

THE UNIVERSITY OF CHICAGO

SPATIAL DEIXIS AND THE DEMONSTRATIVE SYSTEM OF KALAALLISUT

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## Abstract

Spatial deixis serves as an important intersection between grammatical structure and the physical setting of speech. Demonstratives are a prominent means for the expression of spatial deixis; they are found in all languages yet illustrate considerable cross-linguistic diversity in their grammatical, semantic, and pragmatic properties. So called ‘multi-opposition’ demonstrative systems may encode numerous deictic distinctions, including uncommon directional meanings such that they locate a referent through the specification of a direction projected from the deictic origo. Although deictic systems featuring such uncommon features have been noted in the literature, there is a distinct lack of in-depth investigations into the actual semantics and usage of such systems and therefore a lack of understanding about their functioning. This thesis documents and analyzes a particularly rich and spatially detailed demonstrative paradigm from both synchronic and diachronic perspectives.

Kalaallisut (ISO 639-3 kal) is an Unangan-Yupik-Inuit language spoken in Greenland and by the Greenlandic diaspora in Denmark. In this study, I investigate the Kalaallisut demonstrative system with a focus on describing its exophoric, spatial semantics as well as its diachronic trajectory, evolving out of Proto-Yupik-Inuit and continuing to undergo significant change today. Kalaallisut has a large and complex demonstrative paradigm which exhibits numerous uncommon directional distinctions, which are anchored to the local, geophysical environment and include topographic, vertical, and cardinal features. Furthermore, rapid change is currently in evidence within the Kalaallisut system, reflecting broader linguistic, socio-cultural, and environmental shift underway in Greenland and across the Arctic more broadly. Thus, this thesis additionally serves as a case study examining ongoing language change within a complex conceptual and grammatical paradigm. Fieldwork for this study was conducted in Greenland (Nuuk and Sisimiut) and in Denmark (Copenhagen), utilizing a combination of structured elicitation methods, interviews, and text elicitation.

This study investigates the ways in which a complex deictic system evolves over time, including which parts are stable and which are more susceptible to change, as well as con-

sidering which linguistic and extra-linguistic factors may play a role in variation and change. Core spatial categories including directional and distance distinctions are found to exhibit significant diachronic stability in this system indicating a fundamental role of space. Other aspects of the paradigm have been affected by internal language change, adaptation to different environments, and more recently socio-cultural change and language contact.

## Glossing Conventions

1, 2, 3	1st, 2nd, 3rd person	HAB	habitual
3R	3rd reflexive person	IND	indicative mood
ABL	ablative	INSTR	instrumental
ABS	absolutive	LOC	locative
ALL	allative	NEG	negation
ANAPH	anaphoric	OBSC	obscured
APRT	active participle	PART	participial mood
CAUS	causative	PERF	perfective
CONJ	conjunctive mood	PRED	predicative
DEM	demonstrative	PROS	prosecutive
DIST	distal	PROX	proximal
ERG	ergative	PSUB	past subordinative mood
EXT	extended	PL	plural
FSUB	future subordinative mood	SG	singular
FUT	future tense		

# Chapter 1

## Introduction and background

### 1.1 Overview

This study examines spatial deixis and demonstratives in Kalaallisut. Spatial deixis has to do with indexical reference to objects and places within the physical surroundings of speech. Demonstratives, like English *this* and *that*, *here* and *there*, are lexical and grammatical elements which appear in small, closed class paradigms and which pick out referents from within the spacio-temporal or discourse context. Demonstratives are found in all languages, serving the basic and important function of coordinating joint attention, as well as being some of the most frequent and earliest learned words (Diessel 2014). Kalaallisut is a Yupik-Inuit language spoken by approximately 50,000 people in Greenland and Denmark. It has a system of twelve demonstratives which encode a number of cross-linguistically unusual and spatially-specific deictic features.

	<b>Proximal/ Medial</b>	<b>Distal</b>	<b>Topographic/cardinal meanings</b>
<b>Near speaker</b>	<i>ma-</i> <i>uv-</i>	( <i>im-</i> )	–
<b>Away from speaker, same level</b>	<i>ik-</i>	<i>av-</i> <i>qav-</i>	R-coast/north L-coast/south
<b>Down from speaker</b>	<i>kan-</i>	<i>sam-</i>	seawards/west
<b>Up from speaker</b>	<i>pik-</i>	<i>pav-</i>	inland/east
<b>Inside/outside</b>	<i>qam-</i> <i>kig-</i>		inside fjord south

Table 1.1: Kalaallisut demonstrative paradigm with geophysical meanings

This study serves as an investigation into the meaning and usage of the complex Kalaallisut spatial deictic system shown in Table 1.1, contextualized within the broader domain of Kalaallisut spatial language and within the development of Yupik-Inuit demonstratives across time and space. In addition, this study looks at variation in demonstrative proficiency

across speakers of different ages and backgrounds, noting multiples trajectories of ongoing change within the system.

## 1.2 Motivation for the study

There are several clear motivations for the study. Deixis occupies a unique and special position within language and communicative practice. As a link between grammar and the context surrounding an utterance, “deictic systems define points of intersection between linguistic structure and the social setting in which speech takes place,” (Hanks 2011: 315). Demonstrative paradigms enact a structured representation of the extra-linguistic setting, drawing upon and reinforcing particular spacio-temporal, perceptual and social dimensions in the production of meaning. For these reasons and others, deictic phenomena have been a topic of interest for many different fields, including semantics, pragmatics, linguistic anthropology, philosophy, and psychology.

Deixis and demonstratives are also of significant interest with regards to the interplay between linguistic universals and cross-linguistic diversity. As stated above, all languages have demonstratives and other ways of drawing upon aspects of the speech setting for the purpose of denotational reference. The establishment of joint attention between a speaker and addressee onto a referential entity is a basic function and necessity of communication. Deictic pointing gestures are a basic communicative tool for establishing joint attention, used universally across cultures and learned early on by infants (Clark 2003; Cooperrider 2011; Cooperrider et al. 2018; Kita 2003; Tomasello 2008). Demonstratives are the linguistic analogue of pointing gestures, often co-occurring with them (Eriksson 2008).

Thus demonstratives occupy a universal position across languages and cultures; however, there exists considerable cross-linguistic variation in the manifestation of demonstrative systems, including in the number and type of semantic distinctions made, their morpho-syntactic properties and role within the grammar. Many of the world’s languages make a

two- or three-way distinction in their demonstrative systems (e.g. distinguishing between proximal ‘here’ and distal ‘there’), but some languages have larger systems encoding other sorts of deictic oppositions in the situational localization of referents, such as speech participants, visibility, accessibility, attention, direction, and prior discourse.

Kalaallisut and other Yupik-Inuit demonstrative systems occupy the far end of this spectrum of variation with a very high number of forms which draw upon rarely encoded spatial information. As noted by Burenhult (2008), such complex, larger demonstrative systems generally lack detailed descriptions and thus little is known about such kinds of demonstrative semantics. A primary aim of this study is to help fill in this gap by providing a more in-depth description of one such system—that of Kalaallisut—which is highly uncommon in its spatial and environmental specificity. The deictic features expressed by the system include verticality/elevation, coastal direction, and interior/exterior space.

Kalaallisut spatial deixis is interconnected with a larger domain of orientation and spatial language as a function of the traditional Greenlandic and Inuit engagement with the physical environment. As noted by Miyaoka (2012: 346) for another Yupik-Inuit language, Central Alaskan Yup’ik, younger (and particularly urban) Kalaallisut speakers are demonstrating a degree of change and loss of aspects of the traditional system, “in accordance with the shift away from the traditional hunting-fishing-gathering culture in which the demonstrative complexity is anchored.” The entire Arctic region is currently experiencing wide-scale and rapid linguistic, cultural, and environmental disruption and change, linked to urbanization, globalization, migration, and climate change (Larsen et al. 2010; Larsen and Fondahl 2014; Rasmussen 2011). This leads us to another important motivation for this study: to provide an in-depth investigation into the more traditional system of Kalaallisut spatial deixis before it undergoes more significant change. Finally, investigation into the changes themselves are a second aim of this study, both as a case study of the dynamics of ongoing language change within a complex conceptual and grammatical paradigm, as well as to understand the impact of such major societal and environmental changes on indigenous language use.

What follows of the current chapter first provides an introduction to the Kalaallisut language, Kalaallit people, and *Kalaallit Nunaat*, the country of Greenland (Section 1.3). The next three sections serve as background on the major theoretical areas relating to this study: spatial language (Section 1.4), deixis (Section 1.5), and demonstratives (Section 1.6). Lastly, I describe the current study including data collection and methods and give an overview of the following chapters (Section 1.7).

## **1.3 An introduction to Kalaallisut and Greenland**

### **1.3.1 The Kalaallisut language**

Kalaallisut (ISO 639-3 kal; also known as West Greenlandic) is an Unangan-Yupik-Inuit language spoken by roughly 50,000-60,000 people in Greenland, primarily on the west coast, and in Denmark. Comparative work suggests that Proto-Unangan-Yupik-Inuit was spoken around four thousand years ago around the Bering Sea, while Proto-Yupik-Inuit was spoken two thousand years ago in Alaska (Fortescue et al. 2010). Around a thousand years ago, the speakers of Proto-Inuit (the Thule culture) began to spread from North Alaska across the Canadian Arctic to Greenland. The Inuit branch, which includes Kalaallisut, forms a rough dialect continuum from northwest Alaska to Greenland. The Inuit languages of Greenland (hereby referred to as Greenlandic Inuit) fall into three main groups: Inuktun (Avanersuarmitut or North Greenlandic), Kalaallisut (West Greenlandic), and Tunumiisut (East Greenlandic). Kalaallisut is the official (standard and standardized) language of Greenland, based on central dialects spoken in the Sisimiut/Nuuk/Maniitsoq area, along the west coast. Having been a Danish colony for many years, the main contact language in Greenland is Danish, which is also spoken by many people and often used alongside Kalaallisut in public affairs. English is also spoken by many, especially in the urban centers, and is taught in school with Kalaallisut and Danish.

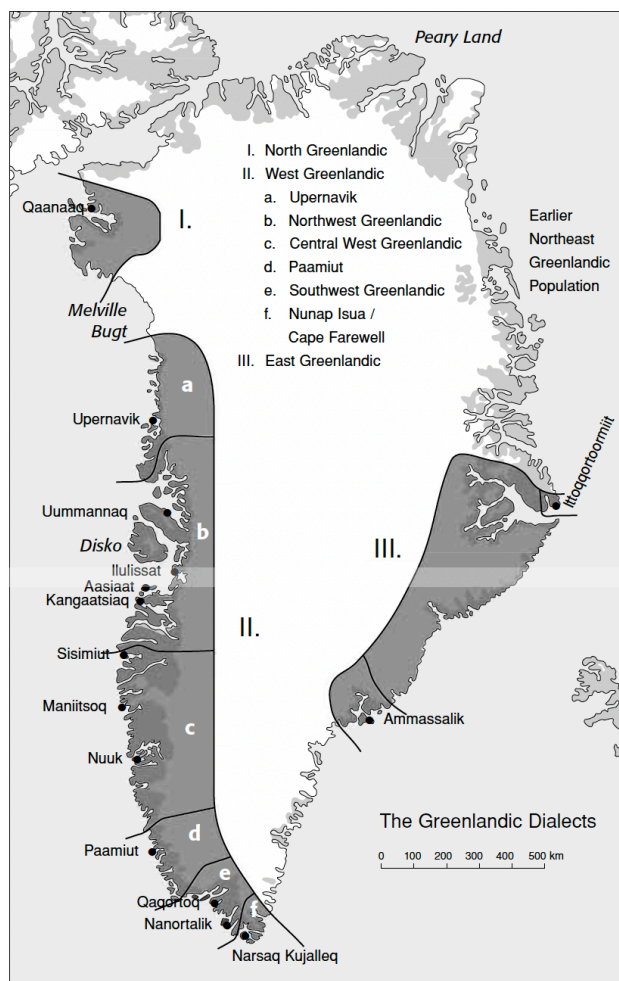


Figure 1.1: Dialects of Greenland (from Vebæk 2006, Figure 2; based on Fortescue 1986: 414)

However, data on language use in Greenland is limited. The best source comes from the Survey of Living Conditions in the Arctic, conducted in 2003 (Poppel et al. 2007), which reports the only data (to my knowledge) linking language use to ethnic identity in Greenland: 99% of those identifying as Greenlandic reported the extent to which they can speak Greenlandic as ‘Really Good’ or ‘Good’, compared to 57% for those identifying as both Greenlandic and Danish. 82% of Inuit adults in the capital city of Nuuk rated their ability to speak a Western language as ‘Very well’ or ‘Relatively well’, much higher than other regions of Greenland. In sum, fluency in Kalaallisut is relatively high for Greenlanders



and it is still robustly spoken there; however, especially in Nuuk, fluency in Danish (and English) is also high.

## Previous literature

Kalaallisut has a long history of scholarly attention, the earliest published grammatical descriptions consisting of Egede (1760) and Fabricus (1791, 1801). As described in detail by Sadock (2016), Kleinschmidt (1851) provided a highly accurate and sophisticated grammar of Kalaallisut, followed later by a Kalaallisut-Danish dictionary (Kleinschmidt 1871). Other earlier descriptions include Thalbitzer (1904, 1911), Schultz-Lorentzen (1927), and Bergsland (1955). More recent grammars of Kalaallisut drawn upon for this study include Fortescue (1984), Sadock (2003), and Bjørnum (2012).

Most descriptions of Kalaallisut include the demonstrative paradigm or list the demonstrative forms; however, most lack any kind of semantic or pragmatic elaboration beyond the glosses. Fortescue (1984) contains brief descriptions of each demonstrative, while the orientation system more broadly is discussed in Fortescue (1988, 2018). Finally, a Danish master's thesis (Salamon 2011) is the only more extensive treatment of the Kalaallisut spatial system.

## Grammatical features

Like its sister Yupik-Inuit languages, Kalaallisut is highly polysynthetic with a complicated morphological system of both inflectional and derivational suffixes. Words consist of a lexical stem plus (0 to 6+) derivational and inflectional suffixes. The high number and flexibility of derivational suffixes means that word formation is very productive, and can result in very long words which encapsulate the meaning of an entire sentence.<sup>1</sup> An example from Sadock

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<sup>1</sup>A famously long word given by Kleemann (2021) is: *Nalunaarasuartaateerannqualioqatigiiffissualiori-ataallaqqissupilorujussuanngortartuinnakasinnngortinniamisaalinnguatsiaraluallaqqooqigaminngamiaasiinngooq* 'There were reports that they apparently – God knows for how many times – once again had considered whatever I, my poor condition despite, still could be considered to be quite adept and resourceful as initiator to put a consortium together for the establishment of a range of small radio stations'.

(2003: 4) showing the branching derivational structure of a Kalaallisut word is shown in Figure (1.2) for *Nuummiittutullu* ‘and like one who is in Nuuk’. The Kalaallisut lexicon includes stems which are either nominal or verbal as well as particles.

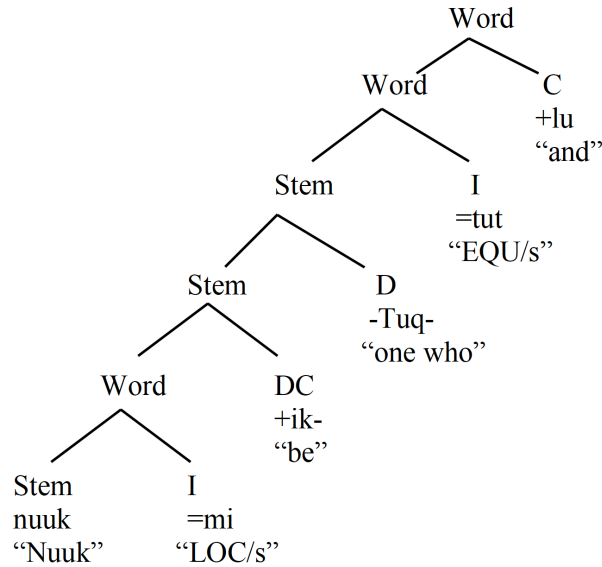


Figure 1.2: Branching morphological structure of a Kalaallisut word (Sadock 2003: 4)

The case system in Kalaallisut is primarily ergative-absolutive. The standard word order is Subject-Object-Verb (SOV), yet deviations to the constituent order are not uncommon and are motivated by factors such as heaviness of constituents, information structure, and discourse features (Sadock 2003). The verb itself is a minimal clause, and nominal arguments are commonly only referenced through verbal inflection.

## Spatial language

Kalaallisut exhibits a rich grammatical and lexical system for the coding of spatial relations, which includes the extensive demonstrative system, landscape-based directionals, relational nouns signifying topological relations, a coastal-based orientation system, landscape terminology, numerous toponyms, spatial locating and motion verbs, and local case morphology. Accurate navigation is critical for survival in the Arctic, and its importance is reflected in the language (Grenoble et al. 2019). Common across the spatial domain is the centrality of

orientation and navigation within the environment, a reflection of Inuit history and of the lifestyle of Greenlanders today. The people migrated there from great distances across the Arctic, and move today over land, sea and sea ice to hunt and gather food.

### **1.3.2 Socio-historical background**

The ancestors of the Inuit who inhabit Greenland today, called the Thule or proto-Inuit, migrated there from western Arctic regions. The date of their arrival in Greenland, first in the Qaanaaq area in the far northwest, is controversial; however, archaeological evidence and carbon dating point to the thirteenth century (Friesen and Arnold 2008; McGhee 2000). Thule Inuit encountered and replaced the Dorset culture across the Eastern Arctic and in Greenland. Once in Greenland, rapid expansion occurred along both coasts, spreading what can be considered proto-Greenlandic (Fortescue 1986), and also encountering Norse Vikings who settled southwestern Greenland around 985 before disappearing by the fifteenth century. The Inuit brought with them to Greenland technology for hunting large whales and other sea mammals as well as dog-sledding (Fitzhugh 2002). The result of the Thule Inuit expansion was the settlement of regions along the coast with subsequent migrations around the coast, broadly resulting in the dialect distribution found today.

In 1721, the Danish crown sent Norwegian priest Hans Egede to re-establish contact with the Viking settlers and convert them to Lutheranism. Not finding any remaining Norse, Egede began to convert the Inuit instead, and Greenland was subsequently taken up as a Danish colony (Sørensen 2006). Egede was very successful in converting the Greenlanders; the majority of the population is still Lutheran today. Importantly, Kalaallisut/Greenlandic was used in the church, initiating a long tradition of literacy in Kalaallisut. Beyond religion, cultural and linguistic contact were minimal until the 20th century, owing to Denmark's policy of relative isolation and preservation of the traditional seal economy and associated ways of life (Berge and Kaplan 2005; Fortescue 1993; Sørensen 2006). Greenlandic remained the majority language, with minor borrowing and lexical expansion through early contact

with Dutch, Scots and English whalers/explorers (Berge and Kaplan 2005) and Danish colonialism.

Large-scale changes began to profoundly affect Greenland in the 20th century, as Greenland was formally made part of the Kingdom of Denmark in 1953. Before the 20th century, Danish language was not part of Greenlandic education. However, in 1925, both school attendance and Danish language education became compulsory (Sørensen 2006: 45), and in 1950 Danish became the medium of instruction (Grenoble 2016). The end of colonial rule in 1953 ushered in a period of ‘Danification’, the goal of which was for Greenland to “be brought up to Denmark’s level with the same economic system, the same civil rights, and the same standard of living”, resulting in “the introduction of all things Danish on an unprecedented scale,” (Sørensen 2006: 111). Over the next 20-30 years, Danish therefore was highly present in Greenlandic society, with students learning Danish in school, being taught by mainly Danish teachers, and with many students studying abroad in Denmark. In 1979, Greenland was granted Home Rule, a major step in gaining autonomy from Denmark. The Home Rule Act made Kalaallisut the primary language of Greenland, with Danish also to be taught. Self-government was established in 2009. Greenland thus is in control of its own governance, save foreign affairs and defense which remain in the hands of Denmark; Greenlanders are thus Danish citizens, who move to and from Greenland and Denmark.

### **1.3.3 Kalaallit Nunaat (Greenland)**

Greenland (called *Kalaallit Nunaat* ‘the land of the Greenlanders’) is home to about 56,000 people today, mostly Inuit (Kleemann 2021). It is the world’s largest island (2,166,086 km<sup>2</sup>) yet 81% of Greenland is covered in ice. Only the coastline allows for permanent habitation. Even considering only the ice-free area, Greenland has the world’s lowest population density (Kleemann 2021). There are no roads between towns and settlements, and as such all travel (outside towns) occurs by boat, aircraft, or snowmobile/dogsled. The majority of the population lives on the west coast, with 60% of the total population living in the

five largest towns—Nuuk, Sisimiut, Ilulissat, Aasiaat, and Qaqortoq—which are all in the west/southwest area (see Figure 1.1).

The public sector is the largest source of employment in Greenland with 40% of the jobs (60% for women), followed by fishing, hunting and agriculture<sup>2</sup> as 16% of jobs (Kleemann 2021: 21). As they have been for thousands of years, Greenlanders are still proficient hunters of large sea mammals, including seals, whales and walrus. Land mammals are also hunted, especially musk oxen and caribou. Through the present day, hunting as well as gathering plants remain important recreational activities as well as supplementing the household economy (Kleemann 2021: 27). People tend to head out onto the sea, fjords, and inland for recreation.

**Geophysiography** As mentioned above, most of Greenland’s land mass is covered by an icecap. The remaining coastline is rocky and mountainous with a complex series of fjords, promontories, and small islands. Most of the landscape is rocky permafrost and tundra, with sparse and low-lying vegetation which is covered in snow for much of the year. The landscape of Greenland varies from north to south with sea ice occurring in northern regions and a milder sub-Arctic climate in southern regions.



Figure 1.3: Sisimiut landscape



Figure 1.4: A fjord in Sisimiut

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<sup>2</sup>Agriculture (including sheep farming) is only possible in the deep fjords of South Greenland (Kleemann 2021).

## Urbanization and migration

Across the Arctic, urbanization is a widespread phenomenon quickly changing settlement patterns and traditional ways of life (Crate 2006; Crate et al. 2010; Cruikshank and Argounova 2000; Rasmussen 2011). Urbanization brings with it considerable social and cultural change, as well as assimilation to the majority language.

Greenland has experienced a significant trajectory of urbanization over the past century, and particularly since it became an official part of the Danish realm. At the beginning of the 20th century, Greenlanders were living in settlements ranging in size from about 50 to 400 people, characteristic of a hunting society (Sørensen 2006: 16). Yet, centralization became the trend as the century progressed, as towns (the urban centers of Greenland) provided amenities such as schools and doctors. With the ‘Danification’ of the 1950s, this concentration of the population became official policy and the rate of movement into towns increased (Sørensen 2006: 164). Today, the capital Nuuk contains one third of the total population of Greenland. As in the rest of the Arctic, the urbanization of Greenland is strongly linked with largescale shifts away from traditional ways of life. For instance, the amount of professional hunters has thus decreased significantly over the 20th century. Research has linked contact with nature and cultural vitality, defined in terms of ancestral language retention, with Arctic well-being (Larsen et al. 2010). Maintaining a traditional lifestyle is thus linked with retention and use of indigenous languages.

Additionally, a large number of Greenlanders live in Denmark; currently around 16,780 people born in Greenland currently live there (Kleemann 2021). This means that over one-fifth of Greenlanders live permanently in Denmark and this population is increasing, migration being motivated by education and family ties (Larsen and Fondahl 2014: 450). Togeby (2004) highlights the lack of any systematic knowledge about Inuit social and economic conditions in Denmark, describing the Greenlandic diaspora as a neglected and invisible minority. Indeed, I have found no data on language usage by Greenlanders living in Denmark.



Figure 1.5: Newer apartments in Nuuk



Figure 1.6: Nuuk Center

## 1.4 Fundamentals of spatial language

All languages have mechanisms for the encoding of spatial relations and making reference to the physical environment; in this sense, the spatial domain is a semantic universal which allows for cross-linguistic semantic comparison. However, significant cross-linguistic variation nonetheless exists in all areas of spatial language. Not only do languages differ in the conceptual distinctions and packagings they make within the spatial domain, but there is further variation in what linguistic mechanisms are used to code this information and how it is distributed throughout the clause or utterance (Levinson and Wilkins 2006). Differences also exist as to which spatial distinctions and concepts a language *can* signal and which ones they *must* signal.

The spatial domain of language may be divided into several different semantic sub-domains, based on broad conceptual distinctions such as stasis versus motion. The major spatial subdivisions as described in Levinson (1996, 2003); Levinson and Wilkins (2006) and others are shown in Figure 1.7. Beyond the stasis (‘location’) vs. motion division, spatial language may be distinguished by the nature of the relationship that is encoded between the basic elements in a spatial scene: either one based on contiguity or one based on the use of a coordinate system (i.e. non-angular vs. angular specification).

