Tiglath-pileser I.21				
Tiglath-pileser I.22				
Tiglath-pileser I.23				

Figure C-1 (cont.): Summary of Agency Personnel Attested in the Archive

2 *Gināu* supervisor

We will start at the top of the pyramid with the *Gināu* supervisor. Only one man held this office at a time. The exact title of the office changed over time. In the earliest documents the

head of the Agency was referred to as the *ša muhhi gināe*.² During the reign of Ninurta-Apil-Ekur the phrase *rab gināe* came to be used alongside *ša muhhi gināe*, and by the accession of Aššur-dān I *rab gināe* was the only title in use. Interestingly, this change fits into what seems to be a larger trend of replacing titles of the form *ša muhhi X* with titles of the form *rab X* that took place throughout the Assyrian administration at that time.³

2.1 Aba-lāmur[?]

The earliest possible attested *gināu* supervisor is a certain Aba-lāmur who appears as the addressee of the letter MARV 6 43. As discussed in the edition of that text, if Aba-lāmur was a *gināu* supervisor, he must have held office sometime in the years before the accession of Ninurta-apil-Ekur. However, the name only appears in a single damaged text, and it is quite possible that the individual is actually the *gināu* supervisor Aba-lā-īde with the end of his name written rather sloppily.

² MARV 3 22, MARV 3 24, MARV 3 25, MARV 3 26, MARV 3 31, MARV 3 35, MARV 3 51, MARV 3 55, MARV 9 86.

³ The following table gives the attestations of other titles which can take the form “*ša muhhi X*” discussed in Jakob (2003):

Title	<i>ša muhhi</i>	<i>rab</i>
<i>āle/ālānē</i>	78.27-36 (MARV 1 14)	78.6 (KAJ 218) 78.23 (KAJ 107)
<i>bēt mugirrē</i>	87.5 (MARV 10 9)	none
<i>ēkalle</i>	82.12 (MARV 3 9)	<i>passim</i>
<i>ēmāre</i>	78.27-36 (MARV 1 9)	none

Figure C-2: Officials with the Title *ša muhhi X*

The transition is clearest with the title *ša muhhi ēkalle*, which gave way to *rab ēkalle* around the time of Ninurta-apil-Ekur. Likewise, the title *ša muhhi āle* is last attested in the reign of Tukulti-Ninurta. Although not listed in Jakob, MARV 7 98 and MARV 5 24 both indicate that the title of *rab ālānī* continued in regular use into the reign of Tiglath-pileser I.

2.2 Aba-lā-īde

At some time before the accession of Ninurta-apil-Ekur, Aba-lā-īde was installed as *gināu* supervisor. He held office until the start of the year Saggiu.⁴ Unfortunately, the years between the death of Tukultī-Ninurta I and the accession of Ninurta-apil-Ekur are not well sequenced. By simply counting eponyms from before Ninurta-apil-Ekur's accession we can work out that Aba-lā-īde held office for at least a decade, and he may have held office considerably longer than that.

I have tentatively broken down the unplaced eponyms from before Ninurta-apil-Ekur's accession into two groups based on whether Aba-lā-īde has the simple title *ša muhhi gināe* or some other title. Since he used the simple title *ša muhhi gināe* in Ninurta-apil-Ekur's reign, I have assumed that the texts using that title are closer to that king's accession and hence later than those where Aba-lā-īde held a different title, but this is quite speculative. The datable texts involving Aba-lā-īde are summarized below:

Text	Date	Reign	Title
MARV 3 39	I.16.Aššur-balāssu-ēreš	Before Ninurta-apil-Ekur (1)	<i>ša muhhi gināe ša bēt Aššur</i>
MARV 3 37	XII.2.Aššur-balāssu-ēreš		No title
MARV 3 27	X.1.Bēr-kēna-šallimmī		<i>ša muhhi gināe ša bēt Aššur</i>
MARV 3 41	III.4.Adad-bān-kala		<i>urad šarre</i>
MARV 3 55	I.12.Ibašši-ilī [?]	Before Ninurta-apil-Ekur (2)	[<i>ša muhhi gināe</i>]
MARV 9 86	V.4.Adad-rība		<i>ša muhhi gināe</i>
MARV 3 35	VI.29.Adad-rība		<i>ša muhhi gināe</i>
MARV 3 40	VI.29.Adad-rība		<i>ša muhhi gināe</i>
MARV 3 45	III.23.Adad-uma'’i		<i>ša muhhi gināe</i>
MARV 3 34	V.5.Haburrāru	Enlil-kudurrī-ušur.5	No title
MARV 3 26	XII.13.Ninurta-apil-Ekur [?]	Ninurta-apil-Ekur.1	<i>ša muhhi gināe</i>
MARV 3 28	IV.4.Saggiu	Ninurta-apil-Ekur.4	<i>ša muhhi gināe</i>

Figure C-3: Attestations of Aba-lā-īde

⁴ For a discussion of chronology of his tenure, and that of his successors Sîn-uballit and Sîn-nādin-āple see Bloch (2010a: 32-37).

2.3 Sîn-uballiṭ

Aba-lā-īde ended his tenure in the early months of the year Saggiu. He was replaced by a certain Sîn-uballiṭ.⁵ In contrast to Aba-lā-īde's tenure of more than a decade, Sîn-uballiṭ held office for only about five years. He left office right about the time the Liptānu crisis went into full swing. It is tempting to posit that the ill-starred *gināu* supervisor was dismissed for his failure to cope with the crisis, but this cannot be more than speculation. The datable texts where he appears are:

Text	Date	Reign	Title
MARV 3 47	X.9.Saggiu	Ninurta-apil-Ekur.4	<i>ša muhhi gināe</i>
MARV 3 21	X.11+x.Saggiu	Ninurta-apil-Ekur.4	<i>rab gināe ša bēt Aššur</i>
MARV 3 24	X.16.Saggiu	Ninurta-apil-Ekur.4	<i>ša muhhi gināe</i>
MARV 3 52	XII.1.Bēr-nāšir	Ninurta-apil-Ekur.5	<i>rab gināe</i>
MARV 3 25	VIII.5.Uzibu	Ninurta-apil-Ekur.6	<i>ša muhhi gināe</i>
MARV 3 22	IX.8.Marduk-šumu-līšer	Ninurta-apil-Ekur.7	<i>rab gināe</i>
MARV 3 60	IV.23 ⁷ .Liptānu	Ninurta-apil-Ekur.9	No title
MARV 3 49	X.x+6.Liptānu	Ninurta-apil-Ekur.9	<i>rab gināe</i>

Figure C-4: Attestations of Sîn-uballiṭ

2.4 Sîn-nādin-āple

As the Liptānu crisis went into full swing, Sîn-nādin-āple was appointed as *gināu* supervisor. We find him once referred to with the title of “brewer” in addition to “*gināu* supervisor” (MARV 3 48). It is tempting to view him as an internal appointment from the Agency's brewing staff (so Postgate 2013a: 121), but this is less workable than it might seem. As best we can tell, Aplaya and Ṭābiya held the Agency's two brewing posts throughout the reign of Ninurta-apil-Ekur, meaning that Sîn-nādin-āple cannot have been one of the Agency's regular brewers. He may have been a brewer in some other agency before taking office, or he may later have assumed the function of an ersatz brewer while in office.

⁵ On the chronology of his tenure see Bloch (2012c: 282-284).

His tenure was extremely short, lasting perhaps only three years, but it was quite eventful. For one, he introduced the practice of having contracts be witnessed by the god Kusarikku, which was to continue sporadically into the reign of Tiglath-pileser I more than half a century later. But, that was only the tip of the iceberg. His short tenure saw the nadir of the Agency's fortunes during the Liptānu crisis (III.1).

Perhaps to deal with the Agency's collapsing finances, we read about him setting out on a journey of some sort on VII.25.Marduk-aha-ēreš (MARV 3 9: 28-31). He apparently returned from this since he shows up as the creditor in a loan drawn up on XII.13.Marduk-aha-ēreš, but this might have been done by subordinates in his name. Regardless, we learn in MARV 5 12 that he had taken a formal tablet listing the arrears of Šīme province for the year Marduk-aha-ēreš, presumably at some point after the end of that calendar year and hence after the trip described in MARV 3 9. The context of that passage, written some years later, seems to imply that the tablet was lost on the journey. Evidently, Sīn-nādin-āple never reached Šīme, or at least never returned (see III.1). Given that the kingdom was then in throws of a large Mušku invasion (III.1), one might speculate that he lost his life at the hands of Mušku raiders, but this can hardly be proven.

The documents bearing on his short but eventful tenure are summarized below:

Text	Date	Reign	Title
MARV 3 31	II.22.Salmānu-šumu-lēšir	Ninurta-apil-Ekur.10	<i>ša muhhi gināe</i>
MARV 3 14	V.17.Salmānu-šumu-līšer	Ninurta-apil-Ekur.10	<i>rab gināe</i>
MARV 3 51	VI.19.Erība-Aššur	Ninurta-apil-Ekur.11	<i>ša muhhi gināe</i>
MARV 7 92	XI.x.Erība-Aššur	Ninurta-apil-Ekur.11	<i>rab gināe</i>
MARV 3 20	x.18.Marduk-aha-ēreš	Ninurta-apil-Ekur.12	<i>rab gināe</i>
MARV 8 60	VII.9.Marduk-aha-ēreš	Ninurta-apil-Ekur.12	<i>rab gināe</i>
MARV 3 48	XI.19.Marduk-apla-ēreš	Ninurta-apil-Ekur.12	<i>sīrāšû rab gināe</i>
MARV 3 50	XII.13.Marduk-aha-ēreš	Ninurta-apil-Ekur.12	<i>rab gināe</i>

Figure C-5: Attestations of Sīn-nādin-āple

2.5 Adad-iqīša

In the year following Sîn-nādin-ape's disappearance, Pišqīya, our texts do not mention a *gināu* supervisor, and it is quite possible that the office laid vacant for an interval after that. However, by Month II of the year Ātamar-dēn-Aššur a certain Adad-iqīša took the position (MARV 5 5). Evidently the first part of the archive was created during a purge of the Agency's records shortly after he took office. Presumably Adad-iqīša hung onto most of the documents from his own tenure during this purge. Unfortunately, the documents from his tenure did not make their way into the archive at a later date, and so he is now attested in only a single text. Apart from this one solitary reference we have no indications of who held the office of *gināu* supervisor for the next half century.

2.6 Ezbu-līšer

When the gap in our records finally ends we meet Ezbu-līšer. He first appears in the archive toward the end of Aššur-rēša-iši I's reign during the year Ninurta-ašarēd (MARV 6 71). He first explicitly holds the title *rab gināe* three years later in the year Ša urki Berê and continued in office well into the reign of Tiglath-pileser I. He was to head the Agency for about a quarter century, with his last unambiguous appearance in the year Ninurta-aha-iddina (MARV 1 25). We will not attempt here to comprehensively summarize the forty or so texts where he appears; his role in events of those years have already been discussed at some length in III.1. However, the events at the end of his tenure warrant comment. In the year Adad-apla-iddina his son Aššur-nāšir acted on his behalf (MARV 8 59).⁶ In the next year we find the long-time Agency associate Aššur-baissunu acting in his stead (MARV 6 81). That last we hear from him

⁶ This act raises the interesting possibility that Ezbu-līšer was succeeded in office by his son. However, as noted by Jeffers (2013: 130n.320) such a succession had not happened in the only text where Aššur-nāšir appears. Barring further information on Aššur-nāšir, we can only speculate.

is in the next year, Ninuaya, where he arranged a few, though by no means all of the loans taken out to weather the Ninuaya crisis (MARV 9 112). We can model these texts by assuming that an aging Ezbu-līšer was having difficulty carrying out his duties, though this is somewhat speculative. In any event, the *gināu* supervisor had been in office a quarter century or more, and likely did not have many years of active service ahead of him. As noted in §.III.3, it is likely that the Agency's archive was purged for the last time shortly after Ezbu-līšer left office.

2.7 Summary

In sum, then, at least five men held the office of *gināu* supervisor in the 120 or so years between the death of Tukulti-Ninurta I and the effective end of the archive in the year Ninuaya. Their tenures varied dramatically in length from as short as three years (Sîn-nādin-able) to as long as 28 years (Ezbu-līšer). Sadly, we are almost certainly missing the name of at least one incumbent in the half century between the start of Adad-iqīša's tenure and the first attestation of Ezbu-līšer.

3 Major *alahhinus*

As discussed in II.1, the Agency normally had three major *alahhinus* active at one time. While in principle only one or two need be replaced at a time—and we do have evidence for this on occasion—more often than not the whole group was replaced in the space of a few years. This tendency is made more pronounced by the spotty nature of our record. There will be good documentation on the activities of one team for a few years and then a gap after which we find an entirely new team on duty. Hence we lose very little resolution by blocking the major *alahhinus* into teams.

3.1 Team 1: Adad-šumu-līšer, Urad-Kūbe, Zēru-kēnu

This is the earliest team attested in our records. They had all taken office by the year Ninurta-apil-Ekur at the latest (MARV 6 40). MARV 9 17 links Urad-Kūbe to overdue grain from the previous year, Haburrāru, but the text itself is likely from the year Ninurta-apil-Ekur as well. Later on in that king's reign we find Urad-kūbe attested in the year Eriba-Aššur (MARV 7 5) and Adad-šumu-līšer in the year Marduk-aha-ēreš (MARV 3 9). Admittedly, these texts do not mention the entire team, but in the absence of evidence to the contrary it is reasonable to think they were active essentially throughout Ninurta-apil-Ekur's reign. The full group—or at least members of it—also appear in the following texts that cannot be dated to a particular year:

MARV 7 30	Urad-Kūbe, Zēru-Kēnu, (broken name)
MARV 5 28	Adad-šumu-līšer, Urad-Kūbe, Zēru-kēnu
MARV 5 17	Urad-Kūbe
MARV 7 43	Adad-šumu-līšer, Zēru-kēnu
MARV 7 41	Adad-šumu-līšer, Urad-Kūbe, Zēru-Kēnu

One should note that this Zēru-kēnu is likely a different person than Zēru-kēnu the minor *alahhinu* who was active four decades later at the end of Aššur-dān I's reign.

3.2 Team 2: Aššur-bēlī[?], Adad-šimānni, Urad-Gula

With the accession of Aššur-dān I, the picture becomes blurrier. The next clear information on the major *alahhinus* comes from about two decades later, during the height of the Da''ānī-Ninurta crisis. There we find a team composed of Aššur-bēlī[?], Adad-šimānni, and Urad-Gula active in the years without an eponym that followed the year Da''ānī-Ninurta (MARV 5 13, MARV 5 18).

3.3 Team 3: Adad-šimânni, Aššur-mušēzib (Aššur-tūra-iddina, Hattayu), Sîn-mušallim, (Sîn-nāšir)

We have no information on the *alahhinu* team for the rest of the Da'ʾānī-Ninurta crisis, but the lights come on again in the last years of Aššur-dān I. In the last year of his reign, Sîn-šēya, we find an *alahhinu* team composed of Adad-šimânni, Aššur-mušēzib, and Sîn-mušallim (A 1750, KAJ 283, MARV 8 63). In texts from the years Libūr (MARV 3 61), Aššur-aha-iddina (MARV 6 30), and Kaššu (MARV 9 96), we find the same team, though with Aššur-tūra-iddina or Hattayu in place of Aššur-mušēzib. These years cannot be sequenced exactly, but the minor *alahhinu* Aššur-šumu-līšer appears in all three texts, and he seems to have been replaced by Zēru-Kēnu in the year Sîn-šēya. Hence, these years should probably be placed in the gap of eight or so years between the end of the Da'ʾānī-Ninurta crisis and the end of Aššur-dān I's reign. This team may have continued on staff into the early years of Aššur-rēša-iši I. Unfortunately, the only direct evidence for this is that the names of several team members are consistent with the traces in the badly damaged disbursement text MARV 9 30, which is likely to be dated to the year Aššur-rēša-iši I. This is hardly compelling, and for now the matter must remain unresolved.

Finally, we should note that at some point a certain Sîn-nāšir also joined the team, though both texts involving him are not dated and only have the name Adad-šimânni readable alongside his. It is not clear where they fit into the sequence. The fact that Aššur-šumu-līšer the minor *alahhinu* occurs in one text mentioning Sîn-nāšir would put them before the year Sîn-šēya, when Aššur-šumu-līšer had left office in favor of Zēru-kēnu. Sîn-nāšir may have been a substitute or the predecessor of either Aššur-tūra-iddina or Sîn-mušallim. We simply cannot know.

Members of this team appear in the following texts that cannot be dated to a particular year:

MARV 5 33	Adad-šimânni, Aššur-tūra-iddina, Sîn-mušallim
MARV 7 15	Adad-šimânni, Sîn-nāšir, (broken)
MARV 7 19	Adad-šimânni, Aššur-tūra-iddina, Sîn-mušallim
MARV 8 26	Adad-šimânni, Sîn-nāšir, (broken)
MARV 9 107	Adad-šimânni, Aššur-tūra-iddina, Sîn-mušallim

3.4 Team 4: Aššur-danninni, Šüzub-Sîn, Urad-Gula

This team first appears together in the middle part of Aššur-rēša-iši I's reign, in the years Aššur-šuma-ašbat (MARV 7 20), Aššur-kēna-šallim (MARV 7 61, MARV 5 21), and Ninurta-ašarēd (MARV 6 71). This team continued on active duty into the year Ippitte two decades later. The team occurs in the following texts from Tiglath-pileser I's reign, which are arranged chronologically.

Eponym	Texts
Aššur-šallimšunu	MARV 7 53 (X.23-24), MARV 7 36 (x.x)
Ina-iliya-allak	MARV 6 24 (XI.24), MARV 6 19 (XII.6)
Šadānayu	MARV 9 116 (IX.23)
Ibri-šarre	MARV 5 49 (II.29), MARV 8 8 (II.x) MARV 6 41 (III.9) MARV 5 11 (III.13) MARV 7 96 (III.19) MARV 5 48 (IV.2) MARV 6 60 (VI.20+x) MARV 7 96 (V.13) MARV 5 25 (VI.x) MARV (VI.25), MARV 5 23 (VI.29), MARV 5 22 (VII.18), MARV 6 33 (VIII.x-IX.23)
Aššur-mudammeq	MARV 8 12 (I.10), MARV 5 16 (IX.1), MARV 6 84 (X.20), MARV 5 50 (x.3)
Mušēzib-Aššur	MARV 9 32 (I.20)
Unclear	MARV 8 29 (x.x)

Figure C-6: Attestations of *Alahhinu* Team 4

During its regular operations team 4 employed substitutes on at least three occasions. They are summarized in the following table.

Text	Date	Substitute	Person Replaced
MARV 6 71	XI.5.Ninurta-Ašarēd	Aššur-šuma-iddina	Aššur-danninni
MARV 7 36	x.x.Aššur-šallimšunu	Siqqi-Aššur-ašbat	Šüzub-Sîn
MARV 6 23	(Aššur-šallimšunu)	Siqqi-Aššur-ašbat	Šüzub-Sîn
MARV 5 25	VI.x.Ibri-šarre	Aššur-šuma-iddina	Šüzub-Sîn
MARV 5 25	VI.25.Ibri-šarre	Aššur-šuma-iddina	Šüzub-Sîn
MARV 6 68	VII.x.Aššur-mudammeq	Aššur-šuma-iddina [?]	Urad-Gula

Figure C-7: Substitutes Attested During the Tenure of *Alahhinu* Team 4

These data warrant a few comments since two of the substitutes are well-known characters in the archive. Siqqi-Aššur-ašbat, as discussed in II.1, was an outside *alahhinu* who from time to time would help the Agency procure supplies in difficult circumstances. Evidently on this occasion he had to go one step further and perform *alahhinu* duty himself on behalf of the Agency.

Aššur-šuma-iddina is actually the son of the *alahhinu* Šūzub-Sîn filling in once for one of his father's colleagues and later for his father himself (MARV 5 44: 11-12; MARV 6 81:8-9). It is perhaps the closest we get in the archive to a touching family moment. It seems that when not filling in for his father he exercised the office of *mašennu ša bēt ile* "temple steward" (MARV 6 89: 7; MARV 8 68:4; see Postgate 2013a: 96). As we will see presently, he soon outright replaced his father, becoming one of the core members of teams 5 and 6. Unfortunately the traces of the name in MARV 6 68 do not favor restoring it as Aššur-šuma-iddina as well. Rather it would seem the name was that of a different man only affiliated with the Agency while serving as a substitute.

3.5 Team 5: Aššur-šuma-iddina/Ahī-lāmur, Urad-Aššur, Šūzub-Marduk

The years Ippitte and Mudammeq-Bēl saw a massive changeover in the Agency's staff. The regular staff of team 4 seems to have been entirely replaced by that time, for none of them occur in the three texts dated to the year Ippitte (MARV 6 18, MARV 6 79, MARV 7 75). Instead we find only two *alahhinus* active at a time. One position was filled at different times by Aššur-šuma-iddina and Ahī-lāmur. The other was filled by the outside *alahhinu* Urad-Aššur. At the beginning of the *maddattu* crisis he had served as a consultant with the Agency, and during the year Ippitte he seems to have gone one step further and temporarily joined its executive staff.

In the following year, Mudammeq-Bēl, the *alahhinu* team went through several chaotic permutations converging toward what would become team 6. The chaos is probably not an

illusion. Neither Aššur-šuma-iddina, Ahī-lāmur, nor Urad-Aššur had been on the Agency staff for more than a year before this started, and none of those who would join them had ever been on it before, so the result was likely an administrative nightmare. To keep track of it all the Agency used the small disbursement system almost exclusively and took to keeping unusually fine documentation, including drawing up monthly summaries. The result is that this transition year is the single best documented year in the archive.

The curtain opens in Month V with Urad-Aššur and one or two colleague with illegible names on duty (MARV 9 11). On the 20th of the month we find Aššur-šuma-iddina and Ahī-lāmur are now the active *alahhinus*. These two, sometimes joined by Urad-Aššur, remained on duty through VII.11. Here and later in the year there is a noticeable tendency for a certain Urad-Aššur “the brewer” to show up whenever his namesake *alahhinu* does not, and the two are never attested in the same disbursement. This can be quite neatly explained by assuming there was only a single person named Urad-Aššur and that he shifted between roles as the needs of the moment dictated. As we will see in the brewers section below, there was indeed a good bit of need at that moment. The texts from this period are summarized in the following table:

Text	Date	Team Members
MARV 7 38	V.5 ⁷	Ahī-lāmur, Aššur-šuma-iddina
MARV 7 48	VI.3	Ahī-lāmur, Aššur-šuma-iddina, Urad-Aššur
MARV 7 48/MARV 6 11 ⁷	VI.14	Ahī-lāmur, Aššur-šuma-iddina, Urad-Aššur
MARV 7 24/MARV 1 11 ⁸	VII.2	Ahī-lāmur, Aššur-šuma-iddina
MARV 7 24	VIII.11	Ahī-lāmur, Aššur-šuma-iddina, Urad-Aššur

Figure C-8: Configurations of *Alahhinu* Team 5, Months V-VIII

Sometime before VII.25 Ahī-lāmur went off duty and was replaced by a certain Šūzub-Marduk. This team remained largely intact until at least X.23, although Ahī-lāmur did substitute

⁷ These two texts cover the same day.

⁸ These two texts cover the same day

for Šūzub-Marduk once in the interim, and Urad-Aššur put on his “brewing hat” one more time.

The texts for this interval are summarized in the following table:

Text	Date	Team Members
MARV 5 29	IX.12	Aššur-šuma-iddina, Šūzub-Marduk, Urad-Aššur
MARV 8 48	IX.x	Aššur-šuma-iddina, Šūzub-Marduk, Urad-Aššur
MARV 7 84	IX.22	Urad-Aššur
MARV 9 103	X.20	Aššur-šuma-iddina, Šūzub-Marduk, Urad-Aššur
MARV 9 22	X.22	Aššur-šuma-iddina, Šūzub-Marduk, Urad-Aššur
MARV 6 83	X.23+x	Aššur-šuma-iddina, Šūzub-Marduk, Urad-Aššur
MARV 8 96	x.x	Aššur-šuma-iddina, Šūzub-Marduk
MARV 8 96	x.x	Aššur-šuma-iddina, Šūzub-Marduk, Urad-Aššur

Figure C-9: Configurations of *Alahhinu* Team 5, Months IX and X

As of XII.30 Šūzub-Marduk had left the team and Ahī-lāmur returned. By Month III of the following year the team had stabilized as Ahī-lāmur, Aššur-šuma-iddina, and Mār-šilliya, which I will treat below as team 6.

There are several additional texts that can be dated to the year Mudammeq-Bēl but whose dates are damaged and so cannot be convincingly placed in the sequence of texts from that year.

They are listed in the following table:

Text	Date	Team Members
MARV 6 20	x.x	Ahī-lāmur, Aššur-šuma-iddina, Urad-Aššur
MARV 7 69	x.x	Ahī-lāmur, Aššur-šuma-iddina, Urad-Aššur
MARV 7 69	x.27 [?]	Ahī-lāmur, Aššur-šuma-iddina, Urad-Aššur
MARV 7 69	x.30	Ahī-lāmur, Aššur-šuma-iddina
MARV 8 11	x.x	Ahī-lāmur, Aššur-šuma-iddina, Šūzub-Marduk

Figure C-10: Unplaced Texts Mentioning *Alahhinu* Team 5

Finally, we should note that the previous staff evidently did not die in office since they continue to appear from time to time in later texts. For convenience we will refer to these men as “retired,” though it is possible they had been given some other office and continued on active duty. On VI.21.Mudammeq-Bēl, perhaps a year or so after the team had retired, Aššur-danninni returned to help Kuttahhu take out a small disbursement (MARV 9 106). Five years later on

III.21.Ninurta-aha-iddina, Šūzub-Sîn appears in a cryptic passage involving honey. Still another two years later on III.18.Aššur-šuma-ēreš, the minor *alahhinu* Kuttahhu (who had retired around the year Mudammeq-Bēl, shortly after *alahhinu* team 4 dissolved), temporarily rejoined the Agency (MARV 5 43).

3.6 Team 6: Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya

The team that stabilized in the immediate aftermath of the transition was to stay on duty through the end of the archive. As noted above, Aššur-šuma-iddina was the son of one of the members of team 4, Šūzub-Sîn. His colleague Mār-šilliya was likewise a son of Aššur-danninni, another member of team 4 (MARV 6 75: 16’-17’). We do not know the father of Ahī-lāmur, so it is possible all three members were sons of previous Agency *alahhinus*.