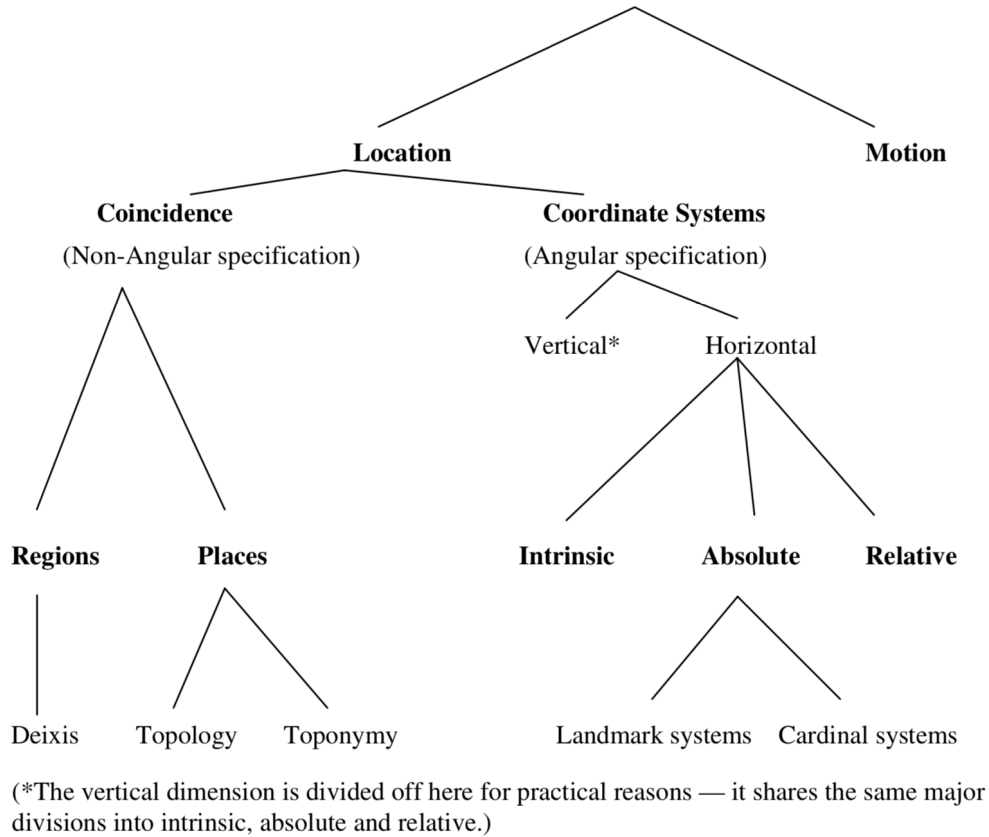


Figure 1.7: Semantic division of the spatial domain (from Levinson 2003: 66, Figure 3.1)

Most spatial descriptions in natural language (as in answers to ‘where’ questions) are Leibnizian: they describe the spatial location (or motion) entities in relation to other entities (Levinson and Wilkins 2006: 3). Accordingly, spatial scenes may be broken down into two basic parts which share a particular spatial relationship, called the ‘figure’ and ‘ground’ (Levinson and Wilkins (2006); Talmy (1975, 1983, 2000)). The FIGURE is the object being located in relation to some reference point, another object or location called the GROUND. In Figure 1.8, for instance, the book might be considered the figure, located with respect to the shelf as ground (e.g. ‘on the shelf’). Motion descriptions may also involve a figure and ground, yet the ground is more specifically broken down into the concepts of ‘source’ or ‘goal’, depending on whether the schema encodes motion towards the ground (GOAL) or away from the ground (SOURCE). Other basic components of motion encodings include ‘path’ and ‘manner’. The PATH component represents the route or trajectory taken by the



motion event (the trajectory taken by the figure towards the goal or away from the source). MANNER characterizes the type of motion occurring.

The relationship of a figure to a ground can be encoded in different ways, and indeed languages provide many possible encodings through spatial description (both between and within languages). A major conceptual division, argued for particularly by Levinson (1996, 2003) and other researchers associated with the Max Planck Institute for Psycholinguistics, exists between spatial description encoding an angular specification or direction with respect to the ground and that which relies instead on coincidence/contiguity of figure and ground.

### 1.4.1 Non-angular spatial description

Non-angular spatial description consists of locating a figure through contiguity to or proximity with the ground, including topological relations, places/landmarks, and the majority of spatial deixis. Place names (‘toponymy’) and other kinds of named locations or landmarks represent a basic type of non-angular encoding. In a statement such as *Ilisimatusarfik is in Nuuk*, the location of Ilisimatusarfik (the figure) is expressed through spatial coincidence with a named place, Nuuk (the ground). Similarly, a statement like *she is at school* expresses the location of the figure (*she*) simply as being ‘at’ the ground location, denoting physical contiguity.

Similarly, TOPOLOGICAL RELATIONS are the encoding of spatial coincidence between figure and ground, including different types of contiguity/coincidence and approximations thereof such as containment and other spatial relations which hinge upon the geometry of the ground object. In English, topological relations are generally encoded by prepositions such as *in*, *on*, *at*, *near*, *between*, etc. Although topological relations may appear—and have been argued—to be some of the simplest and thus universal and innate spatial conceptualizations (e.g. Landau and Jackendoff 1993; Piaget and Inhelder 1956), studies investigating topological descriptions in non-European languages and comparing the topological domain cross-linguistically have brought to light the rich diversity in linguistic encoding and concep-

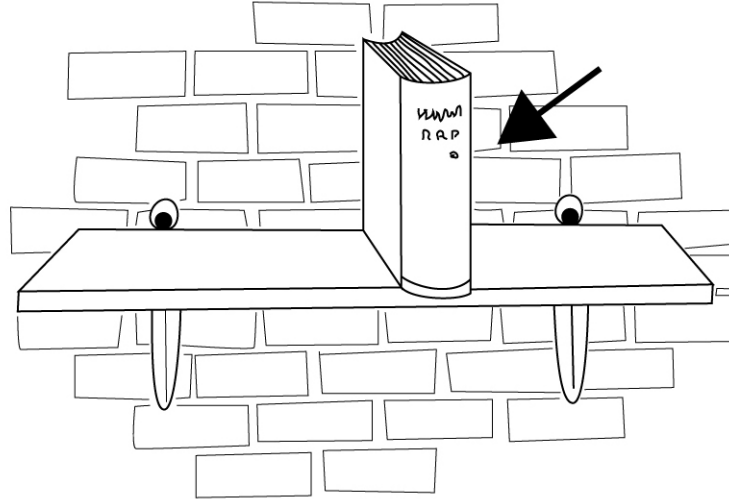


Figure 1.8: A topological depiction, e.g. *The book is on the shelf* (TRPS #8, Bowerman and Pederson 1992)

tualization of topology (e.g. Bowerman and Choi 2003; Levinson et al. 2003; Levinson and Wilkins 2006).

Cross-linguistic studies have conducted functional comparisons in topological encoding by examining answers to ‘where’ questions with respect to particular spatial scenes. The BASIC LOCATIVE CONSTRUCTION is a language’s typical way of answering a ‘where’ question (Levinson et al. 2003; Levinson and Wilkins 2006). For instance, for a topological scene like that of Figure 1.8 an English speaker would likely respond to the question ‘Where is the book?’ with a description such as *The book is on the shelf*. Here, the ground (the shelf) is denoted using a prepositional phrase, in which the spatial relation itself is denoted using the preposition ‘on’ to indicate coincidence with the top surface of the ground. However, languages vary in many ways with respect to topological description, such as:

1. where and how are the figure, ground, and spatial relation encoded (e.g. through case marking, adpositions, verbs, etc.), and
2. what topological relations are encoded and how they map onto extensions

Although topological concepts such as ‘on’ or ‘in’ might intuitively be expected to be expressed similarly cross-linguistic as basic spatial concepts, studies have instead shown sig-

nificant variation. Examples of this are shown in Figures 1.9 and 1.10. Figure 1.9 compares usage of morphemes expressing similar topological in/on concepts in English and Korean with respect to a set of spatial scenes. As shown by the circles grouping together scenes described using the same descriptor, English and Korean linguistically categorize the scenes very differently which indicates a mismatch in topological conceptualization as encoded in language (Bowerman and Choi 2003). Figure 1.10 is a schematization of the topological concepts via adpositions in Tiriyo (Cariban); it shows how the topological domain is linguistically broken up in a specific way which diverges, for instance, from English.

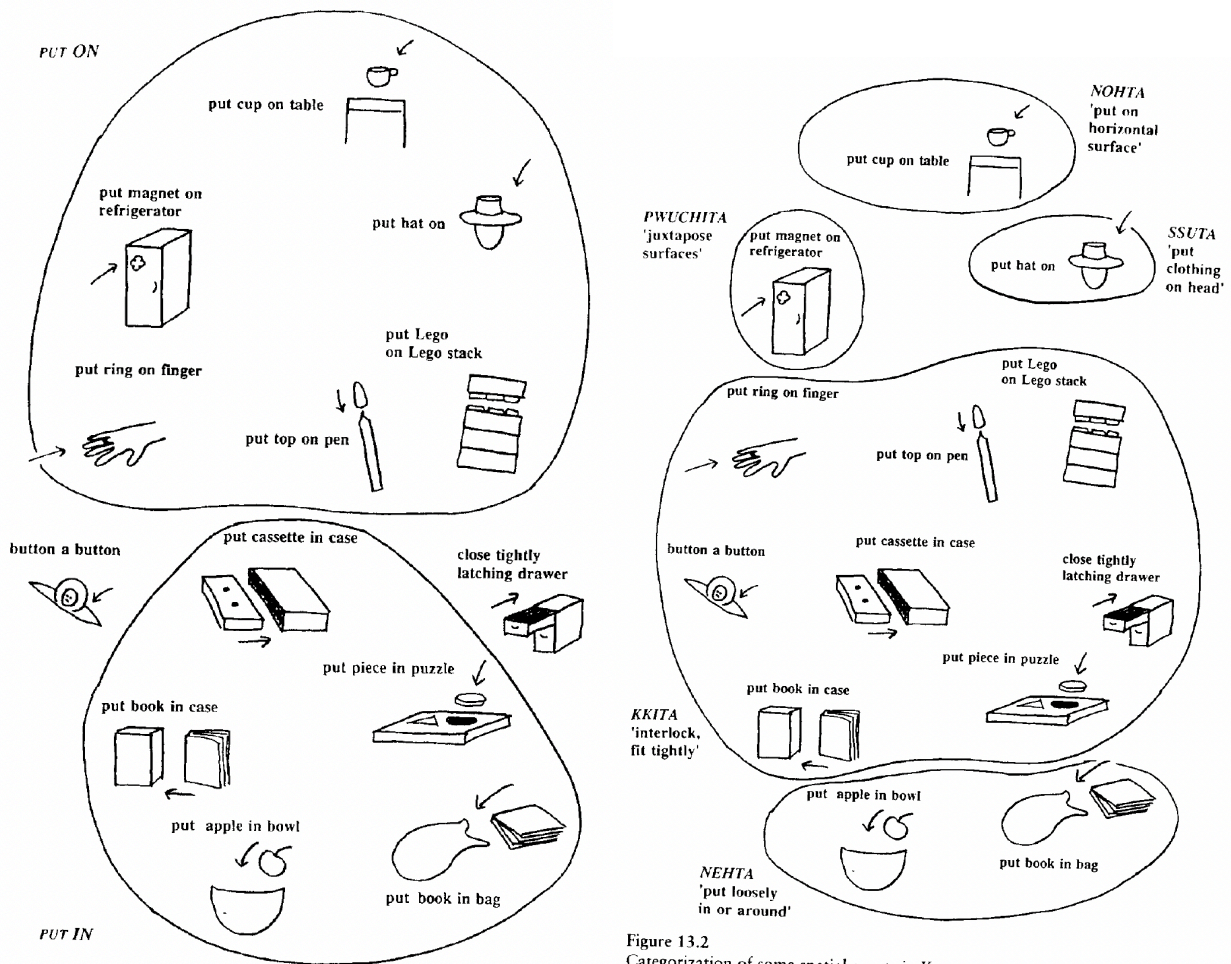


Figure 13.1  
Categorization of some spatial events in English

Figure 13.2  
Categorization of some spatial events in Korean

Figure 1.9: English vs. Korean extensions of topological concepts (from Bowerman and Choi 2003: 393-4, Figures 13.1 & 13.2)

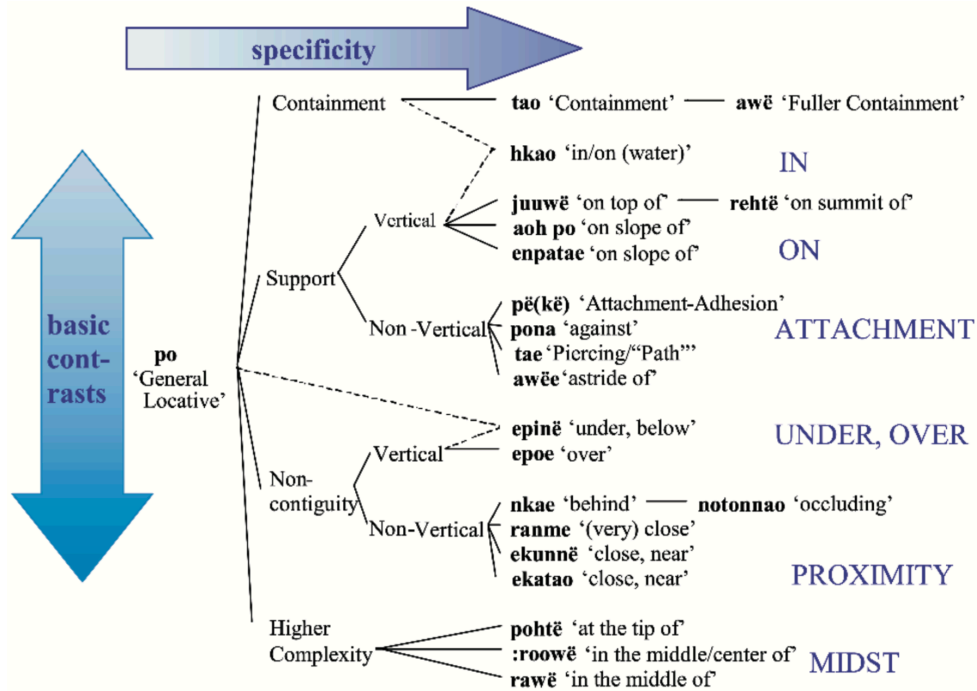


Figure 1.10: Topological concepts in Tiriyo (from Levinson et al. 2003: 489, Figure 2)

Lastly, spatial deixis is also generally conceived as a type of ‘non-angular’ strategy but expressing coincidence with regions of space rather than particular places. A statement like *The book is here* locates an object within a region near the speaker without specifying a particular place or direction. Deictic descriptions of space are discussed in more detail in Sections 1.5.5 and 1.6.4.

### 1.4.2 Angular spatial description

In contrast with a non-angular strategy, spatial description through angular specification involves the utilization of a ground which is separated in space from the figure. The ground acts as a landmark from which a search domain may be projected in order to localize the figure (Levinson 2003: 67). This ‘search domain’ consists of a specific direction or vector, i.e. an ‘angular specification’ which may be articulated using a coordinate system. A coordinate system or ‘frame of reference’ (FoR) consists of the axes through which a search domain is encoded, such as front/back, north/south, right/left, or inland/seaward. For example,

statements such as *The man is [in front of] / [to the left of] / [to the north of] the house* reference a search domain—a vector/direction leading from the ground (house) to the figure (man). As shown in this example, different coordinate systems may be used to specify the direction (e.g. in front/to the left/to the north). Different coordinate systems may be grouped together under three main frame of reference types, described below.

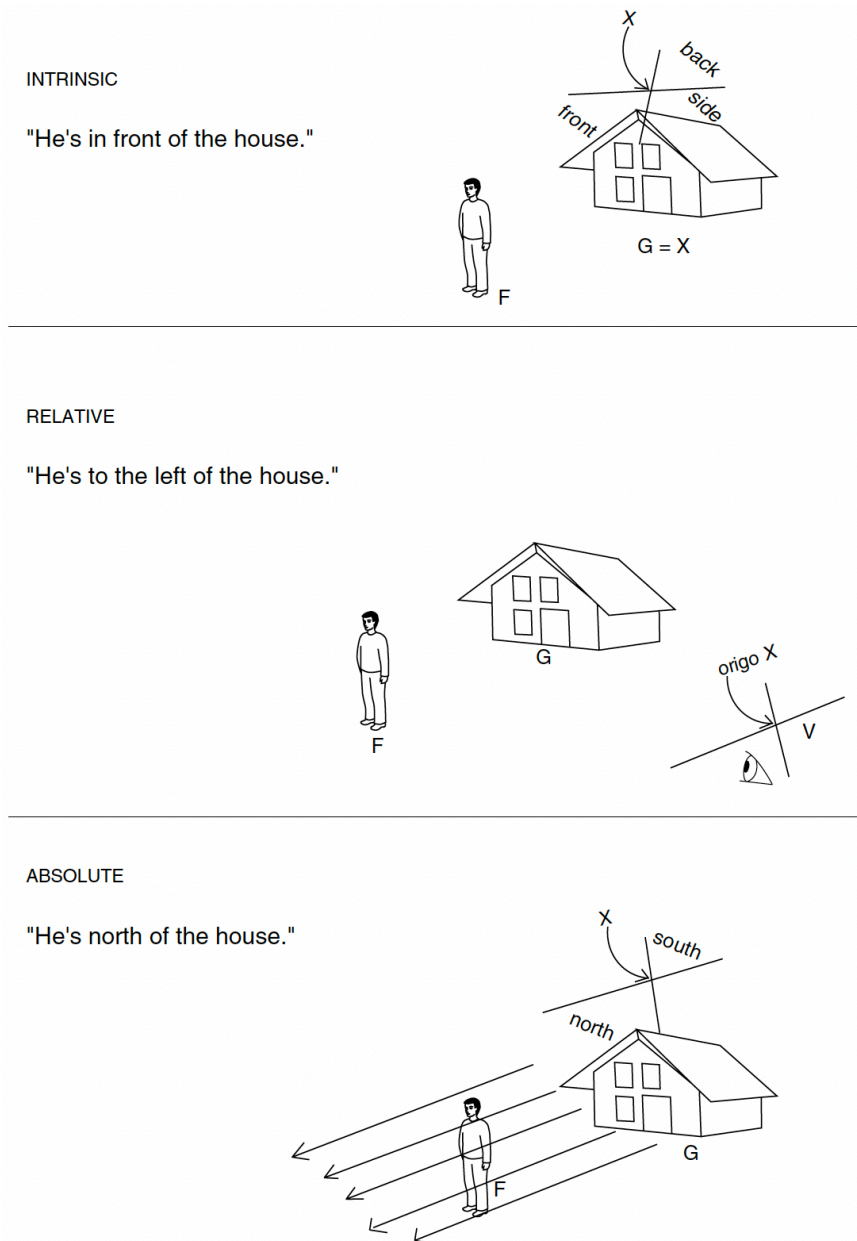


Figure 1.11: Frames of Reference types (from Levinson 2003: 40, Figure 2.2)

## Frames of reference

Much research within the domain of spatial language has focused on spatial frames of reference (e.g. Bohnermeyer 2011; Bohnermeyer and O’Meara 2012; Levinson 2003, 1996; Levinson and Wilkins 2006; Palmer 2015; Pederson et al. 1998). Such studies have again discovered significant cross-linguistic diversity in FoR usage, conceptualization and coding. Three main types of FoR (shown in Figure 1.11), each a “large family of systems”, are distinguished according to the type of spatial asymmetry forming the basis of the coordinate system, as well as by a series of rotation tests (Levinson 2003: 74).<sup>3</sup> An overarching distinction contrasts ALLOCENTRIC and EGOCENTRIC frames of reference, based on whether the coordinate system arises from the speech participants (=egocentric: relative FoR) or from something outside the speech participants (=allocentric: intrinsic and absolute FoRs) (Danziger (2010)). The three types and the basis for their coordinate systems are as follows:

1. **Intrinsic:** axes based on named facets of the ground,  
e.g. *the ball is in front of the chair* (i.e. the chair’s front)
2. **Relative:** projection of observer’s axes onto the figure-ground array,  
e.g. *the ball is to the right of the chair* (i.e. from my perspective)
3. **Absolute:** axes derive from the external environment,  
e.g. *the ball is to the north of the chair*
  - geocentric/geomorphic, e.g. *the ball is up-coast of the chair*
  - landmark-based, e.g. *the ball is seaward of the chair*

In terms of the spatial asymmetry from which a search domain is projected, the intrinsic FoR uses one that is internal to the figure-ground array, the relative FoR transposes one from

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<sup>3</sup>Of course, there are many other categorizations of FoR types in the literature as well, some which break up the spatial array into different parts; see, for instance, Bohnermeyer and O’Meara (2012), Bohnermeyer et al. (2015), and Danziger (2010).

an external observer/viewpoint onto the figure-ground array, and the absolute FoR imposes an asymmetry based on aspects of the wider environment onto the array (Burenhult 2008: 105). This distinction between the three types results in different results when aspects of the array undergo rotation (nicely summarized in Danziger 2010).

Languages and speech communities vary as to which frame(s) of reference they utilize and in which contexts a particular FoR is used, for instance in small-scale, tabletop space. In a large cross-linguistic study<sup>4</sup> of FoR use, Pederson et al. (1998) found that speakers of some languages only use an intrinsic FoR (Kilivila (Austronesian) and Mopan (Mayan)), some use relative and intrinsic FoRs (Dutch and Japanese), some use absolute and intrinsic FoRs (Arandic (Pama-Nyungan), Tzeltal (Mayan) and Longgu (Austronesian)), and others mix all three (Belhare (Tibeto-Burman), Hai||om (Khoisan), Kgalagadi (Bantu), Tamil (Dravidian), Totonac (Totonacan), and Yucatec (Mayan)). Thus, speakers of all the languages studied there use the intrinsic FoR. However Levinson (2003) makes the controversial argument that Guugu Yimithirr (Pama-Nyungan) speakers *only* use an absolute FoR based on cardinal directions.

Levinson (2003: 90) describes the absolute FoR as consisting of arbitrary, fixed bearings, like cardinal directions, which are applied to spatial arrays. Levinson emphasizes the usage of *abstract* external bearings, conventionalized in the speech community and abstracted from the natural environment. He notes that local landmarks may function similarly for speakers, yet states that their usage does not reflect the abstract properties exemplified by fully fixed absolute bearings such as cardinal directions. However, other researchers such as Palmer (2015); Palmer et al. (2017) have taken issue with this conceptualization of the absolute FoR, emphasizing the diversity of absolute systems especially those which are more concretely anchored to (and motivated by) features of the physical environment. For instance, Palmer (2015: 185) provides examples of languages which utilize absolute FoRs based on topographical axes such as landward-seaward/parallel to coast, upriver-downriver, away from

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<sup>4</sup>This study used the Man and Tree task; see Section 1.7.2.

river-towards river, and uphill-downhill/across. In fact, several of the languages examined by Pederson et al. (1998) similarly utilize landscape-based absolute axes, such as uphill vs. downhill (Tzeltal; Brown and Levinson 1993, towards sea vs. inland (Longgu; Hill 1997), and ‘land of soft sand’ vs. ‘river land’ (Hai||om; Neumann and Widlok 1996, Widlok 1997). These environmentally-based FoRs are sometimes called *geocentric*, *geomorphic*, or *landmark-based* when the search domain is encoded with respect to a particular place/landmark.<sup>5</sup> The role of the geophysical environment in spatial language is discussed further in Section 1.4.3.

Finally, research on frames of reference usually targets angular specification within the horizontal spatial dimension, but the FoRs can equally apply to the vertical axis. However, as Levinson (2003: 75) explains it, “in most situations the vertical dimension is massively overdetermined and unproblematic — we think about things as in their canonical upright position, viewed from an upright stance, with ‘upright’ determined by the gravitational field” such that the FoRs tend to coincide. Because of this, linguistic research into FoRs has generally focused on the horizontal axis. However, the vertical axis is integrated with the horizontal axis in important ways within the Kalaallisut spatial system and demonstrative paradigm, as illustrated Chapter 4.

### 1.4.3 Geophysical space and landscape

Like the other sub-domains of spatial language, research has shown variation in the cross-linguistic encoding and conceptualization of the physical environment, including landscape, place names, and orientation. Furthermore, as we have seen in prior sections, reference to the geophysical environment may be intertwined with other more ‘abstract’ aspects of spatial language.

A language’s landscape lexicon encodes a particular conceptualization of the physical environment; landscape itself comes without a pre-given, ontological categorization, as “parts

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<sup>5</sup>Some classifications instead categorize these FoR types as intrinsic instead of absolute (e.g. Bohnemeyer and O’Meara (2012); Bohnemeyer et al. (2015)).



and categories rely on a segmentation of what is, from a topological point of view, largely a continuous surface — the division into parts is to a great extent imposed by our categories,” (Burenhult and Levinson 2008: 136). Cross-linguistic investigation into the sub-division and categorization of landscape, how places are named (*toponymy*), and the relation between landscape terms and toponyms has shown significant variation in the environmental domain (see Burenhult and Levinson 2008 and other papers in the special issue).

As mentioned in the above discussion on absolute frame of reference, some languages utilize landscape features more generally within spatial reference and orientation. An especially interesting case of this is found in Tenejapa Tzeltal, which uses an absolute ‘uphill/downhill’ system extensively in spatial description and orientation (Brown 2008). The uphill/downhill axis derives from the overall slope of the land where the variety is spoken (the Tenejapa municipio in Chiapas, Mexico), where uphill points south and downhill points north. This has yielded an abstracted uphill vs. downhill. vs. across coordinate system which is applied even on the horizontal dimension (e.g. applying to spatial arrangements on a flat tabletop). As the case of Tzeltal shows, there is often a clear correspondence between a language’s highly environmentally-based FoR/system of orientation and the external environment of the language locus, as argued in the Topographic Correspondence Hypothesis and the Sociotopographic Model (Palmer 2015; Palmer et al. 2017).

Taken all together, the sub-domains of spatial language may reveal a particular conceptualization of space and environment embedded in the language. Levinson and Burenhult (2009: 153) describe this as a semantic/conceptual template or SEMPLATE which “surfaces again and again in distinct lexical sets, say prepositions, spatial nouns, verbs of motion, and the like...typically involv[ing] not just a single parameter or dimension of opposition, but rather a structured set of opposing distinctions.” The Tzeltal spatial system is cited as an example of this, as shown in Figure 1.12, wherein the uphill/downhill coordinate system is abstracted as an underlying conceptual template systematically organizing several different spatial sub-domains. It is noteworthy that this and the other examples of semplates de-

scribed by Levinson and Burenhult (2009) are all rooted in particular representations of the local environment where each language is spoken.

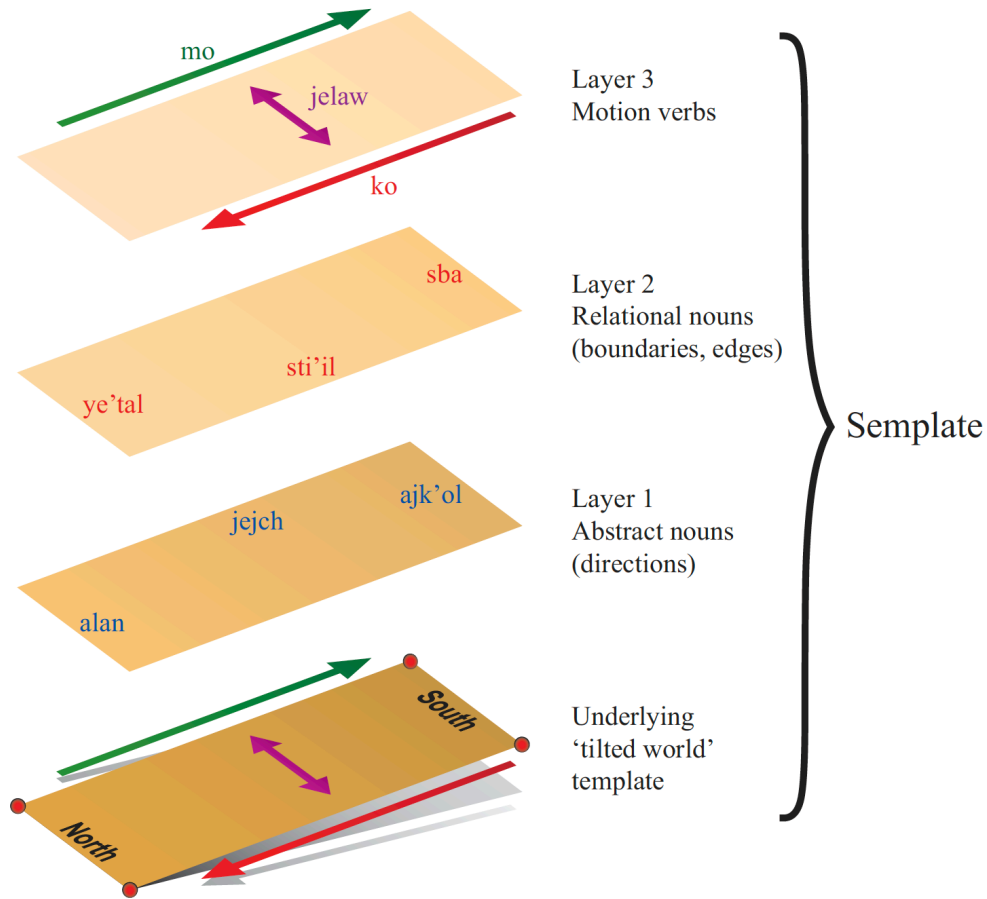


Figure 1.12: An example of a spatial semantic template in Tzeltal (from Levinson and Burenhult 2009: 155, Figure 1)

## 1.5 Deixis

A linguistic utterance brings together both denotational content ('what' is being said) with the circumstances of the speech event (the 'how', 'where', 'when', 'by whom', etc.). The production of an utterance occurs in a particular setting or context, which includes spatial, temporal, social, discourse, and participant elements. An understanding of what is being said depends not only on the lexical, grammatical, and semantic content of the utterance which

feed into its propositional meaning, but myriad contextual factors both linguistic (i.e. the surrounding discourse) and extra-linguistic. Deictic phenomena occupy a privileged position at the intersection of denotation and the indexical context. This section first introduces the concept of deixis as a particular type of indexicality found in all languages as well as the notion of the deictic field. Next, the basic structure of deictic reference is described, including the deictic origo which acts as the reference point and its potential for transposition. Lastly, spatial deixis, the particular focus of the current study, is addressed with respect to the domain of spatial language discussed in Section 1.4.

### 1.5.1 What is deixis?

Linguistic meaning which is produced through ‘pointing’ to aspects of the utterance context is INDEXICAL in nature. Following C.S. Peirce, an indexical sign directs attention to an object by way of co-occurrence or contiguity: an index “is in dynamical (including spatial) connection both with the individual object, on the one hand, and with the senses or memory of the person for whom it serves as sign, on the other” (Peirce 1955: 107). In language, indexical elements encode meaning through ‘pointing’ to (=contiguity with) things in the speech context, broadly construed, and in doing so directing attention to them. Indexicality may be ‘referential’ by contributing to the denotational/propositional content of an utterance.<sup>6</sup> The term ‘shifter’ has been used to describe such linguistic units whose referent ‘shifts’ depending upon the context, for instance personal pronouns *I* and *you* (Jakobson 1971; Jespersen 1965).

Although there has been variation in its usage within the literature, the term DEIXIS generally refers to linguistic expressions whose reference is achieved through indexing features of the context. In his *Lectures on Deixis*, Fillmore (1975: 38) describes it as “...lexical items and grammatical forms which can be interpreted only when the sentences in which they

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<sup>6</sup>Non-referential indexicality, as detailed by Silverstein (1976), includes indexical meaning signified through the linguistic signs of a speech event yet which does not contribute to denotational meaning of the utterance, for instance honorifics.

occur are understood as being anchored in some social context, that context defined in such a way as to identify the participants in the communication act, their location in space, and the time during which the communication act is performed.” The object of a deictic referring expression, then, “is denoted according to its relation to an indexical ground” (Hanks 2005: 217). In this way, deictic expressions utilize referential indexicality, requiring for their denotation ‘a contextual variable’ built into their semantics (Levinson 2004: 107). The conventional nature of language necessitates that the deictic sign incorporate elements of meaning which go beyond ‘pure’ indexicality, and accordingly deictics combine both indexical ‘pointing’ to context with semantic content—a “composite of lexico-semantic and referential features” (Grenoble 1998: 6)—which helps constitute the relation between sign and referent. In this way, indexical meaning intersects with symbolic representation, as a deictic not only ‘points’ to aspects of the context but simultaneously encodes a habit or law as a symbol (see Peirce 1998: 274). This conventional, symbolic character of a deictic carries a semantic specification for its contextual deployment.

### **1.5.2 Types of deixis**

Fillmore’s definition of deixis given above makes mention of the main types of EXOPHORIC deixis—reference to things that are outside of the text, within the situational setting of the utterance—spatial deixis, temporal deixis, and person deixis—which reflect the ‘socio-spatio-temporal anchoring’ of a communicative act (Fillmore 1982: 35). The main types or functions of deixis thus represent different kinds of objects which may be indexed through a deictic expression, e.g. a location in space, a time, or a speech participant, by way of anchoring to the reference point of the utterance. They are widely attested as aspects of grammar cross-linguistically, though significant variation occurs in their manifestations. In contrast, ENDOPHORIC deixis involves indexical reference to text itself and to the surrounding discourse. It includes both ANAPHORIC reference, indexing an argument/object/participant from previous discourse, and DISCOURSE or COTEXTUAL deixis, in which actual pieces of

language are indexed. Deictic elements tend to be multifunctional in nature, often accomplishing multiple functions in practice.

**Spatial deixis** The locations of entities or locations themselves are indexed by spatial deictics, anchored by the physical location of the speech event and usually of the speaker's body. This spatial reference point acts as a special type of ground (see Section 1.5.5). The notions of 'proximal' and 'distal' having to do with proximity to the spatial 'zero-point' are central to the domain of spatial deixis. Demonstrative pronouns (like *this/that*), demonstrative adverbs (like *here/there*), and deictic motion verbs (like *come/go*) are common instantiations of spatial deixis. Section 1.6 discusses demonstrative systems and variations in the encoding of spatial deixis therein.

**Temporal deixis** The moment in time in which an utterance occurs marks a temporal 'zero-point' with respect to which another time may be referenced. For instance, *now* is a span of time including the moment of utterance, while *yesterday* only refers to a particular day in relation to the day in which it is used. Tense is the most pervasive grammatical instantiation of temporal deixis, though not all languages have tense and there can be significant variation between tense systems in languages that do.

**Person deixis** This type consists of indexical referents to speech participants, including the speaker, addressee, and others. For instance, in its basic usage the word *I* indexes the speaker of the utterance containing it; however, the reference 'shifts' as the discourse roles shift. Person is typically grammatically marked in personal pronouns and/or agreement, but these areas are far from uniform across languages.

**Discourse deixis and anaphora** Not only context but cotext also is available as the object of deictic referring expressions: "The flow of the discourse as a whole is available to the interlocutors and, accordingly, they may reference prior parts of the text, or of its

content, as well as upcoming text and content,” (Grenoble 1998: 16). Temporal and spatial deictics are often used with a discourse function, for instance *in this dissertation* or *following the above discussion*. Anaphora overlap with deictics but are not traditionally considered to be deixis per se. Third person pronouns in English may be used anaphorically or deictically. For instance, the word ‘she’ is used anaphorically in (1) but deictically in (2).

- (1) *The girl ran away, but she came home later.*
- (2) *She got to class late.* (with a nod towards the girl)

### 1.5.3 The deictic field

The notion of the DEICTIC FIELD arises from Bühler (1934)’s conceptualization of the *Zeigfeld* or ‘demonstrative field’, which is centered upon the *here, now, I* of the speech event which involves the speaker, addressee(s), and the object of reference. The *Zeigfeld*—“the field of exophoric reference to objects available in the immediate perceptual field” (Hanks 2011: 318)—stands in contrast to the *Symbolfeld* or ‘symbolic field’ in which symbolic reference and discourse are manifested. The ‘deictic space’ of *Zeigfeld* thus consists of the structured realm of possibilities for deictic reference centered upon a zero point—“the experiential present of utterance production”—contrasting with the “words, other signs, and the concepts they represent” of the *Symbolfeld* (Hanks 2005: 192). According to Bühler, anaphora actually stand at the intersection of the *Zeigfeld* and *Symbolfeld*.

Authors have since expanded upon the notion of the deictic field, including Klein (1983) and Hanks (2005). Hanks builds upon Bühler’s more localized *Zeigfeld* to argue for a deictic field that is more broadly socially-embedded, linked to a “broader social world” (Hanks 2005: 194). His conceptualization of the deictic field is composed of the following (Hanks 2005: 193, also Hanks 2011):

1. The positions of communicative agents relative to the participant frameworks they occupy (that is, who occupies the positions speaker [Spr], addressee [Adr], and others as defined by the language and communicative practices of its speakers)
2. The positions occupied by objects of reference
3. The multiple dimensions whereby the former have access to the latter

Hanks argues for the further embedding of the deictic field in other social fields giving deixis its social force through “convert[ing] abstract positions like Spr, Adr, Object, and the lived space of utterances into sites to which power, conflict, controlled access, and the other features of the social fields attach,” based on the fact that deictic reference occurs in all fields involving linguistic communication (Hanks 2005: 194).

However the deictic field is theorized, deictic reference involves several basic components: the reference point, the object of reference, and the relationship between the two encoded by the deictic sign and its paradigmatic relations with other deictics made available by the language. This ‘relational structure of deictic reference’ is schematized in Figure 1.13. Cross-linguistic diversity within deixis may be conceived through the many differences found within each of these parts. The deictic relation between the zero-point (hereby called the ‘deictic origo’) and the referent, as well as the multiple dimensions whereby it is constituted (i.e. #3 above), is, arguably, differently instantiated in every language showing the rich semantic diversity of deictic systems and accordingly the diverse topologies of the deictic field.



Figure 1.13: The relational structure of deictic reference (from Hanks 2009: 12, Figure 1)

### 1.5.4 The deictic origo

A central concept in the literature on deixis is that of the reference point, which anchors the deictic field and with respect to which deictic reference is calculated. Numerous labels have been given to this concept, including zero-point (Lyons 1977), deictic or indexical origo (Klein 1983), deictic center (Burenhult 2008; Gerner 2009), indexical ground (Hanks 2011), and others. This study will primarily use the term ‘(deictic) origo’.

Bühler (1934: 117) describes the origo as the zero or origin of a deictic coordinate system, convergent upon the intersection of *here/now/I* of the utterance, around which the *Zeigfeld* or deictic field is organized. This involves the location of speaking (the *here*), the time of speaking (the *now*), and the speaker (the *I*). Thus the classic conceptualization of the deictic origo involves the intersecting spatial, temporal, and person dimensions. As Grenoble (1998: 35) describes, each of these dimensions has its own zero point: “The default temporal origo ( $t_0$ ) is the moment of utterance, the default spatial origo ( $s_0$ ) is the speaker’s location at the moment of utterance, and the default person origo ( $p_0$ ) is the speaker.” And it is where these zero points converge which acts as the deictic origo and center of the deictic field, with respect to which deictic relations are oriented to identify the object. The deictic origo is often centered around the *body* of the speaker. Fillmore (1982: 35) describes a coordinate system with the speaker (‘sender’) at the center, who’s bodily orientation determines the axes. However, as discussed in Section 1.6, the deictic origo can be anchored elsewhere than to the speaker’s body and generally can be topologically complex.

**Transposition of the origo** An important feature of the deictic origo, also noted by Bühler (1934), is its ability to undergo transposition to a context other than that anchored to the actual utterance—*Deixis am Phantasma* ‘deixis in the imagination’—in which the deictic origo is shifted through the imagining of a different context (Levinson 2004: 103), often relativized to text (Fillmore 1975). As Hanks (2011: 331) explains, “the origo of deictic reference is shifted so that forms normally understood in relation to the Spr are grounded



on the Adr, some other object, or a narrative space.” This ability of deixis, which sets it apart from how much of indexicality operates, gives it a special flexibility yet complicates its analysis.

### 1.5.5 Spatial deixis and the domain of spatial language

Spatial deixis intersects with the domain of spatial language detailed in Section 1.4 and has been articulated with respect to that framework in multiple ways. Both Bühler (1934) and Fillmore (1982) describe a coordinate system centered around the speaker of a deictic (i.e. the origo), and Fillmore equates the concept of *figure* with the referent and *ground* with the speaker’s (or addressee’s) body in deictic locating expressions (Fillmore 1982: 42-43). Thus spatial deixis may be conceived of in parallel with other types of spatial reference with the deictic origo playing the role of the ground, as developed further by Hanks (1992) as well as Burenhult (2008).

However, the relationship between spatial deixis and frames of reference has undergone different treatments in the literature. Levinson (1996, 2003) and Levinson and Wilkins (2006) claim that spatial deixis is only orthogonal to FoR analysis since it can operate (or not) within each FoR, e.g. *north of me*, *in front of me* and does not constitute its own frame of reference without providing any kind of angular specification or directional search domain (though Levinson does note that some demonstrative systems, like Yupik-Inuit, do encode directional information). For instance, *here* only denotes a region proximal to the speaker without specifying a particular vector. According to Levinson (2003: 70), this lack of angular information motivates spatial deictics to combine with gesture.

Nonetheless, other researchers have argued for the existence of a deictic frame of reference. For instance, Diessel (2014: 123) claims that demonstratives do in fact make reference with respect to a coordinate system, but that the angular specification is usually provided non-linguistically (i.e. through gesture). Danziger (2010) also argues that deictic locating expressions align with frame of reference typology through the usage of accompanying point-

ing gestures, but crucially does so through the distinction of a fourth FoR called ‘Direct’ within which (non-transposed) spatial deixis is logically situated. Finally, Burenhult (2008) makes the case for those demonstratives that do encode directional information to receive a frames of reference analysis; these ‘spatial coordinate demonstratives’ are described further in Section 1.6.4.

## 1.6 Demonstrative systems

Now we turn to a particular instantiation of deixis which serves as the focus of this study. Demonstratives are a prominent means for the expression of deixis cross-linguistically, found in every language (Diessel 1999). They are multifunctional deictic expressions, yet tend to minimally encode exophoric, spatial deixis through the localization of referents. Burenhult (2008: 100-101) gives a broad definition of demonstratives based on functional and grammatical criteria: “any member (in the form of a word or bound morpheme) of a closed grammatical class of expressions serving to narrow the contextually relevant search domain in the locational relativization of a referent to the deictic center (the speech situation or either of its two components, speaker and addressee).” Thus, important criteria in identifying demonstratives include:

1. Part of a closed grammatical class
2. Functioning to locate a referent
3. Deictic, i.e. locates in relation to the deictic origo

The ‘locational relativization’ mentioned here is intended to include both exophoric and endophoric deixis, such that the referent’s location could be in space or discourse (Burenhult 2008: 101). As Levinson (2018), Diessel (1999), and others highlight, the directing of **attention** to a referent and coordinating speaker/addressee attention to it is the crucial function of demonstratives across languages. However, this exophoric function, in which referents are

located within the physical setting of the speech situation and attention is drawn to them, combines with endophoric functions, in which demonstratives are used to track discourse participants and organize the flow of discourse (Diessel 1999: 2). The exophoric function and, in particular, the spatial deictic function of demonstratives have been argued to be primary (e.g. Diessel 1999), yet this claim is not without controversy.

Within the domain of exophoric demonstrative function, which is the focus of the current study, significant debate has occurred concerning the nature of deictic distinctions. Much prior work on demonstrative systems has assumed and/or argued for the primacy of space, and particularly of physical distance as the primary dimension of contrast (such as Anderson and Keenan (1985); Diessel (1999, 2005, 2006); Dixon (2003); Halliday and Hasan (1976); Hyslop (1993); Lyons (1977)). As noted by Hanks (2011, 2005), this ‘spatial bias’ usually coincides with the assumption of an *egocentric* deictic origo based on the Speaker’s body, such that “proximity is defined as spatial contiguity in relation to the Spr” (Hanks 2005: 196). Figure 1.14 from Levinson (2018: 7) illustrates the “idealized model of speaker-anchored radial spatial categories” which underlies the egocentric spatial bias, representing the idea that the primary function of demonstratives is the identification of referents based on physical distance from the speaker.

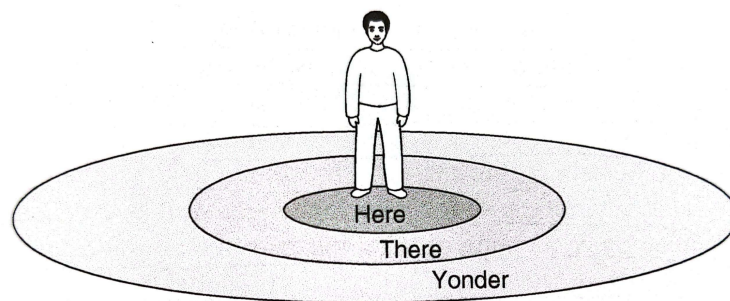


Figure 1.14: Idealized egocentric/spatial conception (from Levinson 2018: 7, Figure 1.1)

However, the assumption that spatial distinctions play a fundamental role in demonstrative systems, which underlies many grammatical descriptions, has been challenged by more recent work particularly close examinations of the semantics and pragmatics of de-

ictic systems. As noted by Hanks (2011: 321), the spatial bias “omits critical features of deictic practice, including the mutual orientation of interactants, all non-perceptual modes of access such as background knowledge, memory or anticipation, and all extra-physical aspects of social settings.” Hanks, in particular, has long argued for the demotion of space as basis for deictic systems through detailed ethnographic work on Yucatec Maya, which showcases deixis as a social practice rooted in notions of accessibility and interaction (Hanks 1990, 2005). Other work which has similarly questioned the spatial and egocentric bias(es) include Burenhult (2003) for Jahai, Özyürek (1998) for Turkish, and Enfield (2003) for Lao. Levinson (2018: 8) concludes that the primacy of space in demonstrative systems is a language-specific matter, noting that spatial categories are always ‘pragmatically elastic’. This remains a subject for debate, however, relating perhaps to fundamentally different conceptions of the purpose of language more broadly. Regardless, some demonstrative distinctions are highly and irrefutable spatial in nature, such as the geophysical (elevation and coastal based) demonstratives which serve as the focus of the current study.

In what follows of the current chapter, demonstratives are first described with respect to their formal characteristics (Section 1.6.1). Next, demonstrative semantics are discussed, including the different deictic distinctions made by demonstrative systems as well as properties of the referent, which can also be involved in the meaning of demonstrative roots. Also discussed with respect to deictic semantics are different sizes of demonstrative systems, in terms of the number of oppositions made, which display some patterns cross-linguistically.

### **1.6.1 Formal characteristics of demonstratives**

As mentioned above, demonstratives may be defined relative to both their distinctive functions as well as particular formal characteristics, including their instantiation as small, closed class sets or paradigms. However, significant cross-linguistic variation exists in their formal and distributional qualities. Diessel (1999) provides a general overview of demonstratives based on data from 85 languages. Demonstratives may be free or bound morphemes (usu-

ally clitics), morphologically simple or complex, and may inflect for case, gender, number, and other grammatical categories. Three main classes of demonstratives are found cross-linguistically, with a fourth sometimes posited (Diessel 1999; Forker 2020; Killian 2021; Levinson 2018):

1. demonstrative pronouns, e.g. *this* or *that*
2. demonstrative adnominals e.g. *this paper*
3. demonstrative adverbs, e.g. *here/there* or *thus*
4. demonstrative predicatives (Killian 2021), also called identifiers (Diessel 1999) or presentationals (Levinson 2018)

The demonstrative sub-classes are divided based upon syntactic distribution; not all languages formally distinguish between all classes. Demonstrative pronouns constitute an NP independently, while demonstrative adnominals (also called determiners) combine with a noun or nominal phrase in order to constitute an NP. French, for instance, distinguishes demonstrative pronouns from demonstrative determiners using different forms: *celui/celle/ceux/celles* vs. *ce/cette/ces* (Diessel 1999: 4). Other languages distinguish the two through inflection only, such as Turkish, while the majority of languages do not formally distinguish between the two (Diessel 2013b). Kalaallisut is of this latter type.

Demonstrative adverbs are usually formally distinguished from pronouns/adnominals and tend to be uninflected, except in the case of locative case marking. Only a few of the languages in the sample surveyed by Diessel (1999: 5, 75) use the same form for adverbial and nominal demonstratives: Ponapean (Central-Eastern Malayo-Polynesian), Guugu Yimidhirr (Pama-Nyungan), Ngiyambaa (Pama-Nyungan), and (less strongly) Finnish (Finno-Ugric). Demonstrative adverbs function as locational deictics (e.g. *here/there*), generally used to reference the location associated with the corresponding verb, as well as conveying manner (e.g. *thus*).

Finally, some authors such as Killian (2021) and Diessel (1999, 2013a) argue for a fourth category of ‘demonstrative predicatives’ or ‘identifiers’ which occur in copular and nonverbal clauses. Diessel notes that demonstrative identifiers are often described as demonstrative pronouns in the literature, but that some languages make a formal (phonological or morphological) distinction between the two types (Diessel 1999: 79). Identifiers are similar to ‘presentatives’, such as French *voilà*. Killian (2021) presents the first (to my knowledge) typology of demonstrative predicatives.

In this study, the general term ‘demonstrative’ is used, following Burenhult (2008)’s definition above, to refer to all of the four types unless a particular type is specified.

### **1.6.2 Demonstrative semantics**

The semantics of demonstrative systems rests upon the paradigmatic oppositions made by the terms in the system. The deictic distinctions through which a demonstrative indexes a referent, such as distance, tend to characterize the basic semantics of the system; these define the relations between the deictic origo and the object. In addition, distinctions in the deictic origo itself as well as in properties of the reference object likewise contribute to the semantics of the demonstratives. Demonstrative paradigms consist of sets of demonstrative forms existing in opposition to one another, expressing particular contrastive deictic and non-deictic semantic features. These semantic features and their usages arise from the structure of the paradigm, including the number of oppositions that the system makes. Demonstrative systems vary significantly cross-linguistically in the deictic and semantic features encoded as well as the number of oppositions made. However, the constitution of the deictic origo itself is fundamental to the projection of deictic oppositions in localizing the referent.

#### **Variation in the deictic origo**

As mentioned earlier in Section 1.6, demonstratives have often been presumed to be anchored with respect to the speaker and particularly the speaker’s body—an egocentric conception

of the origo. However, many languages have been shown to incorporate other speech participants into the deictic origo and/or demonstrate a more complicated topological structure for the origo.

So called *person-oriented systems* (Anderson and Keenan 1985) involve demonstrative oppositions based on which speech participant (or combination thereof) constitutes the origo. Typically, person-oriented systems involve the distinction between speaker-anchored and addressee-anchored forms, although other combinations are also possible such as speaker plus addressee anchored forms. Gerner (2009) also cites languages having forms which anchor to a third person, in contrast with speaker- and addressee-anchored forms. Generally in such systems, it is some notion of proximity/distance that is distinguished with respect to the speech participant, for instance ‘proximity to speaker’ versus ‘proximity to addressee’ versus ‘distal from speaker and addressee’. Table 1.2 shows the Japanese demonstrative paradigm, demonstrating a relatively typical three-way person-oriented system (from Diessel 2013a; Kuno 1973). More unusual is that of Kwak’wala (Wakashan), which includes anchoring to the speaker, addressee, or other (a third person), all in terms of proximity (i.e. no specifically distal forms), combined with a visible-invisible contrast<sup>7</sup> (Anderson and Keenan 1985; Boas 1947, 1963); see Table 1.3.

	<b>Adnominal demonstratives</b>
<b>Near speaker</b>	<i>kono</i>
<b>Near hearer</b>	<i>sono</i>
<b>Away from speaker &amp; hearer</b>	<i>ano</i>

Table 1.2: Three-term person-oriented demonstrative system of Japanese (adapted from Diessel 2013a, Table 3, based on Kuno 1973)

In addition, some studies of demonstrative systems have argued for a more complex deictic ground or origo than the typically conceived referent *point* anchored to the speaker (or addressee). For instance, Jungbluth (2003) re-analyzes the three-way demonstrative system

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<sup>7</sup>Gerner (2009: 48) notes that it is unclear whether the visibility feature is calculated with respect to the speaker or the other speech participants involved in the demonstrative distinctions.