The texts where team 6 appears are summarized in the following table:

Text	Date	Team Members
MARV 6 36	III.1.Aššur-apla-iqīša	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 7 12	III.x.Aššur-apl-iqīša	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 9 104	XII.21.Aššur-apla-iqīša	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 8 46	0.0.Sakipšunu	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 6 8	IX.22.Bēl-libūr	Ahī-lāmur, Ana-Aššur-natkilā, Aššur-šuma-iddina
MARV 7 49	IX.24.Bēl-libūr	Ahī-lāmur, Ana-Aššur-natkilā, Aššur-šuma-iddina
MARV 5 76	X.24.Bēl-libūr	Ana-Aššur-natkilā, Aššur-šuma-iddina, “The son of Ahī-lāmur”
MARV 5 54	XI.16.Bēl-libūr	Aššur-šuma-iddina
MARV 10 89	XII.17.Bēl-libūr	Aššur-šuma-iddina, Ahī-lāmur, Ana-Aššur-natkila
MARV 1 25	II.18.Ninurta-aha-iddina	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 7 54	VIII.6.Ninurta-aha-iddina	Aššur-šuma-iddina, Kidin-Sîn, Mār-šilliya
MARV 5 24	IX.4.Ninurta-aha-iddina	Aššur-šuma-iddina, Da’ānī-Marduk, Mār-šilliya
MARV 3 29	IV.6.Adad-apla-iddina	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 6 81	I.10.Aššur-šūma-ēreš	Aššur-šuma-iddina
MARV 5 65	0.0.(Aššur-šūma-ēreš)	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya, Urad-Aššur
MARV 5 43	III.18 ⁷ .Aššur-šūma-ēreš	Ahī-lāmur, Aššur-šuma-iddina, Kuttahhu, Mār-šilliya
MARV 7 70	XI.23.Aššur-šūma-ēreš	Aššur-šuma-iddina

Figure C-11: Attestations of *Alahhinu* Team 6

MARV 9 34	VI.4.Ninuaya	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 8 9	XI.25 ⁷ .Ninuaya	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya
MARV 7 86	XI.30.Ninuaya	Ahī-lāmur, Aššur-šuma-iddina, Mār-šilliya

Figure C-11 (cont.): Attestations of *Alahhinu* Team 6

Once again there are a few irregularities that warrant comment. First, for a period of a least a month in year Bēl-libūr a certain Ana-Aššūr-natkilā joined the team, replacing Mār-šilliya and Ahī-lāmur on one occasion each. During the year Ninurta-aha-iddina Ahī-lāmur was absent for a least a month, being replaced by Kidin-Sîn and then Da’ānī-Marduk. Interestingly, a certain Kidin-Sîn the brewer shows up receiving supplies and millers in MARV 3 69, a text from the *mašennu rabiū*’s archive. This suggests that he normally worked in the state grain processing apparatus, and had simply been transferred to the Agency to help out for a brief period, not unlike Siqqi-Aššur-ašbat and Urad-Aššur.

Perhaps the most unusual arrangement occurred in the year Aššur-šuma-ēreš. Twice we find that one of the major *alahhinu*’s disbursements was split in two, with the *alahhinu* getting one third, and an off-duty *alahhinu* getting the remaining two thirds. In one case the latter was the retired minor *alahhinu* Kuttahhu (MARV 5 43) and in the other our old friend Urad-Aššur, making his last appearance in the archive (MARV 5 65). The various substitution arrangements are summarized in the following table:

Text	Date	Substitute	Person Replaced
MARV 7 54	VIII.6.Ninurta-aha-iddina	Kidin-Sîn	Ahī-lāmur
MARV 5 24	IX.4.Ninurta-aha-iddina	Da’ānī-Marduk	Ahī-lāmur
MARV 5 43	III.18.Aššur-šuma-ēreš	Kuttahhu (2/3 time)	Aššur-šuma-iddina
MARV 5 65	x.x.Aššur-šuma-ēreš ⁷	Urad-Aššur	Ahī-lāmur

Figure C-12: Substitutes Attested During the Tenure of *Alahhinu* Team 6

3.7 Summary

While we cannot be certain there are no gaps, the texts of the *Gināu* Agency’s archive allow us to reconstruct the rough sequence of major *alahhinus* from the time of Ninurta-apil-

Ekur through the end of the archive a little over a century later. It is striking that many major *alahhinus* worked for the Agency for decades. Indeed, it would seem that most spent the majority of their working life in the employment of the Agency. Moreover, where we know their filiation, these long-serving *alahhinus* are always children of previous holders of the office. Putting this together, it is reasonable to think that service as a major *alahhinu* was a de facto hereditary profession passed down from father to son. In the case of Aššur-šuma-iddina we find the young man working as temple steward and a substitute *alahhinu* for more than a decade before replacing his father as major *alahhinu*. As we will see, the future minor *alahhinu* Aššur-taklāk also substituted for his father before joining the Agency full-time.

4 Minor *alahhinu*

As discussed in II.1, a minor *alahhinu* normally served alongside the three major *alahhinus* and seems to have focused on coordinating the Agency's baking activities. In more formal contexts he may have used the title *ša uppâte*, but this appears with impressive rarity in the archive.

The minor *alahhinu* is a tricky person to spot in most texts. The three major *alahhinus* tended to appear as a group and receive identically sized assessments. This makes them quite easy to identify when working from disbursement texts. In contrast, the minor *alahhinu* looks very much like any other official drawing a grain disbursement.

Still, we have three ways to identify him. First, the minor *alahhinus* often drew disbursements that were not measured in even 50 *qa* units. Second the amounts they received were generally 50-66% of those of their major *alahhinu* colleagues. Finally, we can use the process of elimination and the fact that major *alahhinus* and brewers tend to show up in larger

groups. If a group consists of four members and three are clearly major *alahhinus*, the fourth is likely the minor *alahhinu*. Similarly, if we meet six grain officials and the major *alahhinus* and brewers are five of them, the sixth man must be the minor *alahhinu*.

4.1 Pa'uzu

The earliest attested minor *alahhinu* is a certain Pa'uzu. The documents are inconsistent about whether to write the sibilant in his name with the s or z series of signs (e.g. MARV 3 6 where it is spelled both ways in the same text). Thanks to documents associated with the accession crisis, his activities are some of the best understood of any of the minor *alahhinus* (see II.1). He served alongside the members of *alahhinu* team 1 at least through the year Ninurta-apil-Ekur.⁹

4.2 Aššur-šumu-līšer

At some point Pa'usu seems to have been replaced by Aššur-šumu-līšer. That he was the minor *alahhinu* is clearest in MARV 9 107. There, while the three members of *alahhinu* team 2 all receive 800 *qa* each, he receives only 528, a figure both noticeably less and not an even multiple of 50-*qa*. This strongly suggests that he is the minor *alahhinu*. Indeed, this amount can be understood as each major *alahhinu* receiving a daily allotment of 100 *qa*, while he receives one of only 50 *qa* along with enough the grain to prepare the 126-offering (II.2), closely matching practices attested under the better documented Kuttahhu.¹⁰ Aššur-šumu-līšer seems to have begun working while Urad-Kūbe of team 1 was still on active service (MARV 5 17), but

⁹ MARV 9 17 (Habburrāri), MARV 6 40 (Ninurta-apil-Ekur), MARV 6 25 (no date), MARV 7 39 (no date), MARV 7 43 (no date).

MARV 3 6 (no date) likely comes from the accession year crisis as well, but does not name the *alahhinu*'s with whom Pa'usu worked.

¹⁰ In MARV 5 33 he again receives a different amount than his colleagues, though here it is larger than theirs.

since the text does not have a year date, we cannot say more. In the remaining texts where he appears he works alongside *alahhinu* team 2.¹¹

4.3 Zēru-kēnu

A certain Zēru-kēnu replaced Aššur-šumu-līšer. He appears once working alongside major *alahhinu* team 3 before Aššur-mušēzib joined (MARV 7 19). The rest of his tenure, though, occurred after Aššur-mušēzib joined the team.¹² His minor *alahhinu* status is perhaps clearest in MARV 7 19. There the three major *alahhinus* all receive large itemized amounts of about 10000 *qa* each, along with one brewer. In contrast Zēru-kēnu's name is written with the single small sum of 810 *qa* on the edge of the tablet. Less dramatically, in MARV 8 63 his name comes between the major *alahhinus* and the brewers and he receives only 80 *qa*, while at least two of the major *alahhinus* receive over 100 *qa* each. Sîn-šēya is the last year we hear anything about him.

4.4 Nathāu

After a gap of perhaps a decade we find *alahhinu* team 4 on service, assisted by a certain Nathāu. In MARV 7 20 his name is listed between the major *alahhinus* and the brewers, and he received 620 *qa* while the other *alahhinus* each received 700 *qa*, favoring that he was indeed the minor *alahhinu*. The only other text which mentions him also associates him with team 4, but is in an unusual format and damaged, making his exact role hard to determine (MARV 7 61). Both texts come from the eponyms in the unsequenced portion of the reign of Aššur-rēša-iši I, and can be arranged to be less than a year apart. Thus, it is possible he was only active for a short period as a substitute. We do not have enough evidence to clarify his role further.

¹¹ MARV 6 30 (Aššur-aha-iddina), MARV 9 96 (Kaššu), MARV 5 33 (no date), MARV 8 26 (no date), MARV 9 107 (broken)

¹² KAJ 283 (II.28.Sîn-šēya), A 1750 (V.9.Sîn-šēya), MARV 8 63 (VII.5.Sîn-šēya)

4.5 Kuttahhu

By the first year of Tiglath-pileser I's reign, Kuttahhu had assumed the office of minor *alahhinu*. Happily, he is the single best attested minor *alahhinu* in the archive. He seems to have held office almost continually until the year Mudammeq-Bēl. At some point after the year Mudammeq-Bēl he was then replaced by Aššur-taklāk, but returned for a brief period eight years later in months III-IV of the year Aššur-šuma-ēreš. The datable texts mentioning him are summarized in the following table:

Text	Date
MARV 6 69	XII.26.Tiglath-pileser I
MARV 6 80	x.x.Tiglath-pileser I
MARV 6 24 (duplicate MARV 9 14)	XI.24.Ina-iliya-allak
MARV 6 19	XII.6.Ina-iliya-allak
MARV 7 21	0.0.(Ibri-šarre)
MARV 8 12	I.10.Aššur-mudammeq
MARV 6 4	I.27.Aššur-mudammeq
MARV 6 68	IV [?] .x.Aššur-mudammeq [?]
MARV 5 16	IX.1.Aššur-mudammeq
MARV 5 50	x.3.Aššur-mudammeq
MARV 6 79	IV.x.Ippitte
MARV 6 18	V.30.Ippitte
MARV 1 11 (duplicate MARV 7 24)	VII.2.Mudammeq-Bēl
MARV 9 110	VII.25.Mudammeq-Bēl
MARV 10 87	VIII.x.Mudammeq-Bēl
MARV 5 29	IX.1.Mudammeq-Bēl
MARV 5 29	IX.x.Mudammeq-Bēl
MARV 38	x.x.Mudammeq-Bēl [?]
MARV 8 96	x.x.x
MARV 7 12	III.x.Aššur-šuma-ēreš
MARV 5 43	III.18.Aššur-šuma-ēreš
MARV 6 12	IV.10.Aššur-šuma-ēreš

Figure C-13: Attestations of Kuttahhu

4.6 Aššur-taklāk

When Kuttahhu left the Agency during the general staff changeover around the year Mudammeq-Bēl, he was replaced by his son, Aššur-taklāk (see MARV 5 41). His full name

seem to have been Ana-Aššur-taklāk (MARV 1 25, MARV 5 76), although he is normally given the shortened form Aššur-taklāk.¹³ Aššur-taklāk's first stint with the Agency lasted only for a short period in Month VI of Mudammeq-Bēl (MARV 7 48). His father was active in the Agency shortly after that, and so he may only have been acting as a substitute. Unfortunately, our evidence is too limited to say when exactly Aššur-taklāk joined the Agency full time. We can only say that it occurred sometime between Month IX of the year Mudammeq-Bēl and X.24.Bēlibūr. Datable texts in which he appears are summarized in the following table:

Text	Date
MARV 7 48	VI.3-5.Mudammeq-Bēl
MARV 5 76	X.24.Bēl-libūr
MARV 10 89	XII.17.Bēl-libūr
MARV 1 25	II.18.Ninurta-aha-iddina
MARV 7 54	VIII.6.Ninurta-aha-iddina
MARV 5 24	IX.4.Ninurta-aha-iddina
MARV 3 29	IX.6.Adad-apla-iddina
MARV 5 43	III.18 [?] .Aššur-šuma-ēreš
MARV 7 56	X.26.Ninuaya
MARV 7 86	XI.30.Ninuaya
MARV 8 46	III.25.Sakipšunu

Figure C-14: Attestations of Aššur-taklāk

4.7 Summary

In total we can isolate six men who served as minor *alahhinu*. As with the other offices, there are gaps in the sequence during the reigns of Aššur-dān I and Aššur-rēša-iši I. Where we have sufficient documentation we find a single individual holding the office of minor *alahhinu* for a decade or more. At least one, Kuttahhu, seems to have been succeeded directly by his son in office.

5 Brewers

¹³ He is not to be confused with the substitute major *alahhinu* Ana-Aššur-natkila

As discussed in II.1, the Agency normally had two brewers on staff at any given time. While they are not as well attested as their *alahhinu* colleagues, we can still say a considerable amount about the men who held this office.

5.1 Team 1: Ṭābiya and Aplaya

When the curtain is first pulled back around the accession of Ninurta-apil-Ekur, the Agency had two brewers on staff, Aplaya and Ṭābiya (MARV 5 28, MARV 6 25, MARV 6 40, MARV 7 41, MARV 7 43). This pair of brewers continued to work for the Agency after *alahhinu* team 2 had taken office (MARV 9 107).

5.2 Team 2: Aplaya and various others

Sometime in the reign of Aššur-dān I, Ṭābiya left the team. A number of transitory brewers served with a certain Aplaya after that. These included Šilli-Aššur (MARV 9 96), Šār-Aššur (MARV 7 15, MARV 8 63), and Šamaš-amranni (KAJ 283). Here we must stop to ask whether this is the same Aplaya who served in team one. If it was, then he would have been on active service for some 59 years, appearing for the last time as a brewer around the end of Aššur-dān I's reign on VII.5.Sîn-šēya. This is not impossible, but would be an exceptionally long career. If they were different people, the career lengths would be more reasonable, but we have little evidence of a team active between the two teams that contained Aplaya. Thus, we would have to postulate that a man known by the nickname Aplaya replaced another man with the same nickname. We have no record of this happening with any other office in the entire archive, which makes it doubtful. Thus, I have tentatively assumed that there was only one very long-lived brewer named Aplaya. Happily, assuming that there were two different brewers named Aplaya

does not appreciably alter the rest of the reconstruction and so the matter need not be resolved with certainty.