	Deictic origo		
	Speaker	Addressee	Third person
<b>Visible</b>	-k	-uxw	-iq
<b>Invisible</b>	-gaʔ	-uʔ	-iʔ

Table 1.3: Person-oriented demonstratives (subj.) in Kwak’wala (adapted from Gerner 2009: 48)

of Spanish, typically analyzed as distance-based, through conception of the entire ‘conversational dyad’ as the reference point. Similarly, Burenhult (2008) describes demonstratives in Jahai (Austro-Asiatic) which operate with respect to a composite ground consisting of the speaker and addressee to which an intrinsic FoR can apply (more in Section 1.6.4 on spatial coordinate demonstratives).

### Deictic distinctions

Deictic distinctions tend to make up the primary contrasts which structure demonstrative paradigms, some of which are spatial (e.g. distance, elevation) and others are not entirely spatial in nature (e.g. visibility, accessibility). These features constitute the relation between the deictic origo and the object; for instance, *this* could be used to locate an object through establishing a relation of proximity to the speaker. A distance distinction, localizing the referent through varying degrees of distance (i.e. proximity) from the origo, is found across many demonstrative systems, but many other distinctions also occur in demonstratives semantics and can be intertwined with distance.

There has been significant disagreement in the literature on demonstratives as to the role of **distance** features, in line with discussion of the possible ‘spatial bias’ in deixis theorization. Some authors have claimed that all languages have at least two demonstratives encoding distance relative to the deictic origo: a proximal and a distal (Anderson and Keenan 1985: 281; Diessel 1999: 36; Dixon 2003: 86; Hyslop 1993). However, this view has been challenged by further research into particular languages with a presumed distance contrast as the basis for the demonstrative oppositions, finding that other deictic and semantic factors,



such as accessibility and joint attention, instead play a primary role (Burenhult 2003; Enfield 2003, 2018; Hanks 1990, 2005).

Potentially a more defensible claim would be that “all language have at least two demonstratives that *can be used* to differentiate between referents or locations in different distance to the deictic center” (Diessel 2014: 123, my emphasis). In other words, demonstrative systems which do not encode distance as the basic distinction between forms nonetheless have an opposition that *can* express a proximal-distal contrast. Some languages, like French, lack a distance distinction in the demonstrative nominals (having a single form, e.g. *ce/cette/ces* which only varies according to number and gender), but encode one in the demonstrative adverbs (e.g. *ci* vs. *là*) which may be combined with the nominals.

Indeed, most demonstrative systems cross-linguistically do encode distance in some way, with some distinction between proximal and distal referents. However, as noted by Levinson (2018: 19), the notion of proximity is elastic and depends on numerous pragmatic factors. Some languages do appear to primarily structure their demonstrative systems in terms of distance, for instance Vietnamese (two-term system; Table 1.4) and Irish (three-term system) (Diessel 1999, 2014). Many languages across the world utilize two- or three-way demonstrative sets based on distance, although other deictic features may also play a role (Gerner 2009). Distance based systems are often referred to as *distance-oriented* (in contrast with *person-oriented*, following Anderson and Keenan 1985).<sup>8</sup>

	<b>Nominals</b>	<b>Adverbs</b>
<b>Proximal</b>	này	đây
<b>Distal</b>	ở	đấy

Table 1.4: Two-term demonstrative system in Vietnamese (adapted from Diessel 1999: 36, Table 17, based on Thompson 1965: 142)

Fillmore (1982) and Diessel (1999) both argue that distance-oriented systems tend to have three or less features, with larger systems incorporating other deictic elements. On the other

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<sup>8</sup>Gerner (2009) instead proposes the term *speaker-based* in place of *distance-oriented*, since these systems differ from *person-based* systems in regards to their egocentricity rather than distance in any specific way.

hand, Anderson and Keenan (1985: 288-295) do report the existence of larger, distance-based systems such as Malagasy (claimed to have 6-7 distance distinctions), though they note that systems with more than five terms along a single deictic dimension are ‘exceedingly’ rare. Gerner (2009: 50-51) states that three or more distance-based distinctions are very rare, but points to a Miao language, Hekou Hmong, which “seems to exhibit four distance categories, but these categories are not fully contrastive.”

In their in-depth comparison of the demonstrative systems of 15 mostly unrelated languages, Levinson et al. (2018) go further with the claim that most ‘medial’ distance terms are, in reality, neutral terms unmarked for distance. In line with this claim, the Turkish demonstrative *şu*, which had previously been interpreted as a medial within a three-way distance-based system, has been shown to be neutral to distance and instead serves to draw the addressee’s visual attention to the referent whereas the other two demonstratives, *bu* and *o*, encode a proximal-distal distinction in cases where joint attention has been established (Özyürek 1998; Küntay and Özyürek 2006). This brings us to another deictic distinction, **attention**. As mentioned above, coordinating joint attention between speech participants is a fundamental purpose of demonstratives. However, some demonstrative systems, like Turkish, encode paradigmatic contrasts based on attention.

Jahai (Austro-Asiatic; Malaysia) has nine demonstrative roots, combining a number of unusual or unique distinctions, as shown in Figure 1.15.<sup>9</sup> Much of the paradigm is based upon a combination of person (speaker versus addressee anchoring) and accessibility; however, as explained in Burenhult (2003), attention also plays an important role. In particular, the addressee-anchored/accessible demonstrative *ton* is specifically used for referents that already hold the addressee’s attention. In contrast, the other demonstratives (particularly the speaker-oriented accessible and the inaccessible forms) were used for drawing attention to a referent (in the task conducted by Burenhult 2003).

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<sup>9</sup>A ninth term, based on perception through emissions, has since been found to be part of the paradigm (Burenhult 2018).

Main parameter	Oppositions	Adverbial form	Nominal form	Referential characteristics in exophoric use
+ACCESS	Speaker-anchored	<i>ʔəh</i>	<i>təh</i>	Accessible to speaker (proximal, perceptible, reachable, approachable, etc.)
	Addressee-anchored	<i>ʔon</i>	<i>ton</i>	Accessible to addressee (familiar, attended to)
−ACCESS	Speaker-anchored	<i>ʔaniʔ</i>	<i>taniʔ</i>	Inaccessible to speaker (distal, imperceptible, unreachable, inapproachable, etc.)
	Addressee-anchored	<i>ʔūn</i>	<i>tūn</i>	Inaccessible to addressee (unfamiliar, unattended to)
EXTERIOR	Speaker-anchored	<i>ʔadeh</i>	<i>tadeh</i>	Located outside speaker’s side of speech perimeter
	Addressee-anchored	<i>ʔpiʔ</i>	<i>tpiʔ</i>	Located outside addressee’s side of speech perimeter
ELEVATION	Superjacent	<i>ʔitih</i>	<i>titih</i>	Located above speech situation (overhead, uphill, or upstream)
	Subjacent	<i>ʔuyih</i>	<i>tuyih</i>	Located below speech situation (underneath, downhill, or downstream)

Figure 1.15: Jahai demonstrative paradigm (reproduced from Burenhult 2008: 117, Table 1)

**Accessibility**, as shown in the Jahai paradigm, can contribute flexible categories with multidimensional meaning. The notion of accessibility can cover a range of concepts such as proximity, reachability and approachability (more physical/spatial characteristics) as well as more conceptual notions such as common ground (Levinson 2018: 31). Chapter 3 details the accessibility contrasts found in some Yupik-Inuit demonstrative systems (though not Kalaallisut). As are most of the deictic distinctions across Yupik-Inuit, the notion of accessibility found there is more directly physical in nature.

The Kwak’wala system mentioned above exemplifies a **visibility** distinction, as forms across the paradigm are distinguished as being visible or non-visible, and in fact visibility plays a role as a deictic feature in some way within many languages. In some languages, like Kwak’wala, a visibility feature is marked for each demonstrative—this is also found in Yupik-Inuit (see Chapter 3)—yet some other languages have a single demonstrative meaning ‘non-

visible’ with the other forms unmarked (Gerner 2009: 52). Finally, some of the languages covered in Levinson et al. (2018) require a referent to be visible in order to use some or all demonstratives.

Other semantic distinctions not touched upon further here include gesture/ostentation, evidentiality, motion, and dedicated anaphoric categories (Gerner 2009; Levinson et al. (2018)). Finally, more highly spatial and directional deictic distinctions such as elevation/verticality, geophysical or cardinal direction, and interior/exterior space are described in more detail in Section 1.6.4. This type of demonstrative meaning has particular characteristics which sets it apart from the distinctions discussed thus far.

### **Physical properties of the referent**

The demonstrative distinctions described in the prior section all have to do with the relation between the deictic origo and the object, giving semantic criteria to aid in the localization of a referent. Some demonstrative systems include properties of the referent itself that are tied in with the deictic semantics of the paradigm. For instance, most Yupik-Inuit languages encode a distinction between ‘extended’ and ‘restricted’ demonstrative referents having to do with their spatial and perceptual properties (see Chapter 3). Another example is Goemai (Afro-Asiatic), in which ‘deictic classifiers’ denoting postural information are used as part of the demonstratives (Hellwig 2018). Even though such properties of the referent are not exactly deictic, as they do not, for the most part, comprise a relation to the deictic origo, they may provide important information for the localization of a referent.

### **1.6.3 Types of systems in cross-linguistic perspective**

Traditionally, the typology of demonstrative systems has been expressed according to the number of opposing terms and, accordingly, the number of deictic or semantic distinctions that are made (e.g. Anderson and Keenan 1985; Diessel 1999, 2013a; Frei 1944). The result is discussion of ‘two-term’, ‘three-term’ and ‘multi-term’ demonstrative systems, characterized

by their overarching features (e.g. distance-oriented or person-oriented systems). However, Levinson et al. (2018) raise important concerns over this method of comparison, for instance noting that languages often do not exhibit a one-to-one correspondence between number of demonstrative forms and demonstrative distinctions, or display a mismatch in number of pronouns/adnominals and adverbs. Furthermore, the data for these typologies is mostly taken from grammars which exhibit the ‘spatial bias’ described above, tending to use the notions ‘proximal’ and ‘distal’ by default rather than as the result of close analysis (Levinson 2018: 16). Nonetheless, broad cross-linguistic comparisons of this type serve to provide a general overview of the trends found in demonstrative systems as well as the relative likelihood of each type.

The majority of demonstrative systems cross-linguistically would be categorized as encoding two-way or three-way oppositions (Anderson and Keenan 1985; Diessel 1999). According to Diessel (2013a), 54% of languages with distance contrasts within their adnominal demonstratives (within a sample of 234 languages) exhibit a two-way contrast and 38% exhibit a three-way contrast. As mentioned in Section 1.6.2, most languages seem to have a two-way distinction present in some form within their broader demonstrative system; some languages with apparently one-term nominal demonstratives do employ a deictic contrast within their adverbial demonstratives, e.g. French and Czech (Diessel 1999: 38).

The claim that all languages employ a fundamental ‘proximal’ versus ‘distal’ contrast structuring their demonstrative system suggests a certain level of homogeneity across two-way and three-way systems. However, as we have already seen, deictic categories are not that simple or regular. Even within two-way systems there exists considerable cross-linguistic diversity. The Levinson et al. (2018) study, in which researchers used the same demonstrative elicitation tool (Wilkins 1999)<sup>10</sup> to study the systems of 15 languages in-depth, found

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<sup>10</sup>The Wilkins (1999) task, which focuses on exophoric demonstrative usage, consists of a set of 25 scenes representing a speaker, addressee, and reference object in varying configurations designed to tease apart person, distance, and visibility distinctions. The scenes are meant to be enacted with speakers within the fieldwork setting to elicit demonstrative usage.

four different types of two-opposition systems among the 6 languages in their sample shown to have binary systems: Tzeltal, Yucatec, Dalabon, Lao, Brazilian Portuguese, and Goemai. These types are distinguished according to the categorization of each term, based upon distance and person features. Figure 1.16 represents a schematization of the types of demonstrative system (based on nominal demonstratives) found in the Levinson et al. (2018) investigation.

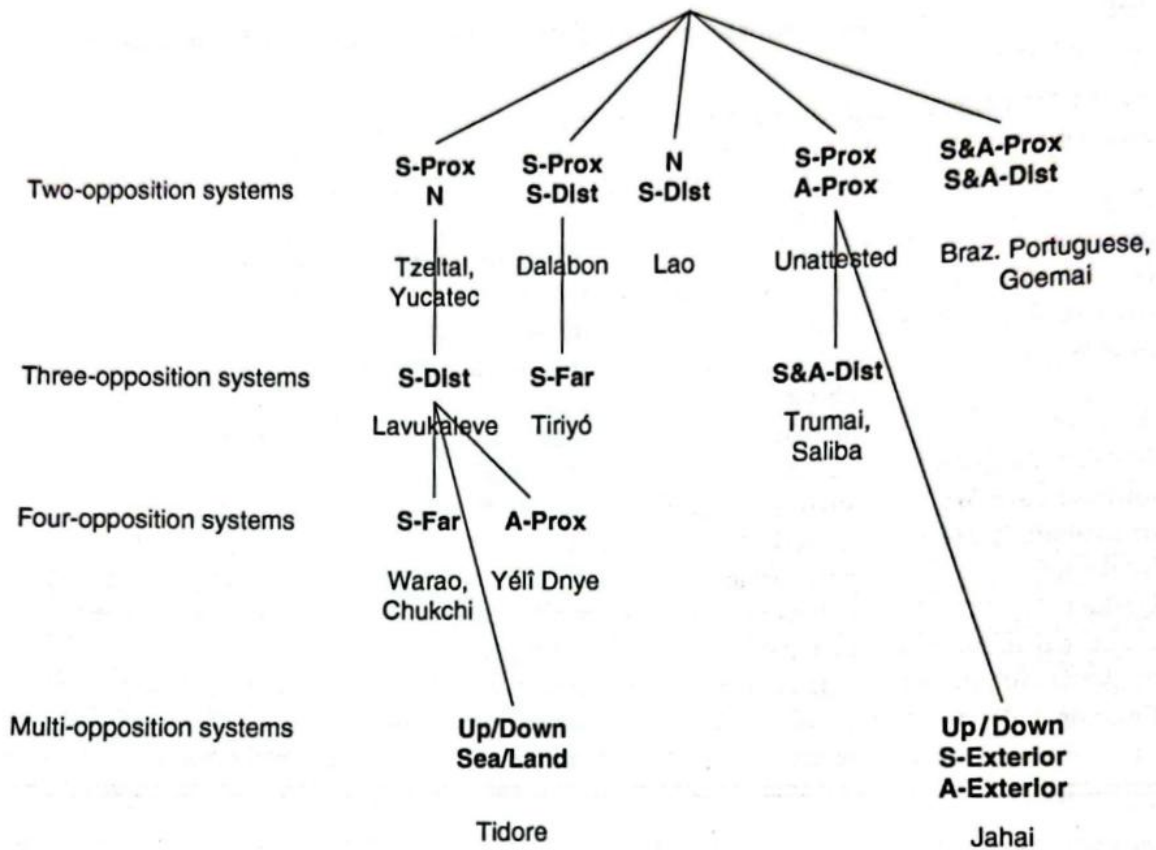


Figure 1.16: Types of demonstrative system found in Levinson et al. (2018: 36)

As can be seen in Figure 1.16, only one of the four types of two-way systems (Dalabon, Gunwinyguan) displays a more ‘typical’ distance-based proximal-distal distinction anchored to the speaker. Brazilian Portuguese and Goemai show a proximal-distal distinction but this opposition is anchored instead to both the speaker and addressee, showing variation with respect to the deictic origo. The other three two-way systems (i.e. half of those found in

the study) have a neutral term (unmarked for proximity), explained as “spatially neutral or unmarked term[s] that contrast[s] with the terms which have a clear anchorage and a clear zone of application” (Levinson 2018: 22). Although this neutral term tends to contrast with a speaker-based proximal (as in Tzeltal and Yucatec), Lao shows the reverse pattern—a neutral contrasting with a (speaker-based) distal. Levinson et al. (2018) argue that many (if not all) demonstratives assumed to be distance-based ‘medials’ are, in fact, neutral demonstratives unmarked for distance, taking up a medial-like usage through paradigmatic opposition with actual proximal or distal forms (Levinson 2018: 25).

Things brings us to three-way systems, which are often analyzed as distance-based with a proximal-medial-distal opposition (with respect to the speaker). In the classic demonstrative typologies, the ‘addition’ of another distinction (i.e. a third term) brings with it the possibility of instantiating either a distance- or person-oriented system (e.g. Anderson and Keenan 1985; Diessel 1999; Dixon 2003). In the former case, a third distance category is incorporated—the medial—whereas the latter case introduces a distinction based on speech participants. In a person-oriented system, the ‘middle term’ indexes an object near the addressee, but away from the speaker as in the Japanese paradigm shown above (Diessel 1999: 39). Instances of distance-oriented three-term systems may include Spanish (i.e. proximal *este*, medial *ese*, and distal *aquel*) (Anderson and Keenan 1985: 283-5), Yimas (Nor-Pondo) (Diessel 1999: 39), Georgian, Lango, Ponapean and Hixkaryana (Dixon 2003: 86). Additionally, Dixon (2003) notes that the two types may be blended, as in Boumaa Fijian wherein the middle term may be used for objects medial to the speaker but often for near the addressee. In the Levinson et al. (2018) study, we can see from Figure 1.16 that the three-opposition systems found in their data do tend to incorporate an additional distance distinction though this may combine with person. However, as we have seen in Section 1.6.2, these deictic categories, particularly ones thought to be primarily distance-based without closer analysis, often incorporate an entire constellation of deictic features.

Going beyond three terms, person-based systems also commonly have four terms which may combine the distance and person features in different ways (Diessel 1999: 40). On such system cited by Diessel is Quileute, shown in Table 1.5. The four-opposition systems investigated by Levinson et al. (2018)—Warao, Chukchi, and Yéî Dnye—similarly involve distance and person. Only 4% of the languages in Diessel (2013a)’s survey have a four-term system, and 2% had five or more. However, the deictic categories of Warao, Chukchi, and Yéî Dnye also incorporate other semantic elements, such as visibility, attention, and epistemic factors. As is the case for many (or possibly all) demonstrative systems cross-linguistically, the deictic distinctions are much more complex than might be assumed via a basic distance/addressee (‘spatialist’) interpretation.

	<b>Nominals</b>	<b>Adverbs</b>
<b>Near speaker</b>	yü'x:io (non-fem) yü'k:io (fem)	xo''a
<b>Near hearer</b>	yí'tca	so''o
<b>Near speaker &amp; hearer</b>	sa''a (non-fem) ksa' (fem)	sa''a
<b>Away from speaker &amp; hearer</b>	ha	á:tca'a

Table 1.5: Four-way system in Quileute (from Diessel 1999: 41, Table 22, based on Andrade 1933: 246, 252)

It is possible for distance and person features to combine to make systems involving more than four distinctions, as in Koasati (Muskogean) which Diessel (2013a), based on Kimball (1991), lists as having proximal, near speaker, near addressee, distal, away from speaker/addressee, and far away from speaker/addressee forms. Larger demonstrative systems tend to incorporate other deictic and semantic elements, such as verticality/elevation, geophysical direction, motion, or object features. These ‘special’ or ‘exotic’ deictic categories found in larger demonstrative systems are cross-linguistically uncommon (Anderson and Keenan 1985; Burenhult 2008; Diessel 1999; Dixon 2003; Levinson 2018).

Based on the results of the Levinson et al. (2018) studies, the authors conclude that multi-opposition systems can be overlaid upon different types of ‘core’ system; for instance,



Tidore (West Papuan) has a core speaker-anchored distance system and Jahai has a core person-oriented system (Levinson 2018: 36) as shown above. Both of the multi-opposition systems found in the study make verticality distinctions as well as other directional distinctions (these types of deictic features are described further in Section 1.6.4). The large demonstrative system of Jahai incorporates many deictic dimensions: speech participant, accessibility, perception, elevation, and a category called ‘exterior’ (described in the following section).

Anderson and Keenan (1985: 295) highlight the Yupik-Inuit languages as having “the world’s most exuberant development of this aspect of linguistic structure” with a look into Central Alaskan Yupik. As the current study examines further in Chapter 3, the most conservative Yupik-Inuit languages have around 30 demonstrative stems encoding numerous deictic and semantic oppositions, including distance, person, verticality/elevation, interiority, visibility, and physical properties of the referent.

#### 1.6.4 Directional demonstratives

This section concludes with a further look at ‘directional’ demonstratives, meaning those which encode a more spatially-specific deictic relation between origo and object. In this sense, they encode a particular direction in order to localize the referent. What seems to be the most common of these directional distinctions is that of **elevation/verticality** features which are often found within larger multi-opposition systems. Basically, this entails a deictic opposition based on ‘up’ versus ‘down’, calculated with respect to the location of the deictic origo. These contrast with other forms in the system denoting ‘same height’ (potentially simply through being unmarked for vertical orientation). Gerner (2009: 62) argues that systems with this type of distinction (which he labels ‘altitude’) always determine vertical orientation with respect to the speaker rather than other speech participants. Nine of the 85 languages investigated by Diessel (1999) encode elevation relative to the deictic origo. An example of a relatively small elevation-based system cited by Diessel (1999) is from Lahu

(Tibeto-Burman), shown in Table 1.6. Forker (2020) provides a broad-scale typological investigation of 50 languages with verticality/elevation-based demonstrative systems across 20 language families.

	<b>Adverb</b>
<b>Proximal</b>	chò
<b>Medial</b>	ô
<b>Distal</b>	cô
<b>Up</b>	nô
<b>Down</b>	mô

Table 1.6: Elevation-based demonstrative system in Lahu (from Diessel 1999: 43, based on Matisoff 1973: 110-1)

Some verticality-based demonstratives refer strictly to vertical ‘up/above’ and vertical ‘down/below’, whereas others incorporate this meaning with elevation more broadly such as ‘uphill’ and ‘downhill’. As discussed in Chapter 4, the Kalaallisut up/down demonstratives are of this general type. Furthermore, some languages have elevation demonstratives which refer specifically to topographic elevation. The Dyirbal (Pama-Nyungan) system, shown in Table 1.7, crosses distance with the topographic features of uphill/downhill and upriver/downriver.

	<b>Up-hill</b>	<b>Down-hill</b>	<b>Up-river</b>	<b>Down-river</b>	<b>Across-river</b>
<b>Proximal</b>	-dayi	-bayd,i			
<b>Medial</b>	-daya	-bayd,a	-dawala	-balbala	
<b>Distal</b>	-dayu	-bayd,u	-dawulu	-balbulu	
-					-guya

Table 1.7: Topographic-based system in Dyirbal (from Gerner 2009: 65, based on Dixon 1972: 48)

The term **topographic** demonstratives (also ‘geophysical demonstratives’) refers to such deictic distinctions which are specifically landscape- or environment-based, using geophysical landmarks to indicate directional meanings. Other parts of the geophysical environment are also found as deictic features in some languages. Gerner (2009) makes reference to a number of interesting topographic oppositions, for instance those of Iaaï (Oceanic) shown

in Table 1.8 which opposes both inland-seaward and sunrise/sunset (east/west), based on the topography of the island where it is spoken. As seen here, directional and particularly topographic demonstratives may take on cardinal meanings, though this is rare. As we will see, Kalaallisut includes demonstratives which refer to directions along the coastline with respect to the deictic origo, which also encode cardinal meaning. In this way, these kinds of demonstrative systems can encode a sort of orientation system which may be interrelated with other such systems in the language.

	<b>Deictic locative</b>
<b>Near speaker</b>	<i>ang</i>
<b>Near addressee</b>	<i>e</i>
<b>Away from speaker &amp; addressee</b>	<i>lee</i>
<b>Down (seaward)</b>	<i>jii</i>
<b>Down (near speaker)</b>	<i>jo</i>
<b>Up (inland)</b>	<i>dhöö</i>
<b>Beside (same level)</b>	<i>lââ</i>
<b>Sunset/west (seaward/down)</b>	<i>ü</i>
<b>Sunrise/east (inland/up)</b>	<i>iö</i>
<b>Anaphoric</b>	<i>ling</i>

Table 1.8: Topographic-based system in Iaaí (Ozanne-Rivierre 2004: 132)

A final type to note here is that of **interior/exterior** distinctions, which likewise can encode a higher degree of spatial and directional specificity than do more ‘typical’ demonstratives based on things like proximity/distance, accessibility, or visibility. Described further in Chapters 3 and 4, Yupik-Inuit languages have demonstratives referencing inside/outside spaces dependent upon the location of the origo. The concept of interior/exterior may also apply to the structure of the speech situation itself (i.e. the conversational dyad of speaker and addressee). The ‘exterior’ demonstratives in Jahai, as argued by Burenhult (2008), are based on the concept of the speech situation as a physical container with an inside and an outside. The speaker-anchored exterior demonstratives refer to objects outside the speaker’s side of the speech perimeter, while the addressee-anchored ones refer to those outside the addressee’s side. The ‘container’ of the speech situation arises from the position and orienta-

tion of the speech participants. Similarly, Gerner (2009: 63-64) cites a demonstrative system which incorporates deictic distinctions based upon the bodily orientation of the speaker in Hekou Hmong (Miao), shown in Table 1.9. These ‘orientation’ demonstratives distinguish between referents in front of, in back of, or opposite the speaker.

	<b>Demonstrative</b>
<b>Proximal to speaker</b>	na <sup>44</sup>
<b>Medial to speaker</b>	nteu <sup>24</sup>
<b>Distal to speaker</b>	o <sup>44</sup>
<b>Proximal to addressee</b>	ka <sup>44</sup>
<b>Familiar to speaker/addressee</b>	i <sup>44</sup>
<b>Speaker bodily orientation</b>	tau <sup>24</sup> (front) tshai <sup>33</sup> (back) ti <sup>24</sup> (opposite)

Table 1.9: Demonstrative paradigm of Hekou Hmong (from Gerner 2009: 64)

Burenhult (2008) gives the Jahai ‘exterior’ demonstratives, as well as other directional distinctions cross-linguistically, a frames of reference analysis, using the term **spatial coordinate demonstratives** to denote their encoding of specific directions relative to a spatial coordinate system. Under this analysis, the exterior(/interior) and bodily orientation demonstratives instantiate an *intrinsic* FoR. As mentioned in Section 1.5.5, within spatial deixis the referent can be conceived of as the ‘figure’ and the deictic origo as the ‘ground’. As shown, the majority of demonstratives cross-linguistically do not encode directional information like the ones described here, and thus cannot be considered an angular strategy using FoRs. However, Burenhult (2008) argues that directional demonstratives such as the vertical and topographic ones do in fact provide an angular specification which acts as a search domain anchored to a particular coordinate system.