5.3 Team 3: Sîn-ašarēd and Mutakkil-Aššur

After the year Sîn-šēya our evidence dies down to a trickle. When the sources pick up again near the end of Aššur-rēša-iši I's reign, Sîn-ašarēd and Mutakkil-Aššur were serving as the Agency's brewers. For a period of at least a month in the year Ina-iliya-allak the future full-time brewer Tišpakiya substituted for Mutakkil-Aššur. Texts mentioning this combination of brewers are summarized in the following table:

Tablet	Date	Brewers
MARV 7 20	VIII.22.Aššur-šuma-ašbat	Mutakkil-(Aššur), Sîn-ašarēd
MARV 7 61	VI.x.Aššur-kēna-šallim	Mutakkiya, Sîn-ašarēd
MARV 5 21	x.19.Aššur-kēna-šallim	Mutakkil-Aššur
MARV 7 91	V.1.Ša-urki-berê	Mutakkil-Aššur, [Sîn-ašarēd]
MARV 6 69	XII.26.Tukultī-Apil-Ešarra	Mutakkil-Aššur, Sîn-ašarēd
MARV 6 23	(~Aššur-šallimšunu)	Sîn-ašarēd
MARV 6 24 (duplicate 9 14)	XI.24.Ina-iliya-allak	Sîn-ašarēd, Tišpakiya
MARV 6 19+	XII.6.Ina-iliya-allak	Sîn-ašarēd, Tišpakiya
MARV 6 68	IV'.x.Aššur-mudammeq?	Mutakkil-Aššur, Sîn-ašarēd
MARV 5 16	IX.1.Aššur-mudammeq	Mutakkil-Aššur, Sîn-ašarēd
MARV 5 26	X.22.Aššur-mudammeq	[Mutakkil-Aššur'], Sîn-ašarēd
MARV 5 50	x.3.Aššur-mudammeq	Mutakkil-Aššur, Sîn-ašarēd
MARV 8 8	II.x.Ibri-šarre	Mutakkil-Aššur, Sîn-ašarēd
MARV 6 41	III.9.Ibri-šarre	Mutakkil-Aššur, Sîn-ašarēd
MARV 7 96	III.19.Ibri-šarre	Mutakkil-Aššur, Sîn-ašarēd
MARV 5 25	VI.25.Ibri-šarre	Mutakkil-Aššur, Sîn-ašarēd
MARV 5 70	(VII.2.Ibri-šarre)	Mutakkil-Aššur, Sîn-ašarēd
MARV 6 33	IX.(23).Ibri-šarre	Mutakkil-Aššur, Sîn-ašarēd
MARV 7 21	x.x.Ibri-šarre	Sîn-ašarēd

Figure C-15: Attestations of Brewing Team 3

5.4 Team 4: Ša-Aššur-līšer and Urad-Aššur (as a brewer)

As with the major *alahhinus*, the year Mudammeq-Bēl saw considerable changes in the roster of brewers. The last we hear of the previous team was in the year Ibri-šarre, so we cannot

pin down exactly when the transition happened. When the lights come back on the brewing was being done by Ša-Aššur-līšer and a certain Urad-Aššur “the brewer.” As noted above the latter figure is likely the major *alahhinu* of that name who was active in the Agency at that time. In addition, the future brewer Tišpakiya also appeared on at least one occasion.

The datable texts are summarized in the following table:

Text	Date	Brewers
MARV 9 11	V.5+x.Mudammeq-Bēl	Ša-Aššur-līšer
MARV 5 62	VI.1.Mudammeq-Bēl	Ša-Aššur-līšer, Tišpakiya
MARV 7 48	VI.26.Mudammeq-Bēl	Ša-Aššur-līšer, Urad-Aššur [?]
MARV 7 48	VI.27 [?] .Mudammeq-Bēl	Urad-Aššur
MARV 10 87	VIII.x.Mudammeq-Bēl	Ša-Aššur-līšer, Urad-Aššur
MARV 5 29	IX.7.Mudammeq-Bēl	Urad-Aššur
MARV 5 29	IX.12.Mudammeq-Bēl	Ša-Aššur-līšer
MARV 5 29	IX.16.Mudammeq-Bēl	Ša-Aššur-līšer, Urad-Aššur [?]
MARV 9 114	x.25.Mudammeq-Bēl	Ša-Aššur-līšer, Urad-Aššur

Figure C-16: Attestations of Brewing Team 4

5.5 Team 5: Ša-Aššur-līšer and Tišpakiya

By XII.30.Mudammeq-Bēl Tišpakiya had rejoined the team, and he and Ša-Aššur-līšer would continue to serve as brewers until the end of the archive. The four datable texts involving the pair are summarized below:

Text	Date	Brewers
MARV 7 77	XII.30.Mudammeq-Bēl	Ša-Aššur-līšer, Tišpakiya
MARV 7 12	III.x.Aššur-šuma-ēreš	Ša-Aššur-līšer, Tišpakiya
MARV 1 25	II.18.Ninurta-aha-iddina	Ša-Aššur-līšer, Tišpakiya
MARV 7 86	XI.30.Ninuaya	Ša-Aššur-līšer, Tišpakiya

Figure C-17: Attestations of Brewing Team 5

5.6 Summary

We can reconstruct a total of five teams of brewers over the course of the archive. One of these (Team 4) was a short-lived transitional team, but the others showed impressive stability. More often than not we find one or both positions being held by the same brewer for decades.

6 Conclusions

While there are still a few possible gaps, the picture that emerges from our prosopographical study is reasonably clear. For the reign of Ninurta-apil-Ekur and the period from the last years of Aššur-rēša-iši I through the second decade of Tiglath-pileser I we can reconstruct continuous sequences of incumbents for the seven offices of the Agency's executive staff. During the long and ill-documented reign of Aššur-dān I we get occasional pictures of who held these posts, but the sequences likely have gaps. What is most striking in all of this is the consistency. For the entire period covered by the archive the Agency's executive staff seems to have always had the same seven positions. What is more, in the period where we have enough information to check, it seems that the offices of major *alahhinu*, minor *alahhinu*, and brewer were all hereditary. Like the *gināu* system itself, the *Gināu* Agency's personnel policies show a remarkable resistance to change.

Appendix D: *Gināu* Assessments by Province

*When they stare at themselves too long
they become diamonds.*

-James Richardson, “The Encyclopedia of the Stones: A Pastoral”¹

As discussed in I.1, each of the core provinces of the Middle Assyrian kingdom was supposed to contribute fixed amounts of four canonical commodities (grain, honey, sesame, and fruit). Fortunately for us, with only a handful of exceptions the assessments imposed on each province remained fixed for the entire duration of our archive. In I.1 we discussed the deeper significance of the assessment values and the system of provincial contributions of which they were a part. Here our task is to work out the exact amount of each commodity each province was supposed to contribute as its assessment. While the technical details of this process hardly make for riveting reading, they are necessary to support the argument of the main text. In addition, on a more abstract level it is remarkable that we have the evidence to reconstruct the assessment figures at all. Not even the immense administrative corpus of the Ur III state allows one to reconstruct normative income data with such breadth and exactness. To paraphrase Samuel Johnson on dancing dogs, it is not that the material makes an especially interesting read, but that you are surprised to read it at all.

1 Methodology

1.1 Table calibration

As we saw in I.3, the extant *gināu* tables often deal with arrears instead of paid commodities. Where the metadata are preserved in a header or footer, this is not a problem.

¹ (Richardson 2004: 14).

However, when these are broken away matters are thornier. Happily, there are two clusters of provinces which allow us to calibrate the tables with damaged metadata. First, in the well-preserved tablets the *birtus* have exemplary payment histories and virtually never default. Thus, if we find large sums associated with most or all of the *birtus*, we are very likely dealing with a table of paid *gināu*. On the other hand, Husanānu, Ša-Šille, and Šumēla have impressively poor payment histories. As a result, if a table has large sums associated with any of these provinces, it likely deals with arrears.

1.2 Exact figures

The easiest situation is when the documents explicitly give us a figure for a province's yearly assessment in a particular commodity. This does not occur for every combination of province and commodity, but does occur for the large majority of them.

One source of exact figures are the pairs of tables dealing with paid *gināu* and arrears from a single year. Three such pairs have survived, coming from the years Salmānu-zēra-iqīša (MARV 9 12, MARV 6 5), Liptānu (MARV 5 67, MARV 6 9 + MARV 8 24), and Pa'uzu (MARV 2 21, MARV 9 1). Since the arrears were derived by subtracting received supplies from each province's yearly assessment, adding the arrears and received figures from the same year should yield the full assessment amount.

There are a few complications though. The first is that portions of these six tablets are damaged and so we do not have usable data from each pair for every province-commodity combination. The second complication is that the Salmānu-zēra-iqīša and Liptānu pairs did not include a row for a province unless it would have at least one non-zero entry (see I.1). This means that if a province was omitted from a table, we can infer that all its values were zero.

These inferred values are given with the note “(omitted).”² Finally, there were some accounting irregularities in the year Salmānu-zēra-iqīša that are known from other texts (III.1). As a result, the totals yielded by the Salmānu-zēra-iqīša pair occasionally disagree with the other lines of evidence and must be discounted.

In addition to these paired tables, a few other texts give the exact amount owed by particular provinces in particular years or groups of years. Two of the most useful are MARV 9 2, which deals with arrears from a period of two years, and MARV 5 10, which deals with arrears accrued over a four-year period. In addition to these, a damaged passage in MARV 6 56 appears to give the complete grain assessments of a number of provinces, though the reason this information was recorded on the text remains something of a mystery. Other texts dealing with payments made or arrears owed by individual provinces are dealt with below as needed.

1.3 Upper bound estimates

In addition to the exact figures, we can also estimate the annual assessment of each province by taking the maximum amount of a given commodity a province can be shown to have paid or owed in a single year. To do this we must make the following assumptions.

First, where the evidence is unclear I assume the provincial assessment was constant from year to year. While this was demonstrably not true in every last case, the evidence in favor of it as a general principle of the Agency’s operations is overwhelming (see I.1).

As a second principle, I assume that provinces did not overpay their *gināu* assessment for any given year. They may well have sent additional payments to settle arrears from previous

² In principle we could infer 0 values every time a province is clearly omitted from a tablet. However, the knowledge that a province paid or owed nothing in a given year is not helpful in establishing its assessment without a matching tablet from the same year of opposite polarity. Hence I have only added the inferred 0 values for tablets in matched pairs

years, but it seems unlikely the provinces ever took it upon themselves to pay extra.³ Certainly there seems to be no record of such “donations” to the central government in M 4. Hence, for computing the assessment the maximum payment made or debt owed for one year’s obligation should be the closest figure to a province’s annual *gināu* obligation. As the obligations of each year are usually treated separately, this amounts to essentially a maximum over all attested payments and obligations.

The only caveat is that texts which include cumulative debts from more than one year have to be excluded (e.g. MARV 5 10, MARV 9 2). These texts are sometimes explicitly labeled as such, but also tend to give themselves away by having figures far larger than others attested for the a given province and commodity, often in neat multiples of the corresponding payment in other texts.

1.4 Frequency estimates

One final approach to determining a province’s annual assessment is to find the most commonly attested value which it either pays or owes. To paraphrase Tolstoy, complete payments are all alike, but incomplete payments are each incomplete in their own way. Let us assume that the assessments of individual provinces tended to be constant from year to year and that provinces in general did not pay more than their assessment for any given year. Then, in good years a province would pay its entire assessment, and in the worst years it would pay nothing at all and so owe its entire assessment. In lean years that were not catastrophically bad a province would not meet its full assessment but would pay as much as it was able. The exact

³ The only obvious exception appears in MARV 7 8, where Karānâ appears to have paid 6 sila of honey beyond its obligation. The text included the phrase *ú-tar* “in excess” after the entry to explicitly record that it was an overpayment. Given the small amount, it is quite possible that this was not intentional, but simply the result of a measuring error when the cargo was being loaded onto boats.

amount paid would presumably depend upon agricultural productivity, ease of shipping, and other demands on provincial resources. All of these things can vary considerably from year to year and so we would expect the exact amount of partial payments to vary as well. As a consequence of this, any particular partial payment figure should only be attested a few times. Even if lean years significantly outnumbered good and catastrophic years, each partial value would only be attested a few times while the complete assessment would be attested in every year the province was able to meet its full assessment or was unable to make a payment. Thus, the most frequently attested non-zero value for any given commodity for a province is likely to be its full assessment.

1.5 Numerology

As a final note, there is an overwhelming tendency for a province's sesame assessment to be exactly ten times its honey assessment. In a few cases we will have to use this to decide on the exact reconstruction of an assessment for which the other evidence is ambiguous.

2 Assessments by province

Before launching into the technical arguments, we should note a few conventions used below. First, I have summarized data from full *gināu* table tablets in a table under each heading. The information encoded in these tablets was quite standardized and there is little to be gained from adding a detailed prose description of each text. In each table below all amounts are given in *qa*, but to make the tables easier to read I have not added the word *qa* in each cell. In addition, whether an amount is paid or owed is indicated in the polarity column. A 1 indicates that the amount was paid, while -1 indicates that the amount was an unpaid debt. “?” is used for those tables where it is not possible to tell whether payments or debts are described.

Since other documents with information about provincial payments are rather more heterogeneous, I have not tried to fit them into the tabular scheme used for the full *gināu* table tablets. Instead, such texts are described in prose in the sections where they are relevant.

2.1 Arbāil

2.1.1 Grain: 29530 *qa*

Text	Amount	Polarity
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 5 04	0	-1
MARV 6 9 + MARV 8 24	0	-1
MARV 6 82	1530	-1
MARV 7 64	x+6910	-1
MARV 7 63	x+19030	?
MARV 6 46 + MARV 7 30	20660 [?]	1
MARV 5 14	21160 [?]	1
MARV 2 21	23070	1
MARV 9 12	23500	1
MARV 5 01	26120	1
MARV 5 02	29530	1
MARV 5 67	29530	1

Figure D-1: Arbela, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 29530 *qa*, which is also the only non-zero figure attested more than once in the archive. We also find a figure of 29530 *qa* given as the province's annual assessment in MARV 6 86, which was composed more than a half century later in the year Šamaš-apla-ēreš. 29530 *qa* is also the largest and best-attested non-zero figure.