The verticality/elevation and topographic types specify a deictic relation anchored to coordinate system that is *external* to the figure-ground array, such as up-down, upriver-downriver, etc.; Burenhult identifies these as using an *absolute* FoR. As mentioned above, spatial coordinate demonstratives may also utilize an *intrinsic* FoR, being anchored to an

asymmetry that is *internal* to the figure-ground array. For instance, the Jahai exterior demonstratives project search domains through intrinsic facets of the ground, i.e. the asymmetry of speaker versus addressee (Burenhult 2008). Similarly, the Hekou Hmong orientation demonstratives would be considered intrinsic spatial coordinate demonstratives, based on facets of the speaker (which constitutes the ground). The relative FoR is missing from this typology, as this would necessarily involve the projection of axes based on a viewer external to the figure-ground array and origo, e.g. as in ‘that, which from viewpoint X is to the right of us’ (Burenhult 2008 114). No demonstratives have been found to instantiate such a specification.

## 1.7 The current study

The current study serves as an investigation into the demonstrative system of Kalaallisut with a focus on the exophoric semantics of the system. As mentioned in Section 1.2, an important goal is to help fill in a gap in the linguistic literature by providing an in-depth description of spatial deixis within a language which has a complex demonstrative system encoding a number of uncommon deictic distinctions. The Kalaallisut demonstratives represent a large, multi-opposition system with highly directional and topographic meanings which are anchored to the landscape of Greenland. Although the demonstrative literature often makes mention of larger systems which feature rare deictic oppositions, few in-depth studies exist on the semantics and actual usage of such demonstratives.

Furthermore, the Kalaallisut system cannot be studied without consideration of the various changes currently underway across the paradigm. Fieldwork with speakers quickly reveals significant variation in who knows or uses each term, as well as in how they are used. Thus this study works to understand the system both synchronically, as the ‘traditional’ system used by more conservative speakers, and diachronically with respect to the trajectory of Yupik-Inuit spatial deixis as well as more recent and ongoing change. Com-

paring today's Kalaallisut demonstrative system with that of Proto-Yupik-Inuit, as well as the other Yupik-Inuit varieties spoken today, we may examine how such a complex deictic system evolves over time. Which aspects of the system have been stable and which have been susceptible to change? How do the historical changes leading from the Proto-Yupik-Inuit system to that of Kalaallisut compare with the changes affecting the system today? Finally, what kinds of factors (linguistic or extra-linguistic) can be found to motivate change in the system (historically and today)?

### **1.7.1 Fieldwork and data collection**

Fieldwork and data collection for this study was conducted between 2014 and 2017, over the course of three trips to Greenland and one trip to Denmark. Data was also collected on several brief occasions when Greenlanders visited the United States (in Chicago, IL, Hanover, NH, and Lexington, KY).

- July, 2014: Nuuk and Sisimiut, Greenland
- September, 2015: Nuuk, Greenland
- June, 2017: Copenhagen, Denmark
- September, 2017: Nuuk, Greenland

The speakers involved in data collection consisted of 30 Greenlanders (20 female and 10 male), ranging in age from 20-79 years old (20-39: 53%, 40-59: 33%, 60-79: 13%). The majority were originally from Nuuk or Sisimiut, with some from smaller towns on the west, southwest, or northwest coasts. All are native speakers of Kalaallisut with some proficiency (often fluency) in Danish and English.

## 1.7.2 Methodology

A combination of methodologies were used to gather data for this study, including structured spatial elicitation tasks, speaker interviews, and text elicitation. Each method and task is described in the following sections. Data from the structured speaker interviews and the Landscape Photo Task forms the bulk of the demonstrative data upon which this study is based. The other structured elicitation tasks yielded important data particularly for the broad description of Kalaallisut spatial language. Data was also gathered from existing sources where possible, especially for the comparative and historical Yupik-Inuit study of Chapter 3.

### Structured interviews

Structured interviews targeting demonstrative knowledge, meanings and usages consisted of going over a list of demonstrative forms with speakers during mostly one-on-one interviews. A few of the interviews were conducted with multiple speakers together, and some were conducted by a Greenlandic colleague. The majority of these structured interviews utilized a list which consisted of unprefixes, nominal<sup>11</sup> and adverbial<sup>12</sup> forms of all twelve Kalaallisut demonstratives. Some interviews that were restricted for time were based on a subset of the demonstratives.<sup>13</sup> Speakers were asked to describe each demonstrative (and translate, in the interviews conducted in English) and its usage, and to provide an example if possible. Not all speakers knew all demonstratives; when a speaker did not know a form, the speaker was asked if she/he had heard it before. Oftentimes in this case, speakers reported that an older relative uses the word.

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<sup>11</sup>Absolutive singular inflection, e.g. *panna*.

<sup>12</sup>Locative case inflection, e.g. *pavani*.

<sup>13</sup>This list consisted of the distal demonstratives: *panna/pavani*, *sanna/samani*, *anna/avani*, and *qanna/qavani*.

This type of interview proved very useful in determining which demonstratives were known and/or used by each speaker, as well as revealing the (sometimes broad) range of meanings and usages available to speakers' metalinguistic awareness. Hanks (2009) argues for the utility of eliciting such metalinguistic explanations of deictic forms and their usage, particularly using the native language. While only a minority of the interviews conducted for this study were done in Kalaallisut, the resulting metalinguistic descriptions of usage proved very informative (and those that were conducted in Kalaallisut indeed yielded informative glossing and endophoric demonstrative usage). Also, these interviews gave speakers the opportunity to provide pragmatic and sociolinguistic commentary on the demonstratives and spatial system more broadly. However, such metalinguistic discussion from speakers only provide part of the picture on spatial deictics and thus, additionally, actual demonstrative usage was recorded using structured elicitation tasks and elicitation of texts.

### **Structured elicitation tasks**

Multiple structured elicitation tasks were conducted, some of which come from the elicitations and stimuli developed for the Max Planck Institute for Psycholinguistics space project.<sup>14</sup> These methods targeted the production of different types of spatial language in a controlled way comparable across speakers (as well as within cross-linguistic perspective, in the case of the MPI-derived tasks). All of the structured elicitation tasks were recorded using an audio recorder, while the Arctic Animals Tabletop task was additionally recorded on video.

**Landscape Photo Task (LPT)** This task targets demonstrative usage in a larger-scale context, particularly targeting environmentally-based usages within the local landscape. The stimuli for the LPT consist of a set of five photos<sup>15</sup> taken within the coastal landscape of

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<sup>14</sup><http://fieldmanuals.mpi.nl/projects/space-project/>

<sup>15</sup>Most photos used for the LPT stimuli were taken during the dissertation fieldwork, but #1, #2, and #6 are from <https://visitgreenland.com/>.



Greenland with arrows pointing at different referents or locations. Speakers were presented with each photo and asked how they would deictically refer to each point. Multiple responses were accepted and explanations were encouraged. The LPT was designed to allow for the elicitation of medial and distal demonstratives with geophysical meanings consistently across speakers without having to travel with each speaker to different locations.



Figure 1.17: Example LPT picture



Figure 1.18: Example LPT picture

**Topological Relations Picture Series (TRPS)** This task, designed by Bowerman and Pederson (1992) ('BowPed 1992'), targets the description of topological relations between a figure and ground. The stimuli consist of seventy-one line drawings depicting a figure object (indicated by an arrow) and a ground object or location in close proximity or direct coincidence. The pictures display a range of topological relationships showing different spatial features, such as +/- support (vertical or horizontal), +/- adhesion, +/- attachment, +/- containment (complete or partial), +/- clothing/adornment, and others (Levinson and Wilkins 2006: 9-10). The speaker is asked how to answer the question 'Where is the X (figure object)?' Multiple responses were recorded when offered. A few of the pictures were too confusing and did not receive descriptions.

**Arctic Animals Tabletop task (AATT)** The AATT task was inspired by the Men and Tree space games (Levinson et al. 1992), developed to target frames of reference description. The Men and Tree task consists of a photo-matching game involving several sets of pho-

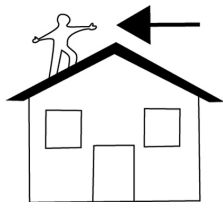


Figure 1.19: TRPS #34  
(BowPed 1992)

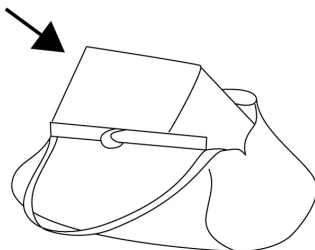


Figure 1.20: TRPS #14  
(BowPed 1992)

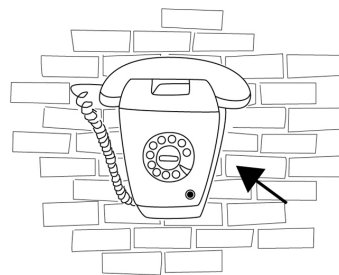


Figure 1.21: TRPS #25  
(BowPed 1992)

tos depicting different spatial configurations of figurines, particularly including distinctions along the horizontal, transverse axis. Instead of men, tree and farm animal figurines, the AATT task consists of similar spatial configurations enacted using Arctic animal and Inuit figurines, as well as rocks (in place of trees), serving as an adaptation of the task to be more natural within an Arctic context (in which no trees grow). The AATT also includes other configurations of the figurines not based on the Men and Tree stimuli, as well as photos of the figurines taken outdoors (see Figures 1.24 and 1.25). These variations were included in order to elicit a wider range of spatial descriptions and to include a more natural setting for the figurines (i.e. the landscape of Greenland).



Figure 1.22: Photo from the Men and Tree task (Levinson et al. 1992)



Figure 1.23: AATT task photo (#14)

The original Men and Tree task is primarily a photo-matching game: a ‘director’ and a ‘matcher’ both have the same set of photos, and the director must describe each photo in turn such that the matcher may select the matching photo from their own set. Levinson



Figure 1.24: AATT task photo #1



Figure 1.25: AATT task photo #38

et al. (1992) describe variations of the task involving three-dimensional objects, which is how the AATT task was conducted: the ‘director’ viewed the photo set on a laptop screen (not visible to the matcher) and described each photo to the matcher, who recreated the array using actual figurines on a table top. The director was allowed to see and correct the matcher’s setup as needed. For the photos taken outdoors, the landscape was represented by other physical objects available (e.g. a purse representing a hill).

### **Text elicitation**

Travel narratives and route descriptions were elicited from a smaller number of speakers, some of which used maps. For instance, several speakers who reported going on regular hunting trips were asked to describe the route of travel. Route descriptions (i.e. directions from one place to another) within the town were also elicited. These texts were recorded on both audio and video.

### **Other methods**

Lastly, several other methods were used for more minor data collection with fewer speakers. These included eliciting spatial descriptions of tabletop setups (e.g. a pen and a book in various configurations) and of pictures from a Greenlandic picture book, discussions of landscape and place names using various maps of Greenland, a landscape sorting task (see

Grenoble et al. 2019), and elicitation of demonstrative usage and environmental descriptions while out on the land or sea with speakers.

### 1.7.3 Roadmap

The dissertation is structured as follows.

- Chapter 2 provides a broad overview of spatial language in Kalaallisut, including the grammatical resources available for spatial description, the encoding of topological relations, the directional/orientation system, and the different strategies employed for spatial reference including frames of reference.
- Chapter 3 turns specifically to demonstratives with a look into the demonstrative paradigms of Proto-Yupik-Inuit and of today's Yupik-Inuit languages, tracing the overall trajectory throughout the language family and into Kalaallisut.
- Chapter 4 represents an in-depth semantic description of the Kalaallisut demonstrative system primarily with regard to its exophoric function, as well as a systematic look at the patterns of recent and ongoing change.

## Chapter 2

### Spatial description in Kalaallisut

The Kalaallisut spatial domain provides many linguistic mechanisms for spatial reference. The current chapter details the grammatical and lexical resources for spatial description that are found in Kalaallisut, which are used for both strategies of spatial reference: non-coordinate system based strategies, namely landmark-based orientation, and coordinate systems or ‘frames of reference’ usage. Section 2.1 introduces the basic grammatical resources, including spatial case morphology, relational nouns, demonstratives, adverbials and verbs. Section 2.2 shows how these are employed in topological relation descriptions. Section 2.3 describes the environmentally-based directionals and cardinal orientation system, which are grounded in the landscape and its linguistic and conceptual representation. Lastly, Section 2.4 discusses the usage of both landmark-based and frame of reference based spatial descriptions.

## 2.1 Grammatical resources for spatial description

### 2.1.1 Spatial case morphology

Case marking plays an important role for spatial description in Kalaallisut through the general marking of location by four oblique cases, referred to as the spatial cases: locative, allative, ablative and prosecutive. Broadly, the locative case is used to mark static spatial relationships, whereas for spatial relations overtly or implicitly implying motion or a direction, the allative, ablative, and prosecutive cases are used. The spatial cases also have non-spatial uses, including temporal and grammatical functions.

The spatial cases, like all of the cases in Kalaallisut, are marked by suffixes attached to the nominal stem and encode number (singular or plural) and possession. For instance, *illumí* ‘in the house’ contrasts with *illuni* ‘in the houses’. Tables 2.1 and 2.2 give the spatial

case suffixes, in their unpossessed and possessed forms, respectively. The possessed forms of the spatial cases also encode both person and number of the possessor, as in *illunni* ‘in my/your (sg) house’, *illutsinni* ‘in our house’ and *illuani* ‘in his/her/its house’. However, in many of the possessed forms, the suffixes for a singular versus plural nominal (the possessum) are identical; a difference exists only in the 3rd person (possessor) forms (indicated in the table by slashes).

Case	Singular	Plural
Locative	- <i>mi</i>	- <i>ni</i>
Allative	- <i>mut</i>	- <i>nut</i>
Ablative	- <i>mit</i>	- <i>nit</i>
Prosecutive	- <i>kkut</i>	- <i>tigut</i>

Table 2.1: Local case suffixes - unpossessed (Bjørnum 2012)

Case	Possessor						
	1/2SG	3SG	3RSG	1PL	2PL	3PL	3RPL
Loc.	- <i>nni</i>	- <i>ani/-ini</i>	- <i>mini</i>	- <i>tsinni</i>	- <i>ssinni</i>	- <i>anni/-ini</i>	- <i>minni</i>
All.	- <i>nnut</i>	- <i>anut/-inut</i>	- <i>minut</i>	- <i>tsinnut</i>	- <i>ssinnut</i>	- <i>annut/-inut</i>	- <i>minnut</i>
Abl.	- <i>nnit</i>	- <i>anit/-init</i>	- <i>minit</i>	- <i>tsinnit</i>	- <i>ssinnit</i>	- <i>annit/-init</i>	- <i>minnit</i>
Pros.	- <i>kkut</i>	- <i>atigut/isigut</i>	- <i>migut</i>	- <i>tsigut</i>	- <i>ssigut</i>	- <i>atigut/-isigut</i>	- <i>mikkut</i>

Table 2.2: Local case suffixes - possessed (Bjørnum 2012)

### Locative case

The locative case is the most general way of expressing a location, for instance *Nuummi* ‘in Nuuk’, *kitaani* ‘in the west’, *allaffimmi* ‘on the desk’. Example (3) shows adverbial usage of the locative case to denote a location (*Ilulissat*, a town), while (example 4) indicates the ground of a static spatial scene (‘where’ the apples are hanging).

- (3) *Avani Ilulissanni aalisartarput.*

av-ani                                      Ilulissat-ni                      aalisar-tar-put  
 DEM.RIGHT.COAST-LOC Ilulissat-LOC.PL fish-HAB-3PL.IND

‘There (in the north) in Ilulissat they fish’

- (4) *Iipilit orpimmi nivingapput* (TRPS 45)

iipili-t           orpik-mi    nivinga-pput  
apple-ABS.PL tree-LOC.SG hang-3PL.IND  
‘Apples are hanging on the tree’

- (5) *Qajaq imarmiippoq.*

qajaq            imaq-mi=ik-poq  
kayak.ABS.SG sea-LOC.SG=be-3SG.IND  
‘The kayak is in the sea.’

### Allative case

Broadly, the allative case encodes the goal of a motion event (i.e. the location where the motion is going to), e.g. *Nuummut* ‘to Nuuk’, or it can be used directionally in static or motion events. Examples (6) and (7) (also see example 17a) show the marking of a goal in a motion event, e.g. *qaqqamut* ‘to a/the mountain’, whereas example (8) shows the usage of the allative case in a static scene for facing toward a goal. Directional adverbs, discussed further in Section 2.3.1, are constructed using the allative case, as in *avammut* ‘seaward/outward’, *illummut* ‘inland’, *kimmut* ‘to the west’, etc. Rather than marking a specific goal, the allative case is here used to mark a particular direction.

- (6) *Pavunga qaqqamut majuarpoq.*

pav-unga           qaqqaq-mut       majuar-poq  
DEM.UP.DIST-ALL mountain-ALL.SG go.up-3SG.IND  
‘He/she/it goes up to the mountain up there’

- (7) *Aap, taava sanianut ilissavat qimmeq.* (AATT 01)

aap taava sani-a-nut           ili-ssa-vat                   qimmeq  
yes then side-3SG/SG.ALL place-FUT-2SG/3SG.IND dog.ABS.SG  
‘yes, then you will put the dog to the side,’

- (8) *Ujaqqamut sammitillugu ... sammivoq ujaqqamut.* (AATT 12)

ujarak-mut sammi-tip-llugu sammi-voq ujarak-mut  
 rock-ALL.SG face-CAUS-3R/3SG.CONJ face-3SG.IND rock-ALL.SG

‘Making it face the rock....it faces towards the rock.’

### Ablative case

The ablative case more straightforwardly encodes motion from a location (i.e. the source of a motion event), e.g. *Nuummit* ‘from Nuuk’. Example (9) shows the ablative case source location of a motion event in a route description, in between two grocery stores *Pisiffik* and *Brugsen* (involving a relational noun construction; see Section 2.1.2). Example (10) shows the allative form of a demonstrative adverbial, *pikannga* ‘from up there’. As discussed in Section 2.1.4, the demonstratives take a different set of case suffixes from regular nominals.

- (9) *Pisiffiup taavalu Brugsenip akornannit aallarpugut.* (Salamon 2011: 44)

Pisiffik-p taava=lu Brugsen-p akorn-annit aallar-pugut  
 Pisiffik-ERG.SG then=and Brugsen-ERG.SG between-3PL/SG.ABL take.off-1PL.IND

‘We start/leave from (the place) between Pisiffik and Brugsen.’

- (10) *Pikannga nuivoq.*

pik-annga nui-voq  
 DEM.UP-ABL appear-3SG.IND

‘He/she/it shows up from up there.’

### Prosecutive case

Finally, the prosecutive case (also called vialis or perlative case) indicates the path or trajectory of a motion event, e.g. *Nuukkut* ‘through/by way of Nuuk’. Example (11), drawn from a travel narrative describing an annual hunting trip, describes the progression of travel through two places, *Amerloq* and *Ikertoq* (line b), en route to the hunting site, the direction of which is indicated by the allative case in directional *ilummut* ‘inland’ (line a). Note



also a temporal usage of the prosecutive case in *ukiakkut* ‘in the fall’. In example (12), the prosecutive case marks a location (part of a landscape entity, invoking usage of a possessed form of the prosecutive suffix) through/over which the motion event (walking) occurs. See also example (17a) below, with prosecutive case *kuukkut* ‘by river’ describing travel by way of boating upriver.

- (11) a. *Ukiakkut ilaquuttakalu umiatsiamik ilummukartarpugut,*

ukiaq-kkut ilaquataq-kka=lu umiatsiaq-mik  
 fall-PROS.SG family-1SG/PL.ABS=CONJ boat-INSTR.SG  
 ilum-mut=kar-tar-pugut  
 inside-ALL.SG=go-HAB-1PL.IND  
 ‘In the fall, with my family, we travel inland by boat,’

- b. *Amerlukkut Ikertuukkut,*

Amerloq-kkut Ikertooq-kkut  
 Amerloq-PROS.SG Ikertooq-PROS.SG  
 ‘through Amerloq, through Ikertooq’

- (12) *Kangerluup qinnguagut pisuppoq*

kangerluk-p qinngu-agut pisug-poq  
 fjord-ERG.SG fjord.bottom-3SG/SG.PROS walk-3SG.IND  
 ‘He/she/it walks over the bottom (innermost part) of the fjord.’

## 2.1.2 Relational noun constructions

Often combining with the local case morphemes are RELATIONAL NOUNS, which are morphological and syntactic nominals that carry the semantic weight of spatial adpositions in languages like English (also called *relator nouns*, Starosta 1985). Kalaallisut has no class of adpositions distinguished as a morphological or syntactic class; instead, local case, relational nouns, and verbs carry the semantic weight that adpositions do in some other languages. The Kalaallisut relational nouns denote a range of spatial relationships, operating with respect to another noun (overt or pragmatically inferable). A list of the main relational nouns used for basic spatial relations is given in Table 2.3. Most of them have no independent

nominal form with spatial meaning, although some have an unpossessed directional form in the allative case. Some, like *tunu-* ‘back’ or ‘backside’ or *timi-* ‘body’, denote body parts in a non-spatial usage. Sections 2.2 and 2.3 describe their spatial and directional meanings in more detail.

Rel. noun	Gloss	Other meanings/usages
<i>aki-</i>	‘across, opposite’	
<i>akunneq-</i>	‘between, middle’	
<i>ata-</i>	‘below, under’	<i>ammut</i> ‘down’
<i>avat-</i>	‘outside/away-from-coast’	<i>avammut</i> ‘out to sea’
<i>eqqaq-</i>	‘vicinity’	
<i>ilu-</i>	‘inside’	<i>illummut</i> ‘in-fjord/inland’
<i>killing-</i>	‘edge’	
<i>kingu-</i>	‘behind’ (space/direction)	<i>kingumut</i> ‘backwards’
<i>nali-</i>	‘level with’	
<i>qa(av)-</i>	‘on top’	
<i>qeqq-/qiteq-</i>	‘middle’	
<i>qula-</i>	‘above, over’	<i>qummut</i> ‘up’
<i>sa(a)-</i>	‘front’ (side)	west
<i>sani-</i>	‘side’	
<i>silat-</i>	‘outside’	<i>silammut</i>
<i>siu-</i>	‘front’ (space/direction)	<i>siumut</i> ‘forward’
<i>tima-</i>	‘inside (land)’	<i>timmut</i> ‘inland’
<i>tunga-</i>	‘direction’	
<i>tunu-</i>	‘back, behind’ (side)	east
<i>ungata-</i>	‘far side’	<i>ungasit-</i> ‘be far’

Table 2.3: Core spatial relational nouns

The relational nouns occur in the same morphosyntactic frame as regular possessed nominals, in which the possessor precedes the possessed noun and takes ergative case (often called ‘relative’ case in Inuit linguistic tradition) while the possessed noun is inflected with a case suffix encoding person/number features of the possessor and number of the possessed noun, as in Table 2.2. This morphosyntactic frame for relational noun constructions is represented in (13), with an example in (14). The ‘possessor’ slot, marked with ergative case (e.g. *qaqqap*), is occupied by a noun representing the ground object or location from which the spatial relation (represented by the relational noun) is calculated. Thus the relational noun

occupies the slot of the ‘possessed’ noun, marked with possessed case inflection, usually a spatial case, e.g. *qaqqap qaavani*, literally ‘(at/on) the mountain’s top’, in parallel with a regular possessive construction such as *Piitap illuani* ‘in Peter’s house’.

(13) **Possessive/relational noun constructions:**

$$\left\{ \begin{array}{l} \text{possessor} \\ \text{ground} \end{array} \right\} \text{-ERG} + \left\{ \begin{array}{l} \text{possessum} \\ \text{relational noun} \end{array} \right\} \text{-[possessed case infl.]}$$

(14) *qaqqap qaavani*

qaqqap-p                      qaav-ani  
 mountain-ERG.SG    top-3SG/SG.LOC  
 ‘on top of the mountain’

### 2.1.3 Verbs

Although much of the encoding of static spatial relations is accomplished by the nominal morphology and lexicon (i.e. spatial cases and relational nouns), verbs and derivational clitics with a verbalizing function also occur in spatial descriptions, generally with a positional or motion-based meaning.

#### Verbalizing suffixes and clitics

The spatial cases may be verbalized through the addition of several derivational clitics which attach onto the case suffixes, with each of the four spatial cases occurring with a particular verbal clitic. The resulting verb then receives verbal inflection, or potentially other inflectional/derivational suffixes. For the locative case, there is a clitic =*ik-* meaning ‘to be (in/at a location)’, which differs from the basic existential copula suffix *-u-* ‘to be’. Example (15) shows usage of =*ik-* in denoting a static spatial relation: *ilisivimmiippoq* ‘(it) is on the shelf’. In accordance with their motion-based functions, the other three spatial cases occur with verbal clitics which denote a motion event of going to/from/across, as in example (16) showing the allative case with verbalizing clitic =*kar-* ‘go to’. The ablative occurs with =*r-* ‘come

from’ (e.g. *Nuummeerpoq* ‘he/she/it comes/came from Nuuk’) and prosecutive with =*q*- ‘go through/over/via’ (e.g. *Nuukkoorpoq* ‘he/she/it goes/went through Nuuk’); the allative may also be verbalized with =*r*- to give a directional meaning, e.g. *Nuummoorpoq* ‘he/she/it goes/went toward Nuuk’ (Sadock 2003).

- (15) *Atuagaq ilisivimmiippoq.* (TRPS 08)

atuagaq      ilisivik-mi=ik-poq  
 book.ABS.SG shelf-LOC.SG=be-3SG.IND  
 ‘The book is on the shelf.’

- (16) *Pikunga illumukarpugut.*

pik-unga      illu-mut=kar-pugut  
 DEM.UP-ALL house-ALL.SG=go.to-1PL.IND  
 ‘We are going to the house up there.’

There also exist several verbalizing suffixes with motion-based and/or directional meanings, including *-liar* ‘go to’, *-(pa)sig* ‘lie (far) to the’, *-var* ‘move further’ (in a direction), *-nger* ‘take a position to the – of’, *-siur* ‘go by’, and *-qqu* ‘pass something on its side’ (Fortescue 1984; Salamon 2011).

### Spatial and motion verbs

Verbal stems also encode spatial meanings, including static/topological and motion verbs. As for the latter, motion verbs encode manner or path. Verbs of motion encoding manner include *pisug-* ‘to walk’ (see examples 12 and 17b), *timmi-* ‘to fly’, *pissik-* ‘to jump’, and others. Directions and route descriptions within the environment often include references to vertical movement and position, reflecting the saliency of elevation changes in the landscape of Greenland. Nominal-based allative case adverbials *qummut* ‘upward’ and *ammut* ‘downward’ are often found in such descriptions, as in example (17b). These adverbials may also be verbalized with =*kar-*, for instance *qummukarpoq* ‘he/she/it goes up’ (e.g. in reference to climbing up a mountain). Finally, motion verbs also encode vertical motion (path), especially

*majuar-* ‘go up’ which may refer to general movement upwards (uphill, up the stairs, etc.); see example (6). The opposite verbal stem is *ater-* for movement downwards. Related to *majuar-* is verbal stem *major-* ‘go upriver (against the current)’, as in example (17a). Other path verbs include *iser-* ‘enter’, *ani-* ‘go out’ and *qaqi-* ‘reach the top’ (see Engberg-Pedersen and Trondhjem 2004).

(17) a. *Kuukkut majoriarluta Eqalugaarniarfimmut,*

kuuk-kkut      major-riar-luta                      Eqalugaarniarfik-mut  
 river-PROS.SG go.upriver-after-1PL.CONJ Eqalugaarniarfik-ALL.SG  
 ‘After we go upriver to Eqalugaarniarfik,’

b. *taava qummut pisuttarpugut*

taava qummut pisug-tar-pugut  
 then up.ALL walk-HAB-1PL.IND  
 ‘then we walk upwards’

Verbal stems denoting static, spatial relations include positional verbs, such as *issia-* ‘to sit’ (example 18) and *nivinga-* ‘to hang’ (example 4), and verbs of relative location, such as *qani(p)-* ‘to be near’ (example 19) and its opposite *ungasit-* ‘to be far’ (example 20).

(18) *Angut ikumatitap eqqaani issiavoq.* (TRPS 38)

angut              ikumatitaq-p eqqa-ani                      issia-voq  
 man.ABS.SG fire-ERG.SG vicinity-3SG/SG.LOC sit-3SG.IND  
 ‘The man is sitting near the fire.’

(19) *Qeqertami qanittumiippoq.* (Fortescue 1984: 78)

qeqertaq-mi      qanip-toq-mi=ik-poq  
 island-LOC.SG be.near-APRT-LOC.SG=be-3SG.IND

‘It is on a nearby island.’









combine with a nominal adverb, showing agreement in case, e.g. *ikani illumi* (ik-ani illu-mi, DEM.DIST-LOC house-LOC.SG) ‘in the house over there’.

(25) *Maani tupeqarfeqartarpugut*

ma-ani                      tupeqarfik-qar-tar-pugut  
 DEM.PROX.EXT-LOC tent.place-have-HAB-1PL.IND  
 ‘Here we have a camp’

(26) a. *Tappikunga majuassatit,*

ta-pik-unga                      majuar-ssa-tit  
 ANAPH-DEM.UP-ALL go.upwards-FUT-2SG.IND  
 ‘You should go up there,’

b. *tappikaniipput illut qasertut.*

ta-pik-ani=ik-put                      illu-t      qaser-toq-t  
 ANAPH-DEM.UP-LOC=be-3PL.IND house-PL be.gray-APRT-ABS.PL  
 ‘The gray houses are up there.’

### Predicative demonstratives

Finally, the demonstrative stems (both unprefixes and prefixed with *ta-*) may be inflected as predicatives which function as particles, giving an interjectional or exclamatory meaning in referencing a location. The suffix *-a* attaches to the stem with gemination of the stem-final consonant in unprefixes forms; see Table 2.5. These particles can be used predicatively, for instance *tuttu pavva* ‘there’s a caribou up there’ (Fortescue 1984: 77). Some also have special usages, such as *takanna* ‘go ahead and eat’, *massa* ‘although’, *ima* ‘thus’, and *tassa* ‘that’s it/enough’.

**Other uses of *tassa*** Predicative particle *tassa* has several other functions, including usage in copular constructions as well as adverbial usages, taking the spatial cases with the general meaning of ‘there’ (as indicated or previously referenced). In copular function, *tassa* can connect two absolutive case nominals as in example (27). Adverbial usage of *tassa* is

Demonstrative stem	Predicative forms	
	unprefixed	prefixed
<i>ma-</i>	<i>massa</i>	<i>tamassa</i>
<i>wv-</i>	<i>uffa/ugga</i>	<i>taava, tassa</i>
<i>ik-</i>	-	<i>taaka</i>
<i>kan-</i>	-	<i>takanna</i>
<i>sam-</i>	<i>samma</i>	<i>tasama</i>
<i>pik-</i>	( <i>pikka/piga</i> )	<i>tappika</i>
<i>pav-</i>	<i>paffa</i>	<i>tappava</i>
<i>qam-</i>	<i>qamma</i>	<i>taqqama</i>
<i>kig-</i>	<i>kigga</i>	<i>takkiga</i>
<i>av-</i>	<i>affa</i>	<i>taava</i>
<i>qav-</i>	<i>qaffa</i>	<i>taqqava</i>
<i>im-</i>	<i>ima</i>	<i>taama</i>

Table 2.5: Predicative forms of the demonstratives (Bjørnum 2012; Sadock 2003; Fortescue et al. 2010)

illustrated in example (28), with *tassa* inflected for the locative case referencing an anaphoric location.

(27) *Aallassoq tassa Joorut* (Sadock 2003: 24)

aallaq-ssa-toq            tassa            Joorut  
 leave-FUT-APRT.ABS.SG DEM.PROX.PRED Joorut

‘The one who will leave is Joorut’

(28) *Taava ujarag tassaniiteriarukku* (AATT 13)

taava ujarag            tassa-ni=ik-tip-riar-ukku  
 then rock.ABS.SG DEM.PROX.PRED-LOC=be-CAUS-after-2SG/3SG.FSUB

‘Then after you put the rock there (as mentioned),’

## Cliticization

Unprefixed demonstrative pronouns may behave as clitics with a copular function or for focus, especially demonstrative *wv-* (Sadock 2003; Fortescue 1984) as shown in examples (29) and (30).

- (29) Copular function (Fortescue 1984: 74)

Hansi=uv-na                      pisortaq  
 Hansi=DEM.PROX-ABS.SG leader.ABS.SG  
 ‘It’s Hansi who is the leader.’

- (30) Focus (Sadock 2003: 24)

piniartoq-p=uv-na                      nanoq              toquk-kaa  
 hunter-ERG.SG=DEM.PROX-ABS.SG bear.ABS.SG kill-3SG/3SG.PART  
 ‘It was the hunter that killed the bear.’

The (unprefixed) demonstrative pronouns may also be cliticized following particle *aa* for a presentative or attention drawing function, as in ‘here/there (it) is’, for instance *aajuku* (aa=uv-ku) ‘here they are’ or *aasanna* ‘there it is (down there)’ (e.g. pointing at a seal in the water). Combined with an absolutive noun phrase, they may form a copular, verbless clause (Sadock 2003:24). Example (31) illustrates usage of *aa* plus cliticized demonstrative in pointing out cardinal directions.

- (31) *Aana kujataa, aana avanna.* (AATT\_06-BA)

aa=uv-na                      kujata-a                      aa=uv-na  
 AA=DEM.PROX-ABS.SG south-3SG/SG.ABS AA=DEM.PROX-ABS.SG  
 avanna-a  
 north-3SG/SG.ABS  
 ‘Here is south, here is north.’

## 2.2 Topological relations

Topological relations refer to static spatial relations of contiguity or proximity between a figure and ground. In Kalaallisut, topological relations are primarily encoded through spatial case morphology and relational nouns. This section describes the primary morphosyntactic construction for denoting topological relationships as well as the basic spatial categories encoded. The data referenced here mainly comes from elicitations using the Topological Relations Picture Series (TRPS) from Bowerman and Pederson (1992). Speakers were shown

each picture and asked to describe where is the object indicated by the arrow (e.g. *Naak tiitorfik?* ‘Where is the cup?’). Beyond illustrating the main linguistic mechanisms for describing topological relations in Kalaallisut, the results of the TRPS elicitations also display general strategies for spatial reference, the kinds of topological relations encoded, and which types of spatial setups require different types of descriptions.

### 2.2.1 Basic locative construction

Levinson and Wilkins (2006: 15) define ‘basic locative construction’ (BLC) as “the predominant construction that occurs in response to a Where-question (of the kind ‘Where is the X?’)”, which allows for the cross-linguistic comparison of functionally equivalent spatial descriptions. The basic locative construction in Kalaallisut marks the ground object with the locative case, which is verbalized with derivational clitic *=ik-* (and inflected accordingly). The figure object is marked as the subject taking absolutive case.

An example is shown in (32), a description of the TRPS picture in Figure 2.1, with the verbalized locative case marking the desk as ground and the cup encoded as figure with absolutive case. The topological relationship between figure and ground is expressed solely through the locative case suffix which generically denotes contiguity or close proximity. The specific nature of the topological relationship must be inferred from the objects themselves, particularly the ground. For instance, prototypical usage of a desk or table (as in example 32) involves placing objects on its flat top surface. Similarly, example (33)—a description of the TRPS picture in Figure 2.2—uses the locative case to denote a location ‘in’ a bowl/dish, reflecting its typical functionality.

(32) *Tiitorfik allaffimmiippoq.* (TRPS 01)

tiitorfik      allaffik-mi=ik-poq  
 cup.ABS.SG desk-LOC.SG=be-3SG.IND  
 ‘The cup is on the desk.’

(33) *Iipili puugutamiippoq.*

(TRPS 02)

iipili puugutaq-mi=ik-poq  
apple.ABS.SG dish-LOC.SG=be-3SG.IND  
'The apple is on/in the dish.'

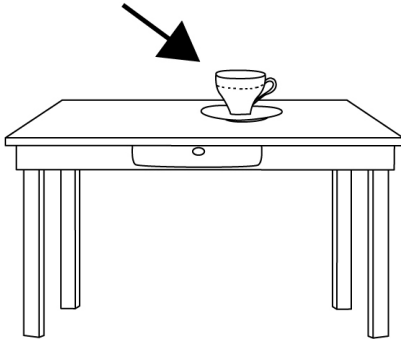


Figure 2.1: TRPS #1  
(Bowerman and Pederson 1992)

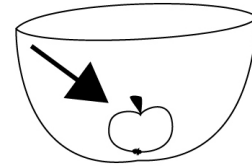


Figure 2.2: TRPS #19  
(Bowerman and Pederson 1992)

Other examples of prototypical topological relationships denoted only by the locative case are shown in (34) and (35), descriptions of Figure 2.3 and 2.4 respectively. Rather than horizontal ‘on’ relationships, as seen above, these illustrate how the locative case can denote other types of topological relationships, including vertical ‘on/against’ and ‘in’ relations. However, these meanings arise from the ground object, its geometry and prototypical usages, e.g. ‘in/inside’ a doghouse.

(34) *Majuartarfiit iikkamiipput.*

(TRPS 58)

majuartarfiit iigaq-mi=ik-put  
ladder.ABS.PL wall-LOC.SG=be-3PL.IND  
'The ladder is on/against the wall.'

(35) *Qimmeq qimmiup inaaniippoq.*

(TRPS 71)

qimmeq qimmeq-p ina-ani=ik-poq  
dog.ABS.SG dog-ERG.SG place-3SG/SG.LOC=be-3SG.IND  
'The dog is in the doghouse.'

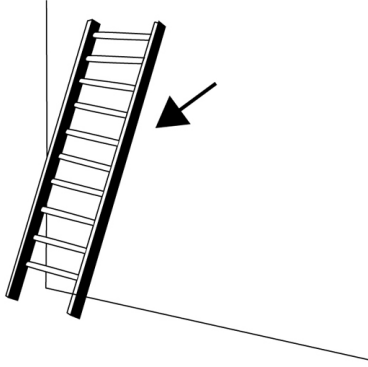


Figure 2.3: TRPS #58  
(Bowerman and Pederson 1992)

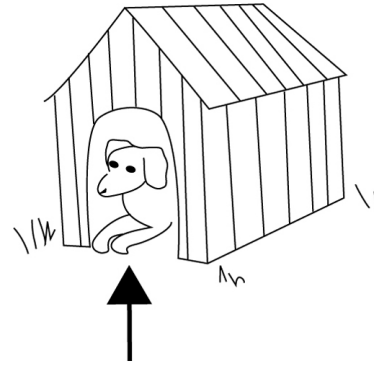


Figure 2.4: TRPS #71  
(Bowerman and Pederson 1992)

For the topology of the spatial relationship to be fully described, a relational noun construction takes the place of the simple ground. The relational noun itself specifies a spatial region of the ground and thus describes the specific type of topological relationship. The pictures depicted in Figures 2.1-2.4 may also be described using a relational noun construction, as in example (36). Here, the relational noun specifies the ‘top’ (*qaav-*) of the table/desk as the location for the cup. For Figure 2.1, 2.2, and 2.4, speakers gave both simple locative and relational noun constructions in their descriptions. The full basic locative construction is given in (38).

(36) *Tiitorfik nerriviup qaavaniippoq.* (TRPS 01)

tiitorfik nerrivik-p qaav-ani=ik-poq  
cup.ABS.SG table-ERG.SG top-3SG/SG.LOC=be-3SG.IND

‘The cup is on top of the table.’

(37) *Iipili skålip iluaniippoq* (TRPS 02)

iipili skål-p ilu-ani=ik-poq  
apple.ABS.SG bowl-ERG.SG inside-3SG/SG.LOC=be-3SG.IND

‘The apple is inside the bowl’

(38) **Basic locative construction:**

$$\text{FIGURE}_{\text{-ABS}} \left\{ \begin{array}{l} \text{GROUND-LOC} \\ \text{RELNOUN-ERG GROUND-POSS.LOC} \end{array} \right\} = ik\text{-}(\text{infl.})$$

Other TRPS pictures only elicited relational noun BLC's, with the topological relation fully specified. These tended not to involve a more prototypical relation to the given ground (i.e. cup on a table), but a less obvious one. For instance, examples (39) and (40), descriptions of Figures 2.5 and 2.6, utilize a relational noun in order to specify the specific location of the figure relative to the ground. These spatial set-ups only described by a full relational noun BLC and not the simple locative BLC also tend to represent topological proximity but not actual contact; for example, the ball in (39)/Figure 2.5 is under but not touching the chair.

(39) *Arsaq issiaviup ataaniippoq.* (TRPS 16)

arsaq          issiavik-p          ata-ani=ik-poq  
ball.ABS.SG chair-ERG.SG below-3SG/SG.LOC=be-3SG.IND  
'The ball is under the chair.'

(40) *Qulleq nerriviup qulaaniippoq.* (TRPS 13)

qulleq          nerrivik-p          qula-ani=ik-poq  
lamp.ABS.SG table-ERG.SG above-3SG/SG.LOC=be-3SG.IND  
'The lamp is above the table.'

Finally, for some spatial depictions a verb is used to describe the position of the figure, with the ground (as a relational noun construction or simple nominal) as an adverbial phrase (e.g. see example 18).

## 2.2.2 Topological semantics

Many static, topological relationships are denoted by relational nouns in Kalaallisut. This section goes through some of the main topological meanings encoded this way, which represent abstract spatial categories. Discussed in Section 2.2.3, the spatial relations indicated

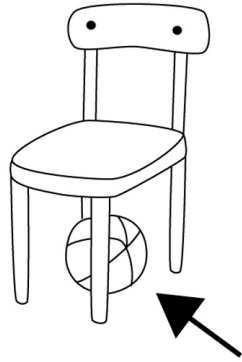


Figure 2.5: TRPS #16  
(Bowerman and Pederson 1992)

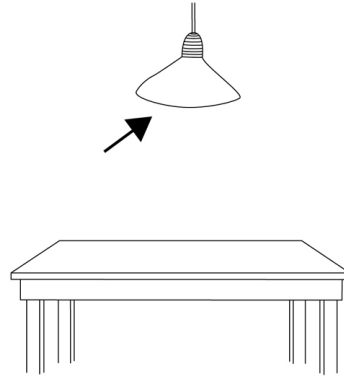


Figure 2.6: TRPS #13  
(Bowerman and Pederson 1992)

within some TRPS setups were not captured by relational nouns and instead elicited non-BLC descriptions.

**Interior/exterior** In their abstract spatial senses, the notions of ‘interior’ versus ‘exterior’ are encoded in relational nouns by *ilu-* ‘inside’ and *silata-* ‘outside’, as illustrated in examples (41) and (42), descriptions of Figures 2.7 and 2.8. In the TRPS data, several pictures involving full or partial containment elicited descriptions using *ilu-*, including example (37)/Figure 2.2 above as well as pictures such as a book inside a purse (TRPS 14) and a house inside a fence (TRPS 60). Figure 2.4 produced descriptions using *ilu-* as well as that of example (35); several TRPS pictures of pets in their places (e.g. doghouse, cage, etc.) invoked similar locative descriptions using stem *ini* ‘room/place’.

(41) *Uppik orpiup iluaniippoq.* (TRPS 67)

uppiq      orpik-p      ilu-ani=ik-poq  
owl.ABS.SG tree-ERG.SG inside-3SG/SG.LOC=be-3SG.IND  
‘The owl is inside the tree.’

(42) *Qimmeq illuaqqap silataaniippoq* (TRPS 06)

qimmeq      illu-araq-p      silata-ani=ik-poq  
dog.ABS.SG house-small-ERG.SG outside-3SG/SG.LOC=be-3SG.IND  
‘The dog is outside the little house.’



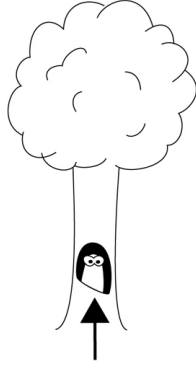


Figure 2.7: TRPS #67  
(Bowerman and Pederson 1992)

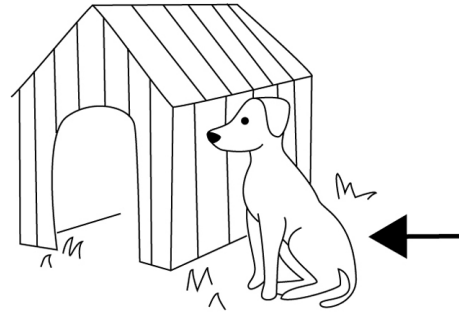


Figure 2.8: TRPS #06  
(Bowerman and Pederson 1992)

*Silat(a)-* represents the opposite of *ilu-*; it only appears once in the TRPS data (example 42) however, with precedence given to other spatial descriptions available for pictures in which an ‘outside’ of the ground could be conceived. In fact, the picture in Figure 2.8 was also described using *sani-* ‘side’ and *eqqa-* ‘vicinity’ by other speakers; responses for this picture are discussed further in Section 2.4.2. Similar descriptions were given for a tree outside a church (Figure 2.16).

Used directionally, *ilu-* and *silat(a)-* have particular usages within the geophysical environment, as described further in Section 2.3. Relational nouns *tim(a)-* and *avat-* have meanings related to ‘inside’ versus ‘outside’ but are used primarily for the landscape, with slightly different usages to *ilu-* and *silat-*. The conceptualization of ‘inside’ versus ‘outside’ appears across multiple spatial sub-domains, both in terms of abstract space and the environment.

**Anterior/posterior** For anterior ‘(in) front’ and posterior ‘(in) back’ relationships, several relational nouns are used. For anterior space, *saa(v)-* and *siu-* are used. For posterior space, *tunu-* is primarily used in expressing topological relations.

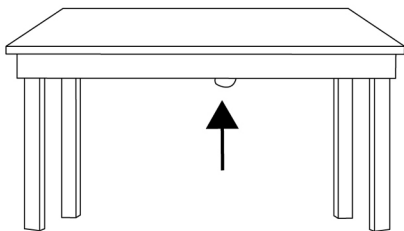


Figure 2.9: TRPS #53  
(Bowerman and Pederson 1992)

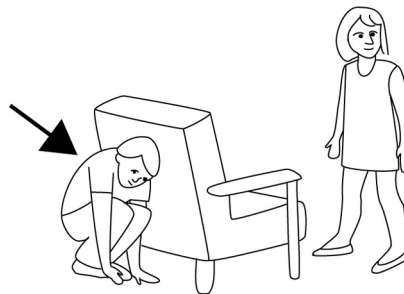


Figure 2.10: TRPS #64  
(Bowerman and Pederson 1992)

- (43) *Taava taakkua siuanniitsissavat terianniaq.* (AATT 4)

taava ta-uv-kua                      siu-anni=ik-tip-ssa-vat  
 then ANAPH-DEM.PROX-ERG.PL front-3PL/SG.LOC=be-CAUS-FUT-2SG/3SG.IND  
 terianniaq  
 fox.ABS.SG

‘Then you will make the fox be in front of them (anaphoric).’

- (44) *Piniartog ilissavat taavalu saavaniissaaq qimmeq.* (AATT 38)

piniartog      ili-ssa-vat                      taava-lu  
 hunter.ABS.SG place-FUT-2SG/3S.IND then=CONJ  
saav-ani=ik-ssa-aq                      qimmeq  
 front-3SG/SG.LOC=be-FUT-3SG.IND dog.ABS.SG

‘You will place the hunter and then the dog will be in front’

- (45) *Nukappiaraq issiaviup tunuanut toqqorpoq.* (TRPS 64)

nukappiaraq issiavik-p      tunu-anut                      toqqor-poq  
 boy.ABS.SG chair-ERG.SG behind-3SG/SG.ALL hide-3SG.IND

‘The little boy is hiding behind the chair.’

**Vertical superior/inferior** Relational noun *qa(av)-* is used to encode the superior surface or top of entities, as seen in example (36 (Figure 2.1), whereas *qula-* refers to the vertical space above (example 40 - Figure 2.6). Vertically inferior (i.e. below) relations are denoted by relational noun. *ata-*, as seen in example (39) (Figure 2.5). This word is used both in terms of the space below and for the underside of a ground, as in Figure 2.9.

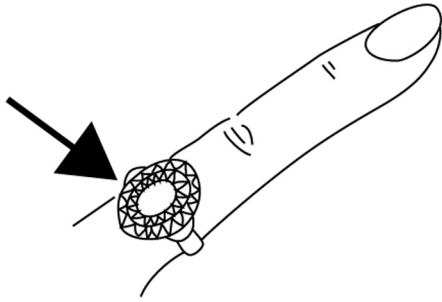


Figure 2.11: TRPS #10  
(Bowerman and Pederson 1992)

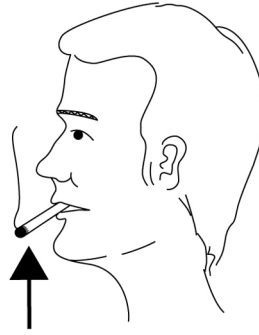


Figure 2.12: TRPS #39  
(Bowerman and Pederson 1992)

**Landscape topology** Other inherent facets of landscape/geographical entities used in the relational noun construction include *qinnngua* ‘fjord head’, *saqqaq* ‘sunny side’ contrasting with *alanngoq* ‘shady side’, and *assoq* ‘windward side’ contrasting with *oqqoq* ‘leeward side’.

(46) *ukaleq qaqqap saqqaaniippoq*

ukaleq                      qaqqaq-p                      saqqa-ani=ik-poq  
arctic.hare.ABS.SG mountain-ERG.SG sunnyside-3SG/SG.LOC=be-3SG.IND

‘The arctic hare is on the sunny side of the mountain’

### 2.2.3 Non-BLC TRPS results

A number of TRPS pictures could not be described using the BLC or a relational noun construction. These tended to involve a figure-ground setup that shows adornment or the result of an action. Several pictures show different types of adornment—someone wearing a hat (TRPS #5), a ring (TRPS #10), a shoe (TRPS #21), a bandaid (TRPS #35), a belt (TRPS #42), a headband (TRPS #46), a necklace (TRPS #51), and an earring (TRPS #69)—all of which received descriptions consisting of either the verb *ator-* ‘to wear’ or the verbalizing suffix *qar-* ‘to have’ attached to the figure. These descriptions are shown in examples (47) and (48) for Figure 2.11.

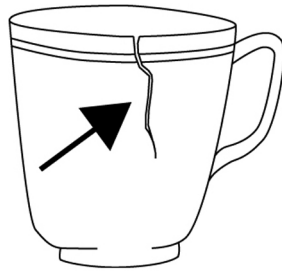


Figure 2.13: TRPS #26  
(Bowerman and Pederson 1992)

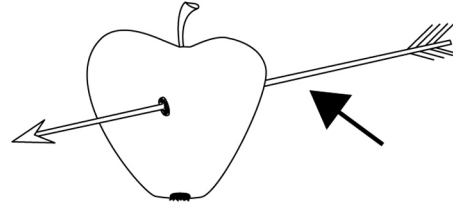


Figure 2.14: TRPS #30  
(Bowerman and Pederson 1992)

(47) *Assammioq atorpaa.* (TRPS 10)

assammioq ator-paa  
ring.ABS.SG wear-3SG/3SG.IND  
'He/she is wearing a ring.'