2.1.2 Honey: 188[?] *qa*

Text	Amount	Polarity
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 49 + MARV 7 6	0	-1
MARV 6 9 + MARV 8 24	0	-1
MARV 7 27	x+7	1
MARV 5 02	40	1
MARV 7 63	73	?
MARV 6 05	73	-1
MARV 5 01	88	1
MARV 5 04	89	-1
MARV 6 82	97	-1
MARV 6 46 + MARV 7 30	118	1
MARV 7 64	100+x	-1
MARV 5 14	x+116	1
MARV 9 12	144	1
MARV 2 21	160	1
MARV 5 67	188 [?]	1

Figure D-2: Arbela, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 188[?] *qa*, which is the largest attested figure. Although it only occurs once, it is reasonably close to the next two largest figures of 144 *qa* and 160 *qa*. Note that the Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) yields an erroneously high figure of 217 *qa*, and is likely to be attributed to the accounting peculiarities of that year. Since 188 *qa* is the largest attested figure and is comparable to the figures for the two other large Northeastern provinces, Halahhu and Katmuhhu, I have tentatively adopted it.

2.1.3 Sesame: 1770 *qa*

Text	Amount	Polarity
MARV 7 27	0	1
MARV 5 67	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	$x+130+x$	-1
MARV 5 02	600	1
MARV 6 46 + MARV 7 30	600	1
MARV 2 21	800?	1
MARV 6 49 + MARV 7 6	870	-1
MARV 5 14	950	1
MARV 5 01	1070	1
MARV 7 63	1170	?
MARV 6 82	1770	-1
MARV 9 12	1770	1

Figure D-3: Arbela, Sesame

None of the complementary pairs furnishes us with an exact figure, but the largest attested figure is 1770. This is also one of the two best attested non-zero figures.

2.1.4 Fruit: 1160 *qa*

Text	Amount	Polarity
MARV 5 02	0	1
MARV 6 09 + MARV 8 24	0	-1
MARV 7 55	$x+100$	-1
MARV 7 27	$203+x$	1
MARV 6 05	230	-1
MARV 6 46 + MARV 7 30	$300^?$	1
MARV 9 01	$x+533$	-1
MARV 6 49 + MARV 7 6	440	-1
MARV 2 21	$x+506+x$	1
MARV 7 63	$800+x$?
MARV 9 12	$930^?$	1
MARV 5 14	1040	1
MARV 5 67	1160	1
MARV 5 04	$1160^?$	-1

Figure D-4: Arbela, Fruit

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 1160 *qa*, which is also the largest and best attested non-zero figure.

2.2 Kilizu

2.2.1 Grain: 9710 *qa*

Text	Amount	Polarity
MARV 5 04	0	-1
MARV 6 9 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 82	0	-1
MARV 7 64	0	-1
MARV 7 63	x+590	?
MARV 2 21	7200	1
MARV 5 14	7610?	1
MARV 5 02	7900	1
MARV 6 46 + MARV 7 30	8160	1
MARV 5 01	9000	1
MARV 5 67	9710	1
MARV 9 12	9710	1

Figure D-5: Kilizu, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 9710 *qa*, which is also the largest and best attested non-zero figure. MARV 6 90 (from well into the reign of Tiglath-pileser I) gives a figure of 19420 *qa* as Kilizu's assessment for two years, which also works out to 9710 *qa* per year.

2.2.2 Honey: 77 qa

Text	Amount	Polarity
MARV 6 05	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 6 82	0	-1
MARV 7 64	0	-1
MARV 7 27	x+1	1
MARV 7 63	73	?
MARV 5 01	77	1
MARV 5 02	77	1
MARV 5 04	77 [?]	-1
MARV 5 14	77	1
MARV 5 67	77	1
MARV 9 12	77	1

Figure D-6: Kilizu, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) give a figure of 77 qa, which is also the largest and best attested non-zero figure.

2.2.3 Sesame: 770 *qa*

Text	Amount	Polarity
MARV 5 02	0	1
MARV 5 14	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 7 64	0	-1
MARV 6 49 + MARV 7 6	20	-1
MARV 8 32	x+170	?
MARV 7 27	458	1
MARV 7 63	470	?
MARV 2 21	700	1
MARV 5 01	700 [?]	1
MARV 6 82	700+x	-1
MARV 5 67	770	1
MARV 9 12	770	1

Figure D-7: Kilizu, Sesame

A matching set of entries is not preserved in any of the complementary pairs, but the best attested and largest non-zero figure is 770 *qa*. Conveniently, this is also exactly ten times the province's honey assessment.

2.2.4 Fruit: 580 *qa*

Text	Amount	Polarity
MARV 5 02	0	1
MARV 5 67	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 7 27	0	1
MARV 7 64	0	-1
MARV 8 32	0	?
MARV 5 01	20	1
MARV 7 55	x+80	-1
MARV 6 05	170	-1
MARV 6 9 + MARV 8 24	x+180	-1
MARV 9 12	410	1
MARV 7 63	500+x	?
MARV 5 04	530	-1
MARV 5 14	580	1
MARV 6 49 + MARV 7 6	580	-1
MARV 9 01	580	-1

Figure D-8: Kilizu, Fruit

Both the Salmānu-zēra-iqīša and Pa’uzu pairs (MARV 9 12, MARV 6 5; MARV 2 21, MARV 9 1) give a figure of 580 *qa*, and the Liptānu Pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of the form $n \times 100 + 80$ *qa*. This is also the largest and best attested non-zero figure.

2.3 Halahhu

2.3.1 Grain: 28030 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 7 64	x+880	-1
MARV 6 82	2630 [?]	-1
MARV 5 02	18550	1
MARV 9 12	21120	1
MARV 2 21	25450	1
MARV 5 01	28000	1
MARV 6 09 + MARV 8 24	28030	-1
MARV 7 63	28030	?
MARV 5 14	28030 [?]	1

Figure D-9: Halahhu, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives an exact figure of 28030 *qa*, which is also the largest and best attested figure.

2.3.2 Honey: 180 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 9 06	x+10	1
MARV 6 82	57	-1
MARV 6 05	58 [?]	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	60	-1
MARV 5 02	60	1
MARV 5 01	80	1
MARV 6 49 + MARV 7 6	x+100+x	-1
MARV 9 12	108	1
MARV 5 04	114	-1
MARV 2 21	120	1
MARV 5 14	120	1
MARV 7 27	134	1
MARV 7 63	164	?
MARV 6 09 + MARV 8 24	180	-1
MARV 7 64	180	-1

Figure D-10: Halahhu, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 180 *qa*. The Salmāu-zēra-iqīša pair seems to give a smaller figure of 166 *qa*, but this is uncertain and, in any case, could be easily attributed to the accounting irregularities of that year. Since 180 *qa* is also the largest and best attested non-zero figure, I have taken it to be the assessment with some confidence.

Interestingly, in MARV 9 17 we find a reference to a total of 271.5¹ *qa* of honey from Halahhu *ištu līme Haburrāre* “from the year Haburrāru.” This may indicate that Halahhu’s honey assessment was reduced at some point around the accession of Ninurta-apil-Ekur. Indeed, we have evidence that something similar may have happened to the province’s sesame assessment. However, it is not entirely certain this passage refers to *gināu* obligations incurred in that year rather than *gināu* payments received in the named year, including arrears from previous years.

2.3.3 Sesame: 1540 *qa* | > 1980 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 01	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	x+10	-1
MARV 7 64	x+170	-1
MARV 6 05	540	-1
MARV 5 01	800?	1
MARV 5 04	850	-1
MARV 9 12	1000	1
MARV 6 82	1000+x	-1
MARV 5 02	1250	1
MARV 2 21	1540	1
MARV 5 14	1540	1
MARV 7 63	1540	?
MARV 8 32	1540	?
MARV 7 27	1980	1

Figure D-11: Halahhu, Sesame

The Salmānu-zēra-iqīša and Pa’uzu pairs (MARV 9 12, MARV 6 5; MARV 2 21, MARV 9 1) both give a figure of 1540 *qa*. This is also the best attested figure. It is also the largest figure with the exception of the anomalous 1980 *qa* that appears once in MARV 7 27. This may reflect a temporary change in the province’s assessment. In addition, since this is the earliest table in the archive, one could posit that the province’s assessment was altered sometime between the year Adad-rība when the tablet was composed and the middle years of Ninurta-Apil-Ekur when the 1540 *qa* figure first appears.

2.3.4 Fruit: 1260[?] *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 5 01	150	1
MARV 6 05	160 [?]	-1
MARV 7 55	x+180	-1
MARV 6 82	200+x	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	400+x	-1
MARV 8 32	500+x	?
MARV 6 49 + MARV 7 6	560?	-1
MARV 5 04	550	-1
MARV 9 12	800	1
MARV 7 64	1000+x	-1
MARV 7 63	1100+x	?
MARV 9 01	x+1260	-1
MARV 7 27	2260	1

Figure D-12: Halahhu, Fruit

Reconstructing the fruit payment for Halahhu is difficult. The largest attested value is 2260 *qa*, and the Pa'uzu pair (MARV 2 21, MARV 9 1) can be restored to yield this figure as well, although a figure of 1260 *qa* is more consistent with the traces. Finally, the Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) yields a much lower figure of 960 *qa*. Given the other accounting irregularities in the year Salmānu-zēra-iqīša, it is easiest to discount that figure. Now, MARV 7 27 also gives the province an anomalously high sesame payment, while in other texts the province is generally associated with figures of 1200 *qa* or less. Hence, I have tentatively gone with the middle figure of 1260 *qa*, although this is not certain.

2.4 Talmuššu

2.4.1 Grain: 13560 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 7 63	x+1990	?
MARV 6 82	3260	-1
MARV 5 02	5500	1
MARV 6 09 + MARV 8 24	5980	-1
MARV 5 67	7580	1
MARV 5 01	9100	1
MARV 5 14	10300	1
MARV 6 46 + MARV 7 30	10500 [?]	1
MARV 2 21	13560	1
MARV 9 12	13560	1

Figure D-13: Talmuššu, Grain

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 13560 *qa*, which is also the largest and best attested figure.

Note that the receipt MARV 5 42 also gives a figure of exactly 13560 *qa* as the complete assessment of Talmuššu province.

2.4.2 Honey: 77 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 7 27	$x+2$	1
MARV 6 82	15	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	$x+20+x$	-1
MARV 5 67	28 [?]	1
MARV 5 04	40	-1
MARV 6 09 + MARV 8 24	$45+x$	-1
MARV 7 63	77	?
MARV 9 12	77	1

Figure D-14: Talmuššu, Honey

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 77 *qa* and the Liptānu pair gives a figure of $73+x$ *qa* which is quite close. 77 *qa* is also the largest and best attested non-zero figure.

2.4.3 Sesame: 770 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 14	0	1
MARV 5 67	0	1
MARV 6 5 (omitted)	0	-1
MARV 8 32	0	?
MARV 9 01	x+10	-1
MARV 5 04	70	-1
MARV 5 02	100	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	x+170	-1
MARV 7 27	670	1
MARV 9 06	680?	1
MARV 6 82	700+x	-1
MARV 6 49 + MARV 7 6	770	-1
MARV 9 12	770	1
MARV 7 63	870	?

Figure D-15: Talmuššu, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 770 *qa*, which is also the best attested non-zero figure. Interestingly, MARV 7 63 gives a larger figure of 870 *qa*.

However, the same text gives Idu an anomalously low sesame figure of 670 *qa*. As argued in I.1, it seems best to see this as a temporary transfer of 100 *qa* of sesame obligations from Idu to the closely linked province of Talmuššu.

2.4.4 Fruit: 580 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 82	0	-1
MARV 9 06	0	1
MARV 7 55	x+10	-1
MARV 6 32	x+80	-1
MARV 6 46 + MARV 7 30	80	1
MARV 8 32	100+x	?
MARV 5 67	160	1
MARV 5 04	250	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	x+480	-1
MARV 7 63	500+x	?
MARV 7 27	520	1
MARV 6 49 + MARV 7 6	580 ⁹	-1
MARV 9 01	580	-1
MARV 9 12	580	1

Figure D-16: Talmuššu, Fruit

The Salmānu-zēra-iqīša and Pa'uzu pairs (MARV 9 12, MARV 6 5; MARV 2 21, MARV 9 1)

both give a figure of 580 *qa*, which is also the largest and best attested non-zero figure.

2.5 Idu

2.5.1 Grain: 13560 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 05	x+50	-1
MARV 6 82	x+510	-1
MARV 7 63	x+1500	?
MARV 6 82	2760	-1
MARV 6 46 + MARV 7 30	6000?	1
MARV 5 01	7100	1
MARV 5 14	11210 ⁷	1
MARV 5 02	12000	1
MARV 9 12	12200	1
MARV 2 21	13560	1
MARV 6 09 + MARV 8 24	13560	-1

Figure D-17: Idu, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 13560 *qa*, which is also the largest and best attested figure. For a discussion of irregularities in the province's grain payments during the *maddattu* crisis see III.1.

2.5.2 Honey: 77 *qa*

Text	Amount	Polarity
MARV 5 04	0 [?]	-1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 7 63	17 [?]	?
MARV 6 82	17	-1
MARV 5 01	40	1
MARV 5 02	40	1
MARV 6 09 + MARV 8 24	77 [?]	-1
MARV 2 21	77	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	77	-1
MARV 9 12	77	1

Figure D-18: Idu, Honey

The Liptānu pair gives a tentative figure of 77 *qa*, which is also the largest and best attested figure. To further commend this figure, it is exactly one tenth of the province's reconstructed sesame assessment of 770 *qa*.

2.5.3 Sesame: 770 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 04	0	-1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 8 32	0	?
MARV 9 01	0	-1
MARV 6 05	x+100	-1
MARV 6 49 + MARV 7 6	170	-1
MARV 9 12	370	1
MARV 6 82	x+500+x	-1
MARV 9 06	600	1
MARV 7 63	670	?
MARV 7 27	700	1
MARV 5 02	750	1
MARV 2 21	770	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	770 [?]	-1

Figure D-19: Idu, Sesame

The Pa'uzu pair (MARV 2 21, MARV 9 1) gives a figure of 770 *qa*, which is also the largest and best attested non-zero figure. Note that the Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) also gives a figure of the form $n \times 100 + 70$ *qa* further supporting this figure.

2.5.4 Fruit: 580 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 05	0	-1
MARV 6 82	0	-1
MARV 8 32	0	?
MARV 7 55	x+10	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	20	-1
MARV 6 09 + MARV 8 24	x+20	-1
MARV 6 32	x+80	-1
MARV 6 49 + MARV 7 6	70 [?]	-1
MARV 5 04	80	-1
MARV 6 82	x+100	-1
MARV 5 02	190	1
MARV 5 01	320	1
MARV 9 06	490	1
MARV 6 46 + MARV 7 30	500	1
MARV 7 27	520	1
MARV 9 01	580	-1
MARV 9 12	580	1

Figure D-20: Idu, Fruit

The Salmānu-zēra-iqīša and Pa'uzu pairs (MARV 9 12, MARV 6 5; MARV 2 21, MARV 9 1)

both give a figure of 580 *qa*, which is also the largest and best attested figure.

2.6 Katmuhhu

2.6.1 Grain: 27860 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 7 64	x+20	-1
MARV 6 05	x+70	-1
MARV 6 82	1060	-1
MARV 6 82	x+4500	-1
MARV 7 63	x+7800	?
MARV 2 21	18000	1
MARV 5 02	18000	1
MARV 5 14	18360	1
MARV 9 12	19000	1
MARV 5 01	23400	1
MARV 6 09 + MARV 8 24	27860	-1

Figure D-21: Katmuhhu, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 27860 *qa*, which is also the largest attested figure, though it only appears once.

2.6.2 Honey: 187[?] qa

Text	Amount	Polarity
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 82	0	-1
MARV 9 12	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	22.5	-1
MARV 6 49 + MARV 7 6	36 [?]	-1
MARV 9 06	x+50	1
MARV 6 82	80 [?]	-1
MARV 6 09 + MARV 8 24	170 [?]	-1
MARV 5 02	180	1
MARV 7 63	180	?
MARV 6 05	181+x	-1
MARV 2 21	187 [?]	1

Figure D-22: Katmuhhu, Honey

None of the complementary pairs is well enough preserved to yield an exact figure, but the Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) indicates that the province's assessment was between 181-189 qa.

The largest attested figure, 187[?] qa, falls in this range and so I have tentatively taken it to be the province's complete assessment.

2.6.3 Sesame: 1870 *qa*

Text	Amount	Polarity
MARV 5 01	0 [?]	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 82	0	-1
MARV 9 12	0	1
MARV 9 01	x+10	-1
MARV 8 32	x+100	?
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	130	-1
MARV 6 49 + MARV 7 6	180	-1
MARV 9 06	400	1
MARV 2 21	540	1
MARV 7 64	670	-1
MARV 6 09 + MARV 8 24	870 [?]	-1
MARV 5 04	900 [?]	-1
MARV 5 02	1800	1
MARV 7 63	1800	?
MARV 6 05	1870 [?]	-1
MARV 7 27	1870	1

Figure D-23: Katmuhhu, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 1870 *qa*, which is also the largest figure and is attested at least one more time in MARV 7 27.

2.6.4 Fruit: 2140 *qa*

Text	Amount	Polarity
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 6 82	x+100	-1
MARV 7 55	x+140	-1
MARV 9 12	400	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	x+410	-1
MARV 5 02	700	1
MARV 2 21	710	1
MARV 5 01	720	1
MARV 6 49 + MARV 7 6	960	-1
MARV 8 32	1000+x	?
MARV 9 06	1220	1
MARV 9 01	1430	-1
MARV 7 64	1500+x	-1
MARV 6 05	1740	-1
MARV 7 63	2100+x	?
MARV 7 27	2140	1
MARV 5 04	2140 [?]	-1
MARV 6 09 + MARV 8 24	2140	-1

Figure D-24: Katmuhhu, Fruit

All three complementary pairs give a figure of 2140 *qa*, which is also the largest and best attested figure.

2.7 Šūdu

2.7.1 Grain: 7710 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 6 82	0?	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	310	-1
MARV 5 01	4800+x	1
MARV 5 14	5710	1
MARV 2 21	7710	1
MARV 5 02	7710	1
MARV 5 67	7710	1
MARV 6 82	7710	-1
MARV 9 12	7710 [?]	1

Figure D-25: Šūdu, Grain

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 7710 *qa*, which is also the largest and best attested figure.

Note that the mysterious grain text MARV 6 56 also associates the province with a figure of 7710[?] *qa*.

2.7.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 82	0	-1
MARV 9 06	0	1
MARV 6 09 + MARV 8 24	5	-1
MARV 7 63	7	?
MARV 5 14	33	1
MARV 2 21	36	1
MARV 5 02	66	1
MARV 5 67	66	1
MARV 6 46 + MARV 7 30	66 ⁷	1
MARV 6 49 + MARV 7 6	66	-1
MARV 6 82	66	-1
MARV 9 12	66	1

Figure D-26: Šūdu, Honey

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure 66 *qa*, which is also the largest and best attested value. Oddly, the Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) records that the province had paid 66 *qa* but still owed an additional 5 *qa*, making the province's assessment 71 *qa*. While one cannot rule out a temporary change in the province's assessment, it seems quite likely that the issue is simply a clerical error. One might posit, for instance, that the scribe mistakenly read a figure of 61 *qa* paid as the province's full assessment of 66 *qa*.

2.7.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 06	0	1
MARV 6 09 + MARV 8 24	x+60	-1
MARV 7 63	70	?
MARV 5 14	315	1
MARV 5 02	420	1
MARV 5 67	500 [?]	1
MARV 7 27	600	1
MARV 6 82	600+x	-1
MARV 6 46 + MARV 7 30	660	1
MARV 9 12	660	1

Figure D-27: Šūdu, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 660 *qa*, which is also the largest and best attested non-zero figure. Supporting this number, the Liptānu pair (MARV 5 67, MARV 6 9+MARV 8 24) gives a figure of the form $n \times 100 + 560$ *qa*.

2.7.4 Fruit: 70 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 7 27	0	1
MARV 9 01	0	-1
MARV 9 06	0	1
MARV 6 09 + MARV 8 24	20	-1
MARV 7 63	30+x	?
MARV 5 02	40	1
MARV 5 67	50 [?]	1
MARV 2 21	70	1
MARV 5 14	70	1
MARV 6 46 + MARV 7 30	70	1
MARV 6 49 + MARV 7 6	70	-1
MARV 6 82	70 [?]	-1
MARV 9 12	70	1

Figure D-28: Šūdu, Fruit

All three complementary pairs yield a figure of 70 *qa*, which is also the largest and best attested figure.

2.8 Taidu

2.8.1 Grain: 0 *qa*

Taidu is never attested paying grain.

2.8.2 Honey: 88 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	22	-1
MARV 5 14	72	1
MARV 2 21	88	1
MARV 5 02	88	1
MARV 5 67	88 [?]	1
MARV 6 46 + MARV 7 30	88	1
MARV 9 12	88	1

Figure D-29: Taidu, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 88 *qa*, which is also the largest and best attested figure.

2.8.3 Sesame: 880 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 46 + MARV 7 30	180?	1
MARV 9 09	x+180?	1
MARV 5 67	680	1
MARV 5 14	800	1
MARV 2 21	880	1
MARV 5 02	880	1
MARV 7 27	880 [?]	1
MARV 9 06	880	1
MARV 9 12	880	1

Figure D-30: Taidu, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 880 *qa*, which is also the largest and best attested figure.

2.8.4 Fruit: 590 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	10	-1
MARV 9 01	90	-1
MARV 6 09 + MARV 8 24	150	-1
MARV 9 09	x+190	1
MARV 7 27	280	1
MARV 5 67	440 [?]	1
MARV 2 21	500	1
MARV 9 06	520	1
MARV 5 01	590 [?]	1
MARV 5 02	590	1
MARV 5 14	590	1
MARV 6 46 + MARV 7 30	590	1
MARV 9 12	590	1

Figure D-31: Taidu, Fruit

All three complementary pairs yield a figure of 590 *qa*, which is also the largest and best attested figure.

2.9 Amasakku

2.9.1 Grain: 0 *qa*

Amasakku is never attested paying grain.

2.9.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	26	-1
MARV 5 02	42	1
MARV 5 14	64	1
MARV 5 67	66	1
MARV 6 46 + MARV 7 30	66	1
MARV 9 12	66	1

Figure D-32: Amasakku, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both yield a figure of 66 *qa*, which is also the largest and best attested figure.

2.9.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 09	0	1
MARV 9 06	380	1
MARV 5 14	520	1
MARV 5 02	650	1
MARV 2 21	660	1
MARV 5 67	660	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	660	-1
MARV 6 46 + MARV 7 30	660	1
MARV 9 12	660	1

Figure D-33: Amasakku, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 660 *qa*. Note also that the province owes arrears of 2640 *qa* in MARV 5 10, exactly four times the 660 *qa* figure.

2.9.4 Fruit: 670 qa

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 06	120	1
MARV 6 09 + MARV 8 24	190	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	300+x	-1
MARV 5 02	400	1
MARV 9 09	430	1
MARV 6 46 + MARV 7 30	460	1
MARV 5 01	470	1
MARV 5 67	480 [?]	1
MARV 7 27	610 [?]	1
MARV 2 21	670	1
MARV 5 14	670	1
MARV 9 01	670	-1
MARV 9 12	670	1

Figure D-34: Amasakku, Fruit

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both yield a figure 670 qa, which is also the largest and best attested figure.

Interestingly, the Pa’uzu pair (MARV 2 21, MARV 9 1) lists the province as both having paid 670 qa and owing 670 qa. Taken at face value this would imply that the province had an assessment of 1340 qa, which is twice the size of any attested figure and would give the province one of the highest fruit assessments in the kingdom. However, it seems better to assume that this reflects a clerical error. One possible mechanism would be that the scribe noted that the province paid no fruit and erroneously converted this in his head to “owed no fruit,” but it is not difficult to postulate other errors that would produce the same result.

2.10 Kulišhinaš

2.10.1 Grain: 0

Kulišhinaš is never attested paying grain.

2.10.2 Honey: 33 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 9 09	x+1	1
MARV 5 14	15	1
MARV 5 02	26	1
MARV 2 21	33	1
MARV 5 67	33	1
MARV 6 46 + MARV 7 30	33	1
MARV 9 12	33	1

Figure D-35: Kulišhinaš, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both yield a figure of 33 *qa*, which is also the largest and best attested figure.

MARV 9 2 gives 66 *qa*, as a figure for two years, nicely representing two full years of non-payment.

2.10.3 Sesame: 330 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 49 + MARV 7 6	20	-1
MARV 5 02	300	1
MARV 5 14	300	1
MARV 2 21	330	1
MARV 5 67	330	1
MARV 6 46 + MARV 7 30	330 [?]	1
MARV 9 06	330	1
MARV 9 09	330	1
MARV 9 12	330	1

Figure D-36: Kulišhinaš, Sesame

The Salmānu-zēra-iqīša pairs both give a figure of 330 *qa*, which is also the largest and best attested figure. In addition, as occurred with the province's honey assessment, MARV 9 2 gives a figure exactly double the reconstructed sesame assessment.

2.10.4 Fruit: 320 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 9 01	0	-1
MARV 6 49 + MARV 7 6	50	-1
MARV 7 27	x+110	1
MARV 5 02	300 [?]	1
MARV 5 14	300	1
MARV 5 67	320	1
MARV 9 06	320	1
MARV 9 09	320	1
MARV 9 12	320	1
MARV 2 21	330	1

Figure D-37: Kulišhinaš, Fruit

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 320 *qa*, which is also the best attested figure. Curiously, the Pa’uzu pair (MARV 2 21, MARV 9 1) gives a slightly larger figure of 330 *qa*, as does the very damaged tablet MARV 7 93. This may reflect a slight change in the province’s assessment over the course of time. However, the 330 figure is damaged in both tablets where it appears, and it seems possible that in both texts one of the copied horizontals in the 3 BĀN sign was in fact a fortuitous crack. Unfortunately, since there are no available photographs of MARV 2 21 and MARV 7 93, it is not possible to check this.

2.11 Aššur

2.11.1 Grain: 0 *qa*

Aššur is never attested paying grain.

2.11.2 Honey: 88 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 82	0	-1
MARV 9 06	x+1	1
MARV 5 14	15	1
MARV 9 09	19	1
MARV 6 82	37	-1
MARV 5 02	60	1
MARV 5 01	81+x	1
MARV 2 21	88	1
MARV 5 67	88	1
MARV 6 46 + MARV 7 30	88 [?]	1
MARV 9 12	88	1

Figure D-38: Aššur, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 88 *qa*, which is also the largest and best attested figure.

2.11.3 Sesame: 880 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 49 + MARV 7 6	80	-1
MARV 6 82	160?	-1
MARV 5 02	x+400	1
MARV 5 14	450	1
MARV 5 67	730	1
MARV 9 09	810	1
MARV 2 21	880	1
MARV 9 06	880	1
MARV 9 12	880	1

Figure D-39: Aššur, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 880 *qa*, which is also the largest and best attested figure.