(48) *Assammioqarpoq.* (TRPS 10)

assammioq-qar-poq  
ring-have-3SG.IND  
'He/she has a ring'

Similarly, pictures that depict an action or the result of an action were described using a verb to encode the location of the figure. For instance, a man smoking a cigarette (Figure 2.12, TRPS #39) was described by verbs *pujortar-* 'to smoke' or *kimmiar-* 'to hold/bite between teeth', with the cigarette (figure) encoded as a direct or indirect object instead of the subject (as in the BLC). Pictures depicting a negative space resulting from damage—a crack in a cup (TRPS #26) or a hole in a towel (TRPS #18)—were described as a result of an action (e.g. breaking) or again with *qar-*. Example (49) illustrates this for Figure 2.13 (TRPS #26). Finally, the picture shown in Figure 2.14 (TRPS # 30) was likewise described as the result of an action, as shown in example (50) using *eqqor-* 'to hit (it)'. In these last two examples, as well as in several others likewise depicting the result of an action, the perfective derivational suffix *-sima-* is used.

(49) *Tiitorfik aserorsimavoq.* (TRPS 26)

tiitorfik     aseror-sima-voq  
cup.ABS.SG break-PERF-3SG.IND  
‘The cup is broken.’

(50) *Pisissip iipili eqqorsimavaa.* (TRPS 30)

pisissi-p     iipili             eqqor-sima-vaa  
bow-ERG.SG apple.ABS.SG hit-PERF-3SG/3SG.IND  
‘The arrow (lit. bow) has hit the apple.’

## 2.3 Directionals and the orientation system

An important part of the Kalaallisut spatial domain are words used for orientation within the external environment, including landscape-based directionals and a cardinal system rooted in spatial deixis. A relational noun, *tunga-* ‘towards’ or ‘in the direction of’, often combines with spatial nominals for directional meaning.

### 2.3.1 Directionals

Directionals are nominal stems inflected adverbially, often with the allative case, which denote environmentally-anchored directions for usage (typically) within the Greenlandic environment. As such, their meanings arise from the particular geophysiography of the coastal landscape of West Greenland and traditional engagement with that environment.

As mentioned in Section 2.1.2, some of the relational nouns with an abstract topological meaning are also commonly used as directionals with a particular semantic extension to the geophysical environment. When these occur as environmental directionals, they tend to occur with unpossessed allative case inflection giving a meaning of perceived movement in a general direction (not in relation to a ground, as in a relational noun construction, though the latter may also carry directional meanings). Inside/outside nominals *ilu-* and *silat-* refer

abstractly to ‘inside’ or ‘outside’ a ground object in relational noun constructions. As unpossessed adverbials *ilummut* and *silammut*, however, they commonly encode landscape-based directional meaning. Other nominals like *tima-*, *avat-*, and *kit-* are more specifically environmental in their meaning (though note non-spatial *timi* ‘body’ related to *timaa/timmut*). Adverbs *ammut* ‘downwards’ and *qummut* ‘upwards’ are related to relational nouns *ata-* and *qula-* (Fortescue et al. 2010), but are used frequently within the landscape. These directionals are summarized in Table 2.6.

Directional	Gloss	Stem	Note
<i>ilummut</i>	‘inland’	<i>iloq-</i>	inside; relative to fjord
<i>silammut</i>	‘towards the sea’	<i>silat-</i>	outside; relative to fjord
<i>timmut</i>	‘inland’	<i>tim-</i>	interior of land; <i>timi</i> ‘body’
<i>avammut</i>	‘out to sea’	<i>avat-</i>	away from land/coast
<i>ammut</i>	‘downwards’	<i>ata-</i>	
<i>qummut</i>	‘upwards’	<i>qula-</i>	
( <i>kimmut</i> )	‘seaward’, ‘west’	<i>kit-</i>	cardinal <i>kitaa</i> ‘west’)

Table 2.6: Some common landscape-based directionals

Directionals *ilummut*, *silammut*, *timmut*, *avammut*, and *kimmut* all have meanings which map in some way to the land-sea axis and thus there is some overlap between their usages. As with their abstract topological usages, *ilummut* and *silammut* stand in opposition in their landscape-based directional usages, both referring to the topography of the fjord. Example (51), an excerpt from a travel narrative describing hunting trips from Sisimiut, illustrates usage of several directionals, including *ilummut*, as well as other environmentally-based spatial description. As shown in Figure 2.15, *ilummut* refers to the inward direction within a fjord, which generally points away from the coastline and open ocean towards the interior of the country. Conversely, *silammut* points in the opposite direction: outwards from within a fjord, towards the open ocean.

- (51) a. *Ukiuakkut ilaquuttakkalu umiatsiamik ilummukartarpugut,*  
 ukiaq-kkut ilaquataq-kka=lu umiatsiaq-mik  
 fall-PROG.SG relative-1SG/PL.ABS=CONJ boat-INSTR.SG  
*ilum-mut*=kar-tar-pugut  
 inside-ALL.SG=go-HAB-1PL.IND  
 ‘In the fall, with my family, we travel inland (into the fjord) by boat,’
- b. *Amerlukkut Ikertuukkut Maligiap qinnguanut,*  
 Amerloq-kkut Ikertooq-kkut Maligiap-p  
 Amerloq-PROG.SG Ikertooq-PROG.SG Maligiap-ERG.SG  
 qinngu-anut  
 fjord.bottom-3SG/SG.ALL  
 ‘through Amerloq, through Ikertooq, to the fjord bottom of Maligiap,’
- c. *taava umiatsiamik kuukkut majoriarluta Eqalugaarniarfimmut,*  
 taava umiatsiaq-mik kuuk-kkut major-riar-luta  
 then boat-INSTR.SG river-PROG.SG go.upriver-after-1PL.CONJ  
 Eqalugaarniarfik-mut  
 Eqalugaarniarfik-ALL.SG  
 ‘then after we go upriver by boat to Eqalugaarniarfik,’
- d. *taava qummut pisuttarpugut,*  
 taava qummut pisut-tar-pugut  
 then up.ALL.SG walk-HAB-1PL.IND  
 ‘then we walk upwards,’

Generalized beyond the fjord, we also find *ilummut/iloq* used more generally for the inland direction within the land-sea directional axis (see more in Chapter 4). For instance, *ilummut* could be used to describe movement or the direction from town (on the coast) toward the interior of the land. Another example (52) uses *iloq* ‘inside’ in reference to the land in describing the location of caribou in discussing the hunting season. Similarly, speakers use *silammut* to describe the direction going towards the town/coast from a location inland, for instance when snowmobiling (so not strictly within a fjord).

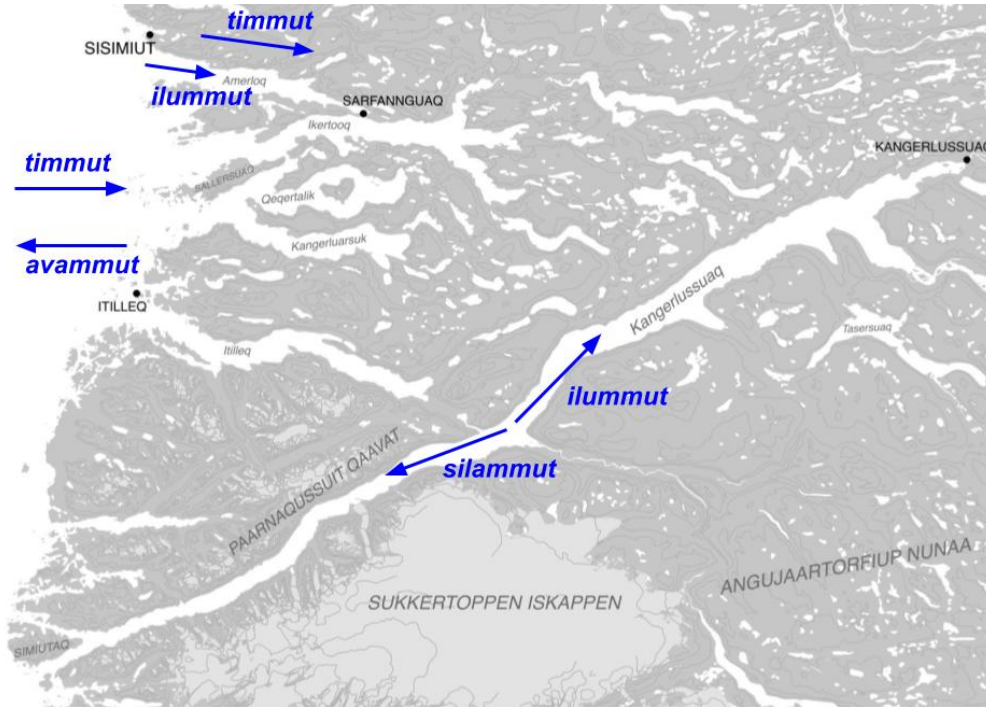


Figure 2.15: Example of directional usages

(52) *Tuttut suli ilorpasipput.*

tuttu-t                    suli iloq-pasi-pput  
 caribou-ABS.PL still inside-lie.towards-3PL.IND  
 ‘The caribou are still far inland.’

A similar landscape directional is *tima-/timmut*, which also references the inland direction or region, but not with respect to fjords. Relational noun *tima-* refers to the ‘body’ of the land, i.e. the interior of the land, thus we find possessed relational noun construction *nunap timaa* ‘the land’s interior’. In example (53), *tima-* is possessed yet the possessor (*nuna*) is assumed.<sup>1</sup> Usage of adverbial *timmut* non-overtly references a direction with respect to *nuna*, the land (rather than the fjord), for instance describing land-based movement (walking, snowmobiling, etc.) in the inland direction. It can also refer to this direction when sailing toward the land from off coast.

<sup>1</sup>The cardinal direction terms described below are also tend to be possessed yet with an assumed/non-overt possessor.



(53) *Kangerlussuaq timaaniippoq.*

Kangerlussuaq **tima**-ani=ik-poq  
 Kangerlussuaq interior.of.land-3SG/SG.LOC=be-3SG.IND  
 ‘Kangerlussuaq is (located) inland.’

In opposition to this latter usage of *timmut* is *avat-*, which refers to the outside or outskirts (i.e. exterior) of a geographical body. As a possessed relational noun, that body could be specified as in *illoqarfiup avataani* ‘outside the city’. Used directionally, *avammut* tends to refer to the direction towards *nunap avataani* ‘away from the land’ meaning out to sea. The map in Figure 2.15 shows the typical directional usages of *ilu-*, *silat-*, *tim(a)-*, and *avat-*, both with respect to the fjord and with respect to the coast (open sea vs. land interior). Finally, the up/down directionals *qummut* and *ammut* are often used in spatial and motion descriptions within the environment of Greenland, which involves significant, salient changes in elevation. Example (51d), the hunting route description, illustrates this common geophysical usage describing movement up a slope. Across the spatial domain, the land-sea juxtaposition is of conceptual and semantic importance, with the inland/landward direction associated with ‘up’ and the seaward direction associated with ‘down’; see Chapter 4.

### 2.3.2 Cardinal directions

Kalaallisut has cardinal direction terms which function similarly to the relational nouns, occurring nominally with possessed inflection or directionally in allative case, e.g. *avannaa* ‘north’ (literally ‘its north’) and *avannamut* ‘northward’. The cardinal direction terms are given in Table 2.7.

Cardinal dir.	Nominal	Directional
North	<i>avannaa</i>	<i>avannamut</i>
West	<i>kitaa</i>	<i>kimmut</i>
East	<i>kangia</i> , ( <i>tunua</i> )	<i>kangimut</i> , <i>tunumut</i>
South	<i>kujataa</i>	<i>kujammut</i>

Table 2.7: Cardinal direction terms

The cardinal direction terms are of demonstrative and directional origin and are thus rooted in an overarching coastal-based orientation system, which is at work across the spatial domain. *Avannaa* ‘north’ is transparently related to the demonstrative *av-* ‘that to the right along the coast / north’, while *kujataa* ‘south’ is also of demonstrative origin according to Fortescue (1988, 2018), from PYI *\*kiv-* ‘in there’ (restricted) (related to Kalaallisut *kig-* ‘out there, to the south’) through derived nominal *\*kivan* ‘area toward back or inside’.

*Kitaa* ‘west’ and *kangia* ‘east’ instead derive from directionals but are likewise rooted in the coastal geography. *Kit-*, which means cardinal ‘west’ but is also associated with the sea, comes from PYI *\*kətə-* ‘area in front or toward the water’ (Fortescue et al. 2010: 187). As suggested by PYI *\*kətə-*, there is a conceptual and semantic link between the sea/seaward direction and the concept of ‘front’ in Kalaallisut, with relational noun *saa(v)-* ‘front’ also used in some contexts to reference the seaward direction, e.g. *saarleq* ‘first/foremost/in front’, ‘farthest out to sea’ and *satsissut* ‘(those) in front, out to sea’. Similarly, *kangi-* ‘east’ also has the meaning of ‘inland’ from PYI *\*kaŋiŋ* ‘source or innermost part’ (Fortescue et al. 2010: 171). However, relational noun *tunu(a)* ‘behind’ is commonly used to refer to East Greenland and, accordingly, the eastern direction.<sup>2</sup> This aligns conceptually with the sea/west as ‘front’ configuration; see more in Chapter 4.

Nominally, the cardinal terms are found with (3SG/SG) possessed inflection, often lacking an overt possessor; these reference regions or facets of the land (Greenland, if unspecified), e.g. *Avannaa* ‘the North (of Greenland)’. As relational nouns with an overt possessor, the cardinals may reference with respect to a particular ground, as in example (54), or denote regions of other locations, e.g. *Amerikap Kujataa* ‘South America’. Like the other directionals, these cardinals are also used adverbially in (unpossessed) allative case denoting motion or a direction toward the cardinal point. In example (55), for instance, *kujammut* ‘southward’ denotes the direction a figure faces (contrast with *kujataanut* ‘to the south’).

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<sup>2</sup>This usage is offensive to East Greenlanders and there are efforts to replace *tunu-* with *kangi-* to reference ‘east’.

(54) *Sisimiut Nuup avannaaniippoq.*

Sisimiut      Nuuk-p      avanna-ani=ik-poq  
Sisimiut.ABS Nuuk-ERG.SG north-3SG/SG.LOC=be-3SG.IND  
'Sisimiut is north of Nuuk.'

(55) *Taava taakkua kujammut sammitissavatit, aap,* (AATT 29)

taava ta-uv-kua      kujat-mut      sammi-tip-ssa-vatit      aap  
then ANAPH-DEM.PROX-PL(.ERG) south-ALL.SG face-CAUS-FUT-2SG/3PL.IND yes

'Then you will make them face southward, yes'

Using the adverbial form of *kit-* 'west' (and 'towards the sea')—*kimmukassaagut* (<*kit-mut*=kar-ssa-agut, west-ALL.SG=go.to-FUT-1PL.IND)—one speaker described the usage of directions around her hometown of Sisimiut:

"Like, at home in Sisimiut when we're walking in town, we usually say *kimmukassaagut?* 'should we go towards the west, towards the sea?' Like, the main road is like from the sea to the in, if you've been there. Yeah, so. When we are, um, like far away from the harbor, we say *kimmukassaagut* 'should we go towards the west, to the harbor'. But it's in a general direction, towards the harbor."

This illustrates the semantic association between west and the sea. As is the case in most towns of West Greenland, the seaward direction points west.

### 2.3.3 Constructions with *tunga-*

The cardinal directions, as well as other spatial nominals, are sometimes combined with relational noun *tunga-* 'in the direction of' in a possessive construction. For example, *avannaata tungaani* 'towards the north' (*avanna-ata tunga-ani*, north-3SG/SG.ERG direction-3SG/SG.LOC). The noun modified by *tunga-* acts as its possessor but is also possessed itself as a relational noun, thus typically inflected with suffix *-ata* as a (SG) noun possessed by

a 3SG possessor and taking ergative case. However, the possessor of the spatial nominal is often not overtly specified, especially for the cardinal directions (as in *avannaata tungaani*) and in the case of ‘left’/‘right’ terms (see example 56). Example (57) illustrates the full construction with the possessor of the relational noun specified (here, demonstrative *taassuma* ‘this/that one’ (as mentioned)) with *tunu-* ‘behind’.

(56) *taava talerpiata tungaaniitsissavat qimmeq, aap.* (AATT 04)

taava talerpik-ata                      tunga-ani=ik-tip-ssa-vat  
 then right-3SG/SG.ERG direction-3SG/SG.LOC=be-CAUS-FUT-2SG/3SG.IND  
 qimmeq    aap  
 dog.ABS.SG yes  
 ‘then you will make the dog be towards the right, yes’

(57) *taava taassuma tunuata tungaaniissaaq piniartog.* (AATT 44)

taava ta-uv-suma                                      tunu-ata  
 then ANAPH-DEM.PROX-ERG.SG behind-3SG/SG.ERG  
tunga-ani=ik-ssa-aq                                      piniartog  
 direction-3SG/SG.LOC=be-FUT-3SG.IND hunter.ABS.SG  
 ‘Then the hunter will be (in the direction of) behind that one.’

(58) *Qaqqap qaavaniissaaq avannaatungaaniilluni qimmeq.* (AATT 30)

qaqqap-p                      qaav-ani=ik-ssa-aq                                      avanna-ata  
 mountain-ERG.SG top-3SG/SG.LOC=be-FUT-3SG.IND north-3SG/SG.ERG  
tunga-ani=ik-lluni    qimmeq  
 direction-3SG/SG.LOC=be-3RSG.CONJ dog.ABS.SG  
 ‘The dog will be on top of the mountain towards the north.’

Finally, the *tunga-* construction (spatial noun plus *tunga*) is frequently compounded, which involves a truncation of the ergative ending (Sadock 2003: 11). See example (58), where *avannaatungaani* is found in place of *avannaata tungaani*.

## 2.4 Strategies for spatial reference

The grammatical and lexical resources for spatial description in Kalaallisut may be employed using different referential strategies, as detailed in Chapter 1. Moving beyond topological relations, the separation of figure and ground in space result in the need to encode the spatial vector relating one to the other, which can be accomplished following different strategies. These include both coordinate (frame of reference) and non-coordinate system based strategies, each of which are discussed below. In order to precisely locate a figure in space with some distance from its ground, some type of coordinate system is required to precisely state the spatial relationship between the two. However, a common strategy in Kalaallisut is nonetheless the usage of spatial descriptions utilizing proximity instead of spatial vectors based on a coordinate system. This ‘landmark-based’ strategy is discussed in Section 2.4.1, followed by discussion of frames of reference, which are also used, in Section 2.4.2.

### 2.4.1 Landmark-based strategy

A non-coordinate system based strategy for spatial reference commonly utilized in Kalaallisut relies upon relationships of contiguity and named locations, in which speakers indicate the locations of objects and places without specifying a spatial vector. This strategy is related to that of expressing topological relations based on contiguity, wherein a figure is located with respect to some ground through physical co-occurrence. The spatial cases (particularly locative or allative) typically encode such a landmark-base relation to a ground, although the relational noun *eqqa-* may also be used as in examples (59) and (60). These examples are TRPS descriptions (the pictures shown in Figure 2.16 and 2.8 above, respectively) and represent physical proximity but not actual topological contact between figure and ground, i.e. some separation in space, allowing for the usage of non-topological descriptions.

The most common, preferred description of Figure 2.16, shown in example (59), uses *eqqa-* to describe the relationship between the tree and the church in terms of proximity.

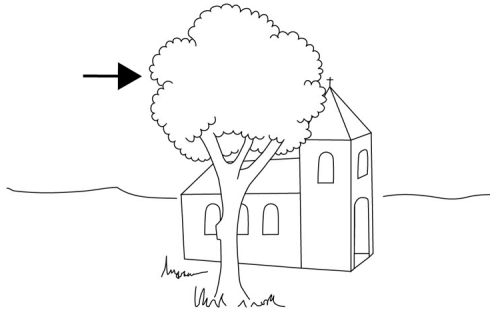


Figure 2.16: TRPS #49  
(Bowerman and Pederson 1992)

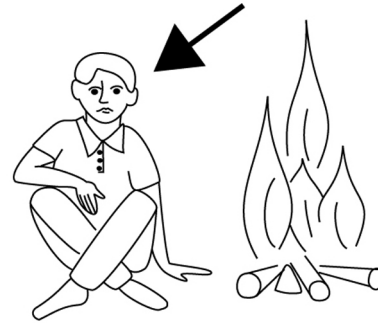


Figure 2.17: TRPS #38  
(Bowerman and Pederson 1992)

The relational noun *eqqa-* indicates nearness without stating a directional vector positioning one in relation to the other. However, another option given to describe Figure 2.16, utilizing a coordinate system, is discussed in Section 2.4.2. Similarly, example (60) shows the most common description for Figure 2.8 which also uses *eqqa-* to describe the dog's location in relation to the doghouse. Likewise, multiple possible descriptions were given for Figure 2.8 (discussed in Sections 2.2.2 and 2.4.2). However, in both cases usage of *eqqa-* was preferred over these other possibilities, which fits in with a broader tendency for the usage of a referential strategy based upon contiguity to landmarks. The simple locative BLC (Section 2.2.1) operates similarly.

(59) *Orpik oqaluffiup eqqaanniippoq* (TRPS 49)

orpik oqaluffiu-p eqqa-ani=ik-poq  
tree.ABS.SG church-ERG.SG vicinity-3SG/SG.LOC=be-3SG.IND

'The tree is near (in the vicinity of) the church.'

(60) *Qimmeq illuaqqap eqqaanniippoq* (TRPS 06)

qimmeq illu-araq-p eqqa-ani=ik-poq  
dog.ABS.SG house-little-ERG.SG vicinity-3SG/SG.LOC=be-3SG.IND

'The dog is near (in the vicinity of) the little house.'

The landmark-based strategy is also commonly found in route descriptions and directions, often combined with directionals anchored to the landscape. These directionals tend to fit in

with a landmark-based strategy with the direction based upon an environmental landmark, e.g. *illummut* ‘toward the inside of the fjord’. Going back to the travel narrative in example (51), the narrative references a series of landmarks or named locations which describe the trajectory via steps of the route. Parts of the route which lack an overt landmark instead utilize a directional:

1. *ilu-* ‘inland/inside fjord’ (landmark-oriented directional)
2. *Amerloq* (landmark: named location)
3. *Ikertoq* (landmark: named location)
4. *Maligiap qinnngua* ‘fjord bottom/head of Maligiap’ (landmark: named location/landscape entity)
5. *Egalugaarniarfik* (landmark: named location)
6. *qummut* ‘up’ (abstract directional)

The travel narrative thus consists of a series of points acting as landmarks, describing the route primarily through description of the landscape and named locations rather than using a particular frame of reference.

On a smaller geographical scale, directions within a town likewise predominantly rely upon named locations as landmarks. For instance, when asked for directions to a particular place in town, speakers consistently described the location through proximity to known places or landmarks, such as the grocery store. An excerpt from a route description going from one residence to another, not easily identified by a known landmark nearby, is shown in example (61) with the path illustrated by Figure 2.18. Similarly to the travel narrative for hunting trips discussed above, this route description directs the addressee from landmark to landmark within the town, using a non-coordinate system strategy in describing the route.



Figure 2.18: Route description in Sisimiut (map source: Google Maps)

(61) a. *Sissamukassaasi,*

sissaq-mut=kar-ssaasi  
 shore-ALL.SG=go.to-FUT.2PL.IND  
 ‘You will go to the harbor (lit. shore),’

b. *sissamiippoq ikaartarfik,*

sissaq-mi=ik-poq ikaartarfik  
 shore-LOC.SG=be-3SG.IND bridge.ABS.SG  
 ‘a bridge is at the harbor,’

c. *ikaartarfiup naaneraniippoq aqqusineeraq,*

ikaartarfik-p naaner-ani=ik-poq aqqusineq-eraq  
 bridge-ERG.SG end-3SG/SG.LOC=be-3SG.IND road-small.ABS.SG  
 ‘a small road (path) is at the end of the bridge,’

d. *inuinnarnut pisuinnarnut aqqut.*

inuk-innar-nut pisu-innar-nut aqqut  
 person-just-ALL walk-just-ALL path  
 ‘a path just for people, just for walking.’



## 2.4.2 Frames of reference

Kalaallisut speakers also employ all three types of frame of reference (FoR) described in Chapter 1: intrinsic, relative, and absolute. In contrast with the landmark-based strategy described above, these strategies for spatial reference utilize a coordinate system to express the relationship between figure and ground. Although Kalaallisut has the potentiality to encode all three types of FoR, they are not used equally or interchangeably. Speakers predominantly use allocentric strategies (intrinsic and absolute FoRs) in which the spatial relationship is anchored to something outside of the speech participants. However, egocentric/relative strategies are found more frequently in particular spatial contexts.

Basic (static) spatial descriptions utilizing coordinate systems in Kalaallisut tend to consist of a relational noun construction, in which the particular spatial relation invoking a FoR is encoded by the possessed nominal. Directional forms may also be found, particularly in descriptions of the orientation of figures (i.e. the direction they are facing). The spatial nominals used include some of the relational nouns described in Section 2.1.2, the cardinal direction terms, and terms for left/right.

Much of the data used in this section comes from the Arctic Animals Tabletop Task (AATT) results, which is based upon the Men and Tree space game (Levinson et al. 1992) developed to invoke spatial descriptions using a FoR. The director was shown a series of photos involving Arctic animal and people figurines as well as rocks in different spatial arrangements, then asked to instruct another speaker (the matcher) on how to recreate the setup with figurines on a tabletop. The AATT photos involve frequent locational differentiation on the horizontal plane, intended to trigger the use of angular specifications. All three frames of reference were found to be used in the AATT results presented here, but with variation in frequency and usage between the different types. Data discussed in this section also comes from elicitations using a picture book (Berthelsen and Kokholm 2009),

the TRPS, and basic tabletop space elicitation (e.g. orientation of a pencil in relation to a book).

### Intrinsic

Intrinsic FoR descriptions, which utilize relational nouns and appear similarly to the topological descriptions shown in Section 2.2, are commonly found in small scale (e.g. tabletop) spatial contexts and larger scale spatial contexts particularly involving grounds with salient intrinsic facets. Example (62) shows the usage of an intrinsic FoR to describe the placement of objects on a tabletop. Both *eqqa* ‘vicinity’ and *sani* ‘side’ were given as options; the former illustrates the landmark-based strategy and the latter shows the intrinsic strategy, as the figure (pencil) is located with respect to intrinsic facets of the ground (book), its side(s).

(62) *Aqerluusaq atuakkap [eqqa/sani]aniippoq.*

aqerluusaq atuagaq-p [eqqa/sani]-ani=ik-poq  
pencil-ABS.SG book-ERG.SG vicinity/side-3SG/SG.LOC=be-3SG.IND

‘The pencil is near/beside the book.’

(63) *Orpik oqaluffiup sanianiippoq* (TRPS 49)

orpik oqaluffik-p sani-ani=ik-poq  
tree.ABS.SG church-ERG.SG front-3SG/SG.LOC=be-3SG.IND

‘The tree is to the side of the church’

(64) *Qimmeq illuaqqap sanianiippoq. (\*saavani)* (TRPS 06)

qimmeq illu-araq-p sani-ani=ik-poq  
dog.ABS.SG house-little-ERG.SG side-3SG/SG.LOC=be-3SG.IND

‘The dog is beside the doghouse.’

Similarly yet on a larger scale, an intrinsic FoR was used for several of the TRPS descriptions depicting proximity without physical contact, while neither the relative nor absolute FoRs were found in the TRPS results. Out of the 71 TRPS pictures, nine show a spatial

depiction lacking physical contact or containment (though two of these pictures depict partial containment with the figure located underneath the ground). Four of these pictures display a figure and ground separated by a vector on the horizontal plane, three of which were described by speakers using basic locative constructions; picture #56, showing a flag on a flagpole located near a house, was instead described using a verb:

(65) *Erfalasoq erfalasulerfimmil erfalavoq.* (TRPS pisuinnarnut56)

erfalasoq erfalasulerfik-mi erfala-voq  
 flag.ABS.SG flagpole-LOC.SG flutter-3SG.IND

‘The flag flies/flutters on the flagpole.’

Like the pencil and book example (62), two of these were described both with *eqqa-* and *sani-*. Figure 2.16 depicts a tree (the figure) and a church (the ground); example (59) and example (63) show the two responses that were given as options by speakers. Likewise, the picture in Figure 2.8 depicting a dog and a doghouse elicited descriptions using *eqqa-* (example 60) and *sani-* (example 64), as well as *silata-* ‘outside’ (example 42). For these latter two TRPS pictures, it is noteworthy that only intrinsic (or landmark-based/topological) descriptions were given. In fact, speakers did not accept *saavani-* ‘in front’ as a possibility for Figure 2.8 when asked. The third, shown in Figure 2.17 (depicting a boy next to a fire), only yielded *eqqa-* descriptions; the lack of the intrinsic FoR here likely reflects the fact that the ground object (the fire) does not have inherent facets (at least on the horizontal plane).

Many of the other relational nouns shown in Table 2.3 are also used in intrinsic FoR descriptions, especially *siu-/saa(v)-* ‘in front’ and *tunu-* ‘behind’, as seen in examples (66)-(67) describing aspects of the picture shown in Figure 2.19 and in example (68) for Figure 2.20.

(66) *Biilip qorsuup tunuaniippoq biili aappaluttoq.*

biili-p qorsuk-p tunu-ani=ik-poq biili  
 car-ERG.SG green-ERG.SG behind-3SG/SG.LOC=be-3SG.IND car.ABS.SG  
 aappaluttoq  
 red  
 ‘The red car is behind the green car’

(67) *Biilip sungaartup siuaniippoq biili aappaluttoq.*

biili-p sungaartoq-p siu-ani=ik-poq biili aappaluttoq  
 car-ERG.SG yellow-ERG.SG front-3SG/SG.LOC=be-3SG.IND car.ABS.SG red  
 ‘The red car is in front of the yellow car’

(68) *Arnaq helikopteri-p saavaniippoq.*

arnaq helikopteri-p saav-ani=ik-poq  
 woman.ABS.SG helicopter-ERG.SG front-3SG/SG.LOC=be-3SG.IND  
 ‘The woman is in front of the helicopter.’



Figure 2.19: Spatial stimuli – town (Berthelsen and Kokholm 2009)





## Relative

A relative frame of reference is predominantly found in usage of left/right terms *saamik* and *talerpik*; however, it is less prominent than the other types of FoR (except potentially in the speech of young/urban speakers). Again, no relative FoR terms were used in the TRPS elicitations, but they did occur in the spatial book and tabletop elicitations (although less frequently than the intrinsic FoR). Example (72) gives an alternative to example (62) above to represent the placement of a pencil in relation to a book. Using *saamik* ‘left’ or *talerpik* ‘right’ (from the perspective of the speaker, i.e. an egocentric perspective) allowed speakers to specify one side or the other, particularly when placement along the horizontal axis was necessary for communication. However, proximal/intrinsic relational nouns *eqqa-/sani-* tended to be suggested first. The situation is similar for the relative placement of the houses and boats in Figure 2.19, which may be described using *eqqa-* ‘near’ or with relative terms, as in example (73).

(72) *Aqerluusaq atuakkap talerpiatungaaniippoq.*

aqerluusaq atuagaq-p talerpik-ata tunga-ani=ik-poq  
pencil.ABS.SG book-ERG.SG right-3SG/SG.ERG direction-3SG/SG.LOC=be-3SG.IND  
‘The pencil is to the right of the book.’

(73) *Umiatsiaq aappaluttoq umiatsiap sungaartup saamiatungaaniippoq*

umiatsiaq aappaluttoq umiatsiaq-p sungaatoq-p saamik-ata  
boat.ABS.SG red boat-ERG.SG yellow-ERG.SG left-3SG/SG.ERG  
tunga-ani=ik-poq  
direction-3SG/SG.LOC=be-3SG.IND  
‘The red boat is to the left of the yellow boat.’

The relative FoR was also used in the AATT elicitation to distinguish locations along the horizontal axis; however, the intrinsic and absolute FoRs were more frequently used. For example, in describing the placement of the polar bear and the dog in Figure 2.21, relative left/right were used by the director to distinguish between the two rocks. A similar example



Figure 2.23: AATT #06b

comes from Figure 2.23, shown in example (74), in which the polar bear is described as being *saamiatungaani* ‘on/towards the left’ and the dog as *talerpiatungaani* ‘on/towards the right’.

(74) a. *saamiatungaaniitissavat nanoq* (AATT 06b)

*saamik*-ata tunga-ani=ik-tip-ssa-vat  
 left-3SG/SG.ERG direction-3SG/SG.LOC=be-CAUS-FUT-2SG/3SG.IND  
 nanoq  
 polar.bear.ABS.SG

‘you will make the polar bear be towards the left,’

b. *ima, ujaqqat ima, imminnut ungasillutik, ungasipput aap*

ima ujarak-t ima immi-nnut ungasit-lutik ungasit-put aap  
 thus rock-PL thus self-ALL.PL be.far-3RPL.CONJ be.far-3PL.IND yes

‘the rocks thus, far away from each other, they are far yes’

c. *taava talerpiatungaaniissaaq qimmeq*

taava *talerpik*-ata tunga-ani-ik-ssa-aq qimmeq  
 then right-3SG/SG.ERG direction-3SG/SG.LOC=BE-FUT-3SG.IND dog.ABS.SG

‘then the dog will be towards the right’

Likewise, Salamon (2011: 29-30) found only minimal usage of the relative FoR, limited to specific contexts of use including tabletop space (e.g. describing a table setting), directions for driving in town, and dog sledding orientation.





Figure 2.24: AATT #10



Figure 2.25: AATT #12

### Absolute

Usage of the absolute frame of reference is found in Kalaallisut within a variety of spatial contexts, including tabletop and larger scales. It is primarily encoded by the cardinal direction terms, which often combine with *tunga-* ‘direction’ to give an angular specification pointing from ground to figure. The landscape-based directionals often participate as well, particularly in larger scale contexts and with respect to motion or perceived motion. As discussed in Section 2.3.2, the Kalaallisut cardinal directions arise from environmentally-based (coastal) directionals.

A cardinal-based absolute FoR is widely used in the collected AATT data for distinguishing horizontal directions along both the transverse (left/right) axis and the perpendicular axis, which together align with the cardinal north-south and east-west axes. The descriptions of Figure 2.24 and Figure 2.25, which are mirror image setups along the transverse axis, illustrate usage of the absolute FoR through cardinal terms as shown in examples (75) and (76), with the hunter to the north (*avannaatungaani*) and south (*kujataatungaanut*), respectively.

- (75) a. *Ujarak ilissavat ujarak, suu,* (AATT 10)
- |             |                       |             |     |
|-------------|-----------------------|-------------|-----|
| ujarak      | ili-ssa-vat           | ujarak      | suu |
| rock.ABS.SG | place-FUT-2SG/3SG.IND | rock.ABS.SG | yes |
- ‘The rock, place the rock, yes,’

b. *taava eqqa...avannaatungaaniissaaq piniartog,*

taava eqqa avanna-ata                      tunga-ani=ik-ssa-aq  
 then near north-3SG/SG.ERG direction-3SG/SG.LOC=be-FUT-3SG.IND  
 piniartog  
 hunter.ABS.SG

‘then the hunter will be near...to the north,’

c. *ujaqqamut sammilluni.*

ujarak-mut sammi-lluni  
 rock-ALL.SG face-3RSG.CONJ

‘facing the rock.’

(76) a. *Taava piniartog ilissavat imaattumut kujataatungaanut.* (AATT 12)

taava piniartog              ili-ssa-vat                      imaattoq-mut kujata-ata  
 then hunter.ABS.SG put-FUT-2SG/3SG.IND uh-ALL.SG      south-3SG/SG.ERG  
 tunga-anut  
 direction-3SG/SG.ALL

‘Then you will place the hunter, uh...towards the south.’

b. *Ujaqqamut sammitillugu...sammivoq ujaqqamut.*

ujarak-mut sammi-tip-llugu                      sammi-voq    ujarak-mut  
 rock-ALL.SG face-CAUS-3R/3SG.CONJ face-3SG.IND rock-ALL.SG

‘Making it face the rock, it faces toward the rock.’

In both examples, the orientation of the hunter figurine is described in terms of facing towards the rock. Often in the AATT data, the orientation of the figurines is denoted using absolute FoR cardinal terms, as seen in example (55) with *kujammut* ‘to the south’. In example (77) for Figure 2.26, the hunter figurine is described as located to the north of the rock and facing to the west, toward the director (*uannut* ‘to/toward me’). The relative FoR (i.e. left/right terms) is never used to describe figurine orientation in the AATT data; the description *uannut* ‘to/toward me’ is egocentric but not relative, since the speaker’s axes are not being transposed onto the scene but instead the speaker simply acts as ground.

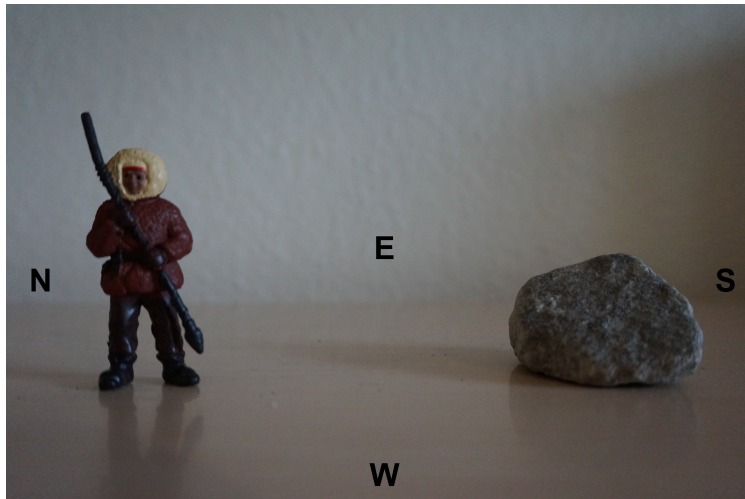


Figure 2.26: AATT #14

(77)

(AATT 14)

- a. *Taava piniartoq ilissavat avannaatungaanut, aap*

taava piniartoq      ili-ssa-vat                      avanna-ata  
 then hunter.ABS.SG place-FUT-2SG/3SG.IND north-3SG/SG.ERG  
 tunga-anut                      aap  
 direction-3SG/SG.ALL yes

‘Then you will place the hunter towards the north, yes’

- b. *aap kitaanut isigitillugu uannut saatillugu kitaanut, aap.*

aap kita-anut                      isigi-tip-llugu                      uannut  
 yes west-3SG/SG.ALL look-CAUS-3R/3SG.CONJ 1SG.ALL  
 saa-tip-llugu                      kita-anut                      aap  
 face-CAUS-3R/3SG.CONJ west-3SG/SG.ALL yes

‘yes, making it look to the west, towards me, making it face to the west, yes.’

As shown in Chapter 4, the majority of the Kalaallisut demonstratives also encode an absolute FoR, making this coordinate system a prominent one in spatial description and conceptualization. As is also shown for the demonstratives, the absolute FoR via the cardinal direction terms is rooted in the environment, particularly the particular geophysiography of the west coast of Greenland.

## 2.5 Discussion: landscape, space and place

The local geophysical environment plays an important role across the Kalaallisut spatial domain, from the environmentally-based usages of basic topological relational nouns, to the coastal-based orientation system and cardinal directions, to the demonstrative system with its many directional meanings (see Chapter 4). As argued by McMahan et al. (2022), there is a clear correspondence between the topography of the local landscape and the spatial system, particularly with respect to the absolute FoR as well as landmark-based spatial reference. Crucially, the relationship between the language and the environment is mediated through cultural affordances, engagement with the land, and conceptual representation. Chapter 4 details the conceptual representation of the environment encoded in the demonstrative system, which is likewise seen across the spatial domain.

A deeper investigation into the Kalaallisut landscape lexicon itself and place naming conducted by Grenoble et al. (2019) argues for a conceptual ontology of landscape based on the fundamental dichotomy of land versus sea, mediated and supplemented by the functions of navigation and orientation. Semantic analysis of the landscape terms and a sorting task illustrated the primary roles played by shape, substance and function in the organization of the landscape lexicon. Additionally, the majority of place names in West Greenland are landscape-based, consisting of landscape terms which may combine with specificational features through suffixes (e.g. *Qeqertaq* ‘island’, *Kangerlussuaq* ‘big fjord’, *Nuunnguaq* ‘small promontory/headland’). These and other types of place names act as landmarks for navigation, as seen in the travel narrative shown in example (51), and, as such, they overwhelmingly occur at the land-sea interface (both within fjords and at the open sea; see Figure 2.27).

This focus upon the juxtaposition between land and sea is pervasive across Kalaallisut representations of space and environment. As discussed in Section 2.3, the spatial axes which form a basis of conceptual representation of the environment derive from the land-sea interface: a landward-seaward axis and a coastal axis. The demonstrative system includes



Figure 2.27: Place names in West Greenland (from nunagis.gl)

directional semantics which is environmentally-anchored to these axes, specifically reflecting usage within West Greenland.

The following chapter details the demonstrative systems found across Yupik-Inuit languages which, along with Kalaallisut, all act as orientation systems adapted to the local topography. For instance, the systems in use within predominantly riverine environments, like that of Central Alaskan Yup'ik, incorporate the semantics of a river-based axis or axes, e.g. upriver versus downriver. Overall, all Yupik-Inuit demonstrative systems are highly spatial in nature, with directional deictic distinctions rooted in the landscape, and thus are closely linked with the broader domains of spatial language, orientation and landscape.

## Chapter 3

### Historical development and internal change

This chapter traces the development of the demonstrative paradigm throughout the Yupik-Inuit language family. The history of the Yupik-Inuit demonstratives displays a complex paradigm undergoing various processes of geographical assimilation and linguistic change, but remaining intact in a fundamental way and thus showing the flexibility of the system. As mentioned in Chapter 1, Yupik-Inuit languages are known for their large and complex demonstrative systems which encode many deictic features, a number of which are cross-linguistically uncommon including topographic and interior-exterior directional distinctions, as well as physical and perceptual properties of the referent. To start, Section 3.1 introduces the Unangan-Yupik-Inuit family with an overview of the languages/dialects and their relatedness. Next, Section 3.2 presents the reconstructed demonstrative system of Proto Yupik-Inuit (PYI) and discusses the deictic and semantic categories that structured the paradigm and are still found in many of today's systems. Section 3.3 consists of an overview of each Yupik-Inuit system, with discussion of dialectal differences. Lastly, Section 3.4 discusses the internal changes at work which led to the evolution of the PYI demonstratives across the language family. The Greenlandic languages exhibit the highest degree of divergence from PYI.

#### 3.1 Introduction to Unangan-Yupik-Inuit

The Unangan-Yupik-Inuit language family occupies a wide stretch of the circumpolar Arctic, from the Chukotka peninsula and the Aleutian islands in the west, across Alaska and northern Canada, all the way to Greenland in the east (see Figure 3.1). This distribution is such that Unangan-Yupik-Inuit occupies the largest stretch of lateral area of any language family.

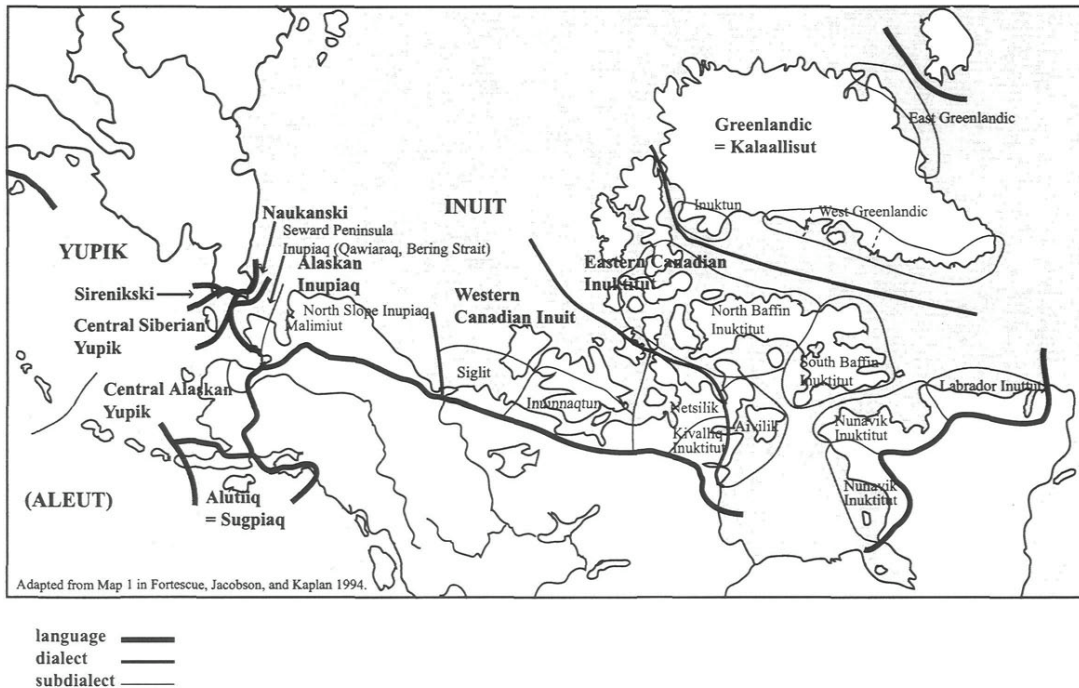


Figure 3.1: Unangan-Yupik-Inuit map (from Berge and Kaplan 2005)

The earliest branch in the family separates Unangan (also called Aleut) from Yupik-Inuit (also called Eskimo). As implied by the name, Yupik-Inuit further sub-divides into a Yupik branch and an Inuit branch. The relationship of the now-extinct Sirenik language to the rest of the family is uncertain, being quite divergent from the neighboring Yupik languages with unique and archaic linguistic traits. It appears closer to Yupik than Inuit, and thus is frequently classified within the Yupik branch; however, it has been proposed as a third branch of Yupik-Inuit. Fortescue et al. (2010) use the term ‘Proto-Yupik-Sirenik’, but suggest that this may be a fictitious entity. No further breakdown of the Yupik and Inuit branches into sub-branches has been established, yet it is common in the literature to provide groupings based on geographical or dialectal/intelligibility factors.

Unangan is spoken in the Aleutian islands and has two main dialects, Eastern Aleut and Western Aleut. This chapter focuses on Yupik-Inuit, rather than attempting to account for the relation of the Yupik-Inuit demonstrative to those of Unangan or reconstructing the Unangan-Yupik-Inuit demonstrative system. This is the case for several reasons. Incorporat-

ing Unangan data in comparison with looking solely at Yupik-Inuit doubles the diachronic time depth under consideration, from two thousand to four thousand years. In contrast with Unangan-Yupik-Inuit, the Proto-Yupik-Inuit demonstratives form a cohesive paradigm which has already been reconstructed by Fortescue et al. (2010). This provides a stable slice of the ancestral system with which to compare the modern demonstrative systems.

The Yupik branch stretches across the Bering Strait, spoken both on Siberia’s Chukotka peninsula and in southwestern Alaska. It is made up of four or five languages (depending upon the status of Sirenik), which form an intergrading chain from west to east with neighbors sharing linguistic innovations, though they are now separated by Iñupiaq (Woodbury 1984). The Yupik languages are often grouped by geographical area (though not genetically) into Siberian Yupik (Sirenik, Central Siberian Yupik, and Naukan) and Alaskan Yupik (Central Alaskan Yup’ik and Alutiiq). All of the Yupik languages are endangered (or extinct, for Sirenik).

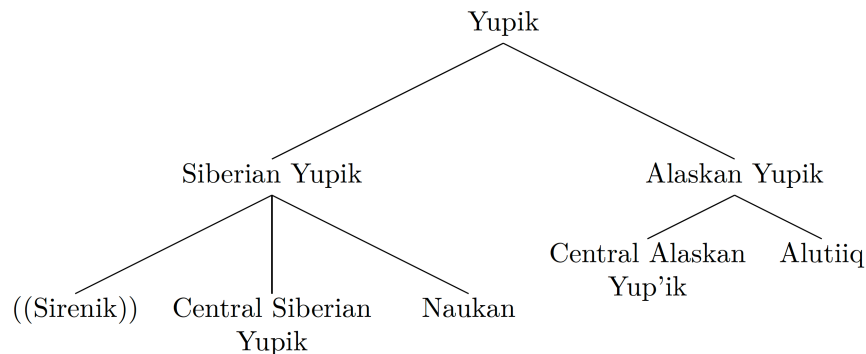


Figure 3.2: Yupik languages

The Inuit branch is a rough dialect continuum stretching from Alaska’s Seward Peninsula across northern Alaska and northern Canada to Greenland. The Inuit varieties are more closely related to each other than those of Yupik, with neighboring dialects displaying mutual intelligibility (Woodbury 1984). Like Yupik, it is problematic to divide Inuit into genetic sub-groups, but the dialects are divided into four regions based upon particular isoglosses and geographical area (Woodbury 1984): Alaska (Iñupiaq), Western Canada, Eastern Canada,



and Greenland. Inupiaq further breaks into two main varieties: Seward Peninsula Inuit and North Alaskan Inuit. Overall, Inuit is more robust than Yupik, though it is threatened or endangered in some places.

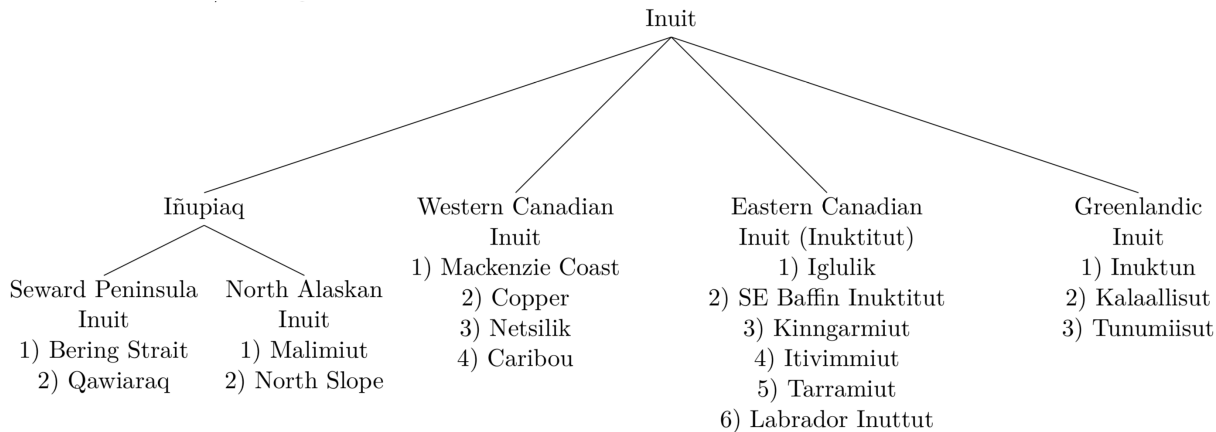


Figure 3.3: Inuit languages & dialects

### 3.1.1 Prehistory

According to Fortescue et al. (2010), it is estimated that Proto Yupik-Inuit was spoken around two thousand years ago where the Yupik languages are spoken today, with Proto Unangan-Yupik-Inuit spoken another two thousand years before that. Proto-Inuit was spoken about a thousand years before the present day in North Alaska.

Around this time, early Inuit speakers (called Thule) began to rapidly migrate eastward from Alaska along the northern coast to Canada. At this time, climatic warming caused ice to retreat along the North Alaska coast and the Canadian Arctic, opening up water passages. Bowhead whales took advantage of this climatic warming and began to migrate eastward. Thule culture had become proficient at hunting large whales in the Bering Strait, using harpoons and floats. Over the next several hundred years, Thule groups spread eastward following the whales, settling along these bowhead whale migration routes throughout the Canadian Arctic