2.11.4 Fruit: 890 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 01	0	-1
MARV 9 09	x+8	1
MARV 6 82	40	-1
MARV 2 21	590 [?]	1
MARV 5 14	610	1
MARV 5 01	820	1
MARV 9 06	880 [?]	1
MARV 9 12	890	1
MARV 5 67	890	1

Figure D-40: Aššur, Fruit

The Salmānu-zēra-iqīša and Liptānu Pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) pairs give a figure of 890 *qa*, which is also the largest and best attested non-zero figure. The Pa'uzu pair (MARV 2 21, MARV 9 1) appears to give an anomalously low figure of 590 *qa*, but the entry in MARV 2 21 is damaged and a reading of 890 *qa* is not out of the question, though there is no photograph of the table available to check this.

2.12 The Upper Province

2.12.1 Grain

The Upper Province is never attested paying grain.

2.12.2 Honey: 180 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 02	0	1
MARV 6 5 (omitted)	0	-1
MAR 6 9 + MARV 8 24 (omitted)	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	18	-1
MARV 5 14	90	1
MARV 2 21	180	1
MARV 5 67	180	1
MARV 9 06	180	1
MARV 9 09	180	1
MARV 9 12	180	1

Figure D-41: Upper Province, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 180 *qa*, which is also the largest and best attested figure.

2.12.3 Sesame: 1800 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MAR 6 9 + MARV 8 24 (omitted)	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	200+x	-1
MARV 5 14	1000	1
MARV 5 02	x+1000+x	1
MARV 2 21	1800	1
MARV 5 67	1800	1
MARV 9 06	1800	1
MARV 9 09	1800	1
MARV 9 12	1800	1

Figure D-42: Upper Province, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 1800 *qa*, which is also the largest and best attested figure.

2.12.4 Fruit: 910 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 02	0	1
MARV 6 5 (omitted)	0	-1
MAR 6 9 + MARV 8 24 (omitted)	0	-1
MARV 9 01	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	160	-1
MARV 5 14	855	1
MARV 2 21	910	1
MARV 5 67	910	1
MARV 9 06	910	1
MARV 9 09	910	1
MARV 9 12	910	1

Figure D-43: Upper Province, Fruit

All three complementary pairs give a figure of 910 *qa*, which is also the largest and best attested figure.

2.13 The Lower Province

2.13.1 Grain: 14560 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 9 + MARV 8 24 (omitted)	0	-1
MARV 9 09	x+140	1
MARV 9 06	x+750	1
MARV 6 82	9570	-1
MARV 6 82	12560	-1
MARV 5 01	13920	1
MARV 5 14	14560	1
MARV 5 67	14560	1
MARV 9 12	14560	1

Figure D-44: Lower Province, Grain

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 14560 *qa* of grain. This is also the largest and best attested figure for the province.

2.13.2 Honey: 88 *qa*

Text	Amount	Polarity
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 9 + MARV 8 24 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	5	-1
MARV 2 21	20 [?]	1
MARV 9 09	44	1
MARV 5 01	54	1
MARV 9 06	80	1
MARV 5 67	88 [?]	1
MARV 5 02	88	1
MARV 6 82	88	-1
MARV 9 12	88	1

Figure D-45: Lower Province, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 88 *qa*, which is also the largest and best attested figure.

2.13.3 Sesame: 880 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 9 + MARV 8 24 (omitted)	0	-1
MARV 9 09	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	120	-1
MARV 6 49 + MARV 7 6	800+x	-1
MARV 2 21	880 ⁷	1
MARV 5 02	880	1
MARV 5 67	880	1
MARV 6 82	880	-1
MARV 9 06	880	1
MARV 9 12	880 ⁷	1

Figure D-46: Lower Province, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 880 *qa*, which is also the largest and best-attested figure.

2.13.4 Fruit: 90 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 9 + MARV 8 24 (omitted)	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 7 27	0	1
MARV 9 01	0	-1
MARV 9 09	0	1
MARV 6 49 + MARV 7 6	30	-1
MARV 5 02	90	1
MARV 5 04	90	-1
MARV 5 67	90	1
MARV 6 82	90	-1
MARV 9 12	90 [?]	1

Figure D-47: Lower Province, Fruit

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 90 *qa*, which is also the largest and best-attested non-zero figure for the province.

2.14 Turšān

2.14.1 Grain: 17560 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 5 67	6000	1
MARV 5 01	6570	1
MARV 9 09	8000	1
MARV 5 14	10000	1
MARV 9 06	10790	1
MARV 6 09 + MARV 8 24	11560	-1
MARV 7 37	12120	-1
MARV 9 12	17560 [?]	1

Figure D-48: Turšān, Grain

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) yield a figure of 17560 *qa*, which is the largest attested figure. In addition, the mysterious grain list MARV 6 56 links the province with a grain figure of 17560 *qa*.

2.14.2 Honey: 110 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 14	0	1
MARV 5 67	0	1
MARV 6 5 (omitted)	0	-1
MARV 9 09	0	1
MARV 5 04	x+10	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	70	-1
MARV 6 09 + MARV 8 24	100+x	-1
MARV 7 37	110	-1
MARV 9 12	110	1

Figure D-49: Turšān, Honey

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 110 *qa*, which is also the largest and best attested non-zero figure. The figure is also supported by the Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24), which yields a number with a 100-*qa* digit of 1.

2.14.3 Sesame: 1100 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 14	0	1
MARV 5 67	0	1
MARV 6 5 (omitted)	0	-1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 6 09 + MARV 8 24	x+100	-1
MARV 5 04	600	-1
MARV 7 37	800+x	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	1100	-1
MARV 6 49 + MARV 7 6	1100 ⁷	-1
MARV 9 12	1100	1

Figure D-50: Turšān, Sesame

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 1100 *qa*, which is also the largest and best attested non-zero figure.

2.14.4 Fruit: 440 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 5 14	0	1
MARV 5 67	0	1
MARV 6 5 (omitted)	0	-1
MARV 7 27	0	1
MARV 9 09	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	140	-1
MARV 6 49 + MARV 7 6	x+140	-1
MARV 5 04	440	-1
MARV 6 09 + MARV 8 24	440	-1
MARV 9 01	440 [?]	-1
MARV 9 12	440 [?]	1

Figure D-51: Turšan, Fruit

The Salmānu-zēra-iqīša and Litpānu pairs both give a figure of 440 *qa* for Turšan. This is also the largest and best attested non-zero figure in the archive.

2.15 Libbi-āle

2.15.1 Grain: 12560 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 82	0	-1
MARV 9 06	300	1
MARV 7 37	2260	-1
MARV 5 01	5000	1
MARV 9 12	9560	1
MARV 6 82	12000 [?]	-1
MARV 6 09 + MARV 8 24	12560	-1

Figure D-52: Libbi-āle, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 12560 *qa*. This is the largest attested figure and also matches the 12560[?] *qa* figure given for the province in the mysterious grain list MARV 6 56.

2.15.2 Honey: 100 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 6 82	0	-1
MARV 9 06	0	1
MARV 6 05	20	-1
MARV 9 12	80	1
MARV 5 01	100	1
MARV 7 37	100	-1
MARV 6 09 + MARV 8 24	100 [?]	-1
MARV 6 49 + MARV 7 6	100 [?]	-1

Figure D-53: Libbi-āle, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 100 *qa*, which is also the largest and best attested figure.

2.15.3 Sesame: 1000 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 6 09 + MARV 8 24	x+100	-1
MARV 6 82	x+100	-1
MARV 7 64	x+100	-1
MARV 6 05	400+x	-1
MARV 9 12	500	1
MARV 5 04	1000 [?]	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	1000	-1
MARV 6 49 + MARV 7 6	1000 [?]	-1
MARV 7 37	1000	-1

Figure D-54: Libbi-āle, Sesame

The largest and best attested figure is 1000 *qa*. The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 900+x *qa*, which also supports a value of 1000 *qa*.

2.15.4 Fruit: 90 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 6 05	0	-1
MARV 5 67 (omitted)	0	1
MARV 7 27	0	1
MARV 7 64	0	-1
MARV 9 06	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	30	-1
MARV 9 01	30+x [?]	-1
MARV 9 12	90 [?]	1
MARV 5 04	90	-1
MARV 6 09 + MARV 8 24	90	-1
MARV 6 49 + MARV 7 6	90	-1
MARV 6 82	90	-1

Figure D-55: Libbi-āle, Fruit

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) give a figure of 90 *qa* for the province. This is also the largest and best attested non-zero figure.

2.16 Ninua

2.16.1 Grain: 0 *qa*

Ninua is never attested paying grain.

2.16.2 Honey: 20 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 7 37	0	-1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 9 09	10	1
MARV 5 02	20	1
MARV 6 05	20	-1

Figure D-56: Ninua, Honey

The Salmānu-zēra-iqīša pair (MARV 9 12, MARV 6 5) gives a figure of 20 *qa*, which is also the largest and best attested non-zero figure.

2.16.3 Sesame: 200 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 9 12 (omitted)	0	1
MARV 5 14	90	1
MARV 7 64	100	-1
MARV 5 04	x+100	-1
MARV 5 02	200	1
MARV 6 05	200	-1
MARV 6 09 + MARV 8 24	200	-1
MARV 7 37	200	-1

Figure D-57: Ninua, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both yield a figure of 200 *qa*. This is also the largest and best attested figure.

2.16.4 Fruit: 0 *qa*

Ninua is never attested paying fruit.

2.17 Kurda

2.17.1 Grain: 0 *qa*

Kurda is never attested paying grain.

2.17.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12	50	1
MARV 6 09 + MARV 8 24	66	-1
MARV 6 49 + MARV 7 6	66 [?]	-1

Figure D-58: Kurda, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 66 *qa*, which is also the largest and best attested figure.

2.17.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12	0	1
MARV 6 82	$x+160$	-1
MARV 6 49 + MARV 7 6	$600+x$	-1
MARV 6 09 + MARV 8 24	660	-1
MARV 7 64	660	-1

Figure D-59: Kurda, Sesame

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure 660 *qa*. This is also the largest and best attested non-zero figure.

2.17.4 Fruit: 470 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 7 27	0	1
MARV 9 06	0	1
MARV 9 12	0	1
MARV 6 49 + MARV 7 6	x+170	-1
MARV 9 01	x+170	-1
MARV 7 64	400+x	-1
MARV 6 82	460	-1
MARV 5 04	470 [?]	-1
MARV 6 09 + MARV 8 24	470	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	470 [?]	-1

Figure D-60: Kurda, Fruit

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 470 *qa*, and the Pa'uzu pair (MARV 2 21, MARV 9 1) gives a figure of the form $n \times 100 + 70$ *qa* which is consistent with this number. 470 *qa* is also the largest and best-attested figure.

2.18 Apku

2.18.1 Grain: 0 *qa*

Apku is never attested paying grain.

2.18.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12	0	1
MARV 6 09 + MARV 8 24	66	-1

Figure D-61: Apku, Honey

This Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 66 *qa*, which is also the only attested non-zero figure.

2.18.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 6 49 + MARV 7 6	x+160	-1
MARV 6 82	x+160	-1
MARV 9 12	300	1
MARV 6 09 + MARV 8 24	660	-1

Figure D-62: Apku, Sesame

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 660 *qa*, which is also the largest attested figure. Although it is attested only once, this figure also has the advantage of being exactly ten times the province's sesame assessment.

2.18.4 Fruit: 270 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12	0	1
MARV 5 02	70	1
MARV 6 49 + MARV 7 6	170	-1
MARV 5 04	270	-1
MARV 6 09 + MARV 8 24	270	-1
MARV 6 82	270	-1
MARV 9 01	270	-1

Figure D-63: Apku, Fruit

The Liptānu and Pa'uzu pairs (MARV 5 67, MARV 6 9 + MARV 8 24; MARV 2 21, MARV 9

1) both give a figure 270 *qa*, which is also the largest and best-attested figure.

2.19 Addarik

2.19.1 Grain: 0 *qa*

Addarik is never attested paying grain.

2.19.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 6 82	8 [?]	-1
MARV 5 02	40	1
MARV 2 21	50	1
MARV 5 14	50	1
MARV 6 09 + MARV 8 24	66	-1
MARV 6 46 + MARV 7 30	66	1
MARV 6 49 + MARV 7 6	66 [?]	-1
MARV 9 12	66	1

Figure D-64: Addarik, Honey

The Litpānu pair gives a figure of 66 *qa* which is also the largest and best attested figure.

2.19.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 9 12	0	1
MARV 6 82	60	-1
MARV 5 04	x+110	-1
MARV 6 09 + MARV 8 24	660	-1
MARV 6 46 + MARV 7 30	660 [?]	1

Figure D-65: Addarik, Sesame

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure 660 *qa*, which is also the largest and best attested non-zero figure.

2.19.4 Fruit: 270 *qa*

Text	Amount	Polarity
MARV 5 02	0	1
MARV 5 67 (omitted)	0	1
MARV 6 82	0	-1
MARV 5 04	50	-1
MARV 9 06	150	1
MARV 6 49 + MARV 7 6	x+160	-1
MARV 2 21	270	1
MARV 5 14	270	1
MARV 6 09 + MARV 8 24	270	-1
MARV 6 46 + MARV 7 30	270	1
MARV 9 09	270	1
MARV 9 12	270	1

Figure D-66: Addarik, Fruit

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 270 *qa*, which is also the largest and best attested figure.

2.20 Karāna

2.20.1 Grain: 0 *qa*

Karāna is never attested paying grain.

2.20.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 9 06	0	1
MARV 6 82	6	-1
MARV 6 09 + MARV 8 24	11	-1
MARV 6 46 + MARV 7 30	20	1
MARV 5 67	55	1
MARV 6 49 + MARV 7 6	66 ⁷	-1
MARV 9 12	66	1

Figure D-67: Karāna, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 66 *qa*, which is also the largest and best attested figure.

2.20.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 67	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 9 06	0	1
MARV 9 12	0	1
MARV 6 49 + MARV 7 6	$x+100+x$	-1
MARV 7 27	$x+160$	1
MARV 5 04	270?	-1
MARV 6 09 + MARV 8 24	660	-1
MARV 6 82	660	-1

Figure D-68: Karāna, Sesame

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 660 *qa*, which is also the largest and best attested non-zero figure.

2.20.4 Fruit: 270 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 8 36	0 [?]	1
MARV 9 06	0	1
MARV 9 12	0 [?]	1
MARV 5 01	90 [?]	1
MARV 5 04	90	-1
MARV 7 27	100+x	1
MARV 6 82	x+150	-1
MARV 6 49 + MARV 7 6	x+170	-1
MARV 6 09 + MARV 8 24	270	-1
MARV 6 82	270	-1
MARV 9 01	270	-1

Figure D-69: Karāna, Fruit

The Liptānu and Pa'uzu pairs (MARV 5 67, MARV 6 9 + MARV 8 24; MARV 2 21, MARV 9

1) both give a figure of 270 *qa*. This is also the largest and best attested non-zero figure.

2.21 Šibanibe

2.21.1 Grain: 0 *qa*

Šibanibe is never attested paying grain.

2.21.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 6 46 + MARV 7 30	60	1
MARV 5 04	66	-1
MARV 6 09 + MARV 8 24	66	-1
MARV 6 49 + MARV 7 6	66 ⁷	-1
MARV 6 82	66 ⁷	-1

Figure D-70: Šibanibe, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 66 *qa*. This is also the largest and best attested figure.

2.21.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 49 + MARV 7 6	0	-1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 6 82	x+160	-1
MARV 5 04	x+170	-1
MARV 6 46 + MARV 7 30	600 [?]	1
MARV 6 09 + MARV 8 24	660	-1

Figure D-71: Šibanibe, Sesame

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure 660 *qa*, which is exactly ten times the province's honey assessment. The copy of MARV 5 5 gives a slightly larger figure of 670 *qa*, but the section is damaged and no photograph is available to check the number. If the figure is indeed 670 *qa*, it seems best explained as a product of the unusual arrears situation which that text deals with. All other attested honey figures are smaller than either value.

2.21.4 Fruit: 270 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 6 49 + MARV 7 6	100	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	x+160	-1
MARV 6 46 + MARV 7 30	200	1
MARV 7 27	230+x	1
MARV 5 04	270	-1
MARV 6 09 + MARV 8 24	270	-1
MARV 6 82	270	-1
MARV 9 01	270	-1

Figure D-72: Šibanibe, Fruit

The Liptānu and Pa'uzu pairs (MARV 5 67, MARV 6 9 + MARV 8 24; MARV 2 21, MARV 9

1) both yield a figure of 270 *qa*, which is also the largest and best attested figure.

2.22 Hiššutu

2.22.1 Grain: 0 *qa*

Hiššutu is never attested paying grain.

2.22.2 Honey: 66 *qa*

Text	Amount	Polarity
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	16	-1
MARV 5 67	50	1
MARV 6 46 + MARV 7 30	50	1
MARV 5 01	60	1
MARV 5 02	60	1
MARV 5 14	60	1
MARV 2 21	66	1
MARV 5 04	66	-1
MARV 9 06	66	1
MARV 9 12	66	1

Figure D-73: Hiššutu, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both yield a figure of 66 *qa*, which is also the largest and best-attested figure.

2.22.3 Sesame: 660 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 02	0	1
MARV 6 5 (omitted)	0	-1
MARV 9 06	0	1
MARV 5 14	$x+100+x$	1
MARV 6 82	$x+110$	-1
MARV 5 04	$x+170$	-1
MARV 7 27	$x+170$	1
MARV 6 46 + MARV 7 30	$200^?$	1
MARV 6 49 + MARV 7 6	$260^?$	-1
MARV 8 36	$x+290$	1
MARV 6 09 + MARV 8 24	270	-1
MARV 5 67	390	1
MARV 9 12	660	1

Figure D-74: Hiššutu, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both yield a figure of 660 *qa*, which is also the largest attested figure.

2.22.4 Fruit: 270 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 04	0	-1
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 82	0	-1
MARV 7 27	0	1
MARV 9 06	0	1
MARV 5 14	100+x	1
MARV 6 49 + MARV 7 6	110	-1
MARV 5 01	220	1
MARV 5 67	270	1
MARV 6 46 + MARV 7 30	270	1
MARV 8 36	270	1
MARV 9 01	270	-1
MARV 9 12	270	1

Figure D-75: Hiššutu, Fruit

All three complementary pairs yield a figure of 270 *qa*, which is also the largest and best attested non-zero figure.

2.23 Šīme

2.23.1 Grain: 6030 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67	0	1
MARV 6 5 (omitted)	0	-1
MARV 9 06	0	1
MARV 6 49 + MARV 7 6	x+30	-1
MARV 6 82	x+130	-1
MARV 5 01	x+1430 [?]	1
MARV 5 14	1600 [?]	1
MARV 9 09	4340 [?]	1
MARV 6 09 + MARV 8 24	6030	-1
MARV 9 12	6030	1

Figure D-76: Šīme, Grain

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 6030 *qa*. This is also the amount associated with the province in the mysterious grain list MARV 6 56.

2.23.2 Honey: 44 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 6 82	30+x	-1
MARV 5 04	44	-1
MARV 5 67	44	1
MARV 6 49 + MARV 7 6	44 [?]	-1
MARV 9 12	44	1

Figure D-77: Šime, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 44 *qa*, which is also the largest and best attested non-zero figure.

2.23.3 Sesame: 440 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 14	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 7 27	300	1
MARV 6 82	x+140	-1
MARV 5 04	440	-1
MARV 5 67	440	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	440	-1
MARV 6 49 + MARV 7 6	440	-1
MARV 8 36	440	1
MARV 9 12	440 [?]	1

Figure D-78: Šime, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 440 *qa*, which is also the largest and best-attested non-zero figure.

2.23.4 Fruit: 310 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 6 5 (omitted)	0	-1
MARV 6 09 + MARV 8 24	0	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 7 27	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 5 04	210	-1
MARV 5 67	310	1
MARV 6 49 + MARV 7 6	310	-1
MARV 6 82	310	-1
MARV 8 36	310	1
MARV 9 01	310	-1
MARV 9 12	310	1

Figure D-79: Šime, Fruit

All three complementary pairs give a figure of 310 *qa*, which is also the largest and best-attested non-zero figure.

2.24 Husanānu

2.24.1 Grain: 11710 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 9 12 (omitted)	0	1
MARV 6 82	x+110	-1
MARV 6 49 + MARV 7 6	x+570	-1
MARV 5 02	1200	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	2210	-1
MARV 9 09	3330	1
MARV 9 12 (omitted)	0	1
MARV 5 14	x+4000	1
MARV 9 06	5400	1
MARV 6 09 + MARV 8 24	11710 [?]	-1

Figure D-80: Husanānu, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 11710 *qa*. MARV 6 2 also gives this as the exact amount owed by the province in each of two consecutive years. Finally, the mysterious grain list MARV 6 56 associates Husanānu with a figure of exactly 11710[?] *qa*. Taken together, then, there is strong reason to think that the province's assessment was exactly 11710 *qa*.

2.24.2 Honey: 88 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 9 12 (omitted)	0	1
MARV 6 46 + MARV 7 30	40 ⁹	1
MARV 5 04	88	-1
MARV 6 05	88	-1
MARV 6 09 + MARV 8 24	88	-1
MARV 6 49 + MARV 7 6	88	-1
MARV 6 82	88	-1

Figure D-81: Husanānu, Honey

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 88 *qa*, which is also the largest and best attested figure. What is more the province owed 176 *qa*—exactly twice that amount—in MARV 6 2 as the arrears of two years.

2.24.3 Sesame: 880 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 5 67 (omitted)	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 9 12 (omitted)	0	1
MARV 5 04	$x+100+x$	-1
MARV 7 64	800 [?]	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	$820+x$	-1
MARV 6 05	880	-1
MARV 6 09 + MARV 8 24	880	-1
MARV 6 49 + MARV 7 6	880	-1
MARV 6 82	880	-1

Figure D-82: Husanānu, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 880 *qa*, which is also the largest and best attested non-zero figure.

2.24.4 Fruit: 360 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 02	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 9 12 (omitted)	0	1
MARV 5 04	360	-1
MARV 6 05	360 ⁹	-1
MARV 6 09 + MARV 8 24	360	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	360	-1
MARV 6 49 + MARV 7 6	360	-1
MARV 6 82	360	-1
MARV 9 01	360	-1

Figure D-83: Husanānu, Fruit

All three complementary pairs give a figure of 360 *qa*. In addition, this is the largest and best attested figure. What is more, it is exactly one half the two-year deficit of 720 *qa* given for the province in MARV 6 2.

2.25 Kalhu

2.25.1 Grain: 6350 *qa*

Text	Amount	Polarity
MARV 5 01	0	1
MARV 6 49 + MARV 7 6	x+250	-1
MARV 5 67	2000 ⁷	1
MARV 6 46 + MARV 7 30	2880	1
MARV 6 09 + MARV 8 24	4350	-1
MARV 9 09	5240	1
MARV 5 04	6200	-1
MARV 6 82	6200	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	6300	-1
MARV 5 02	6340	1
MARV 9 12	6340	1
MARV 2 21	6350	1
MARV 5 14	6350	1
MARV 9 06	6350	1

Figure D-84: Kalhu, Grain

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 6350 *qa*, which is also the largest and best attested figure. This is also the figure given by the mysterious grain text MARV 6 56.

2.25.2 Honey: 44 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 02	0	1
MARV 5 14	0	1
MARV 5 67	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 6 82	26	-1
MARV 9 12	27	1
MARV 5 04	44	-1
MARV 6 09 + MARV 8 24	44	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	44 [?]	-1
MARV 6 49 + MARV 7 6	44	-1

Figure D-85: Kalhu, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 44 *qa*, which is also the largest and best attested non-zero figure.

2.25.3 Sesame: 440 *qa*

Text	Amount	Polarity
MARV 5 02	0	1
MARV 5 67	0	1
MARV 6 46 + MARV 7 30	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 5 04	$x+120+x$	-1
MARV 2 21	175	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	$420+x$	-1
MARV 5 01	440	1
MARV 6 09 + MARV 8 24	440	-1
MARV 6 49 + MARV 7 6	440	-1
MARV 6 82	440	-1

Figure D-86: Kalhu, Sesame

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 440 *qa*, which is also the largest and best attested sesame figure for the province. Note also that this is exactly ten times the province's honey assessment.

2.25.4 Fruit: 60 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 01	0	1
MARV 5 02	0	1
MARV 5 67	0	1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	0	-1
MARV 6 46 + MARV 7 30	0	1
MARV 9 06	0	1
MARV 9 09	0	1
MARV 7 27	57+x	1
MARV 5 04	60	-1
MARV 6 09 + MARV 8 24	60	-1
MARV 6 49 + MARV 7 6	60	-1
MARV 6 82	60	-1
MARV 9 01	60 [?]	-1
MARV 9 12	60	1

Figure D-87: Kalhu, Fruit

The Pa'uzu and Liptānu pairs (MARV 2 21, MARV 9 1; MARV 5 67, MARV 6 9 + MARV 8 24) give a figure of 60 *qa*, which is also the largest and best attested figure.

2.26 Ša-šille

2.26.1 Grain: 0 *qa*

Ša-šille province is never attested paying grain.

2.26.2 Honey: 11 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 5 04	11 [?]	-1
MARV 6 09 + MARV 8 24	11	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	11	-1
MARV 6 49 + MARV 7 6	11	-1
MARV 6 82	11	-1

Figure D-88: Ša-šille, Honey

The Liptānu pair (MARV 5 67, MARV 6 9 + MARV 8 24) gives a figure of 11 *qa*. Indeed 11 *qa* seems to be the only non-zero honey figure associated with the province.

2.26.3 Sesame: 110 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 5 04	110	-1
MARV 6 05	110	-1
MARV 6 09 + MARV 8 24	110	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	110	-1
MARV 6 49 + MARV 7 6	110	-1
MARV 6 82	110	-1
MARV 7 27	110 [?]	1
MARV 7 64	110	-1

Figure D-89: Ša-šille, Sesame

The Salmānu-zēra-iqīša and Liptānu pairs (MARV 9 12, MARV 6 5; MARV 5 67, MARV 6 9 + MARV 8 24) both give a figure of 110 *qa* for the province. This is once again the only sesame figure attested for the province other than 0.

2.26.4 Fruit: 110 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 7 27	0	1
MARV 9 06	0	1
MARV 9 12 (omitted)	0	1
MARV 5 04	110	-1
MARV 6 05	110	-1
MARV 6 09 + MARV 8 24	110	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	110	-1
MARV 6 49 + MARV 7 6	110	-1
MARV 6 82	110	-1
MARV 9 01	110	-1

Figure D-90: Ša-šille, Fruit

All three complementary pairs give a figure of 110 *qa* of fruit for the province. All other preserved fruit figures are either 110 *qa* or can plausibly be restored as such.

2.27 Šumēla

2.27.1 Grain: 0 *qa*

Šumēla province is never attested paying grain.

2.27.2 Honey: 0 *qa*

Šumēla province is never attested paying honey.

2.27.3 Sesame: 0 *qa*

Šumēla province is never attested paying sesame.

2.27.4 Fruit: 150 *qa*

Text	Amount	Polarity
MARV 2 21	0	1
MARV 5 67 (omitted)	0	1
MARV 9 06	0	1
MARV 9 12	40	1
MARV 6 82	100	-1
MARV 6 05	110	-1
MARV 5 04	150	-1
MARV 6 09 + MARV 8 24	150	-1
MARV 6 16 + MARV 6 50 + Reculeau and Feller 2012 48	150	-1
MARV 6 49 + MARV 7 6	150	-1
MARV 9 01	150	-1

Figure D-91: Šumēla, Fruit

All three complementary pairs give a total of 150 *qa* fruit as the province's assessment. This is also the largest and by far the most common figure attested for the province.

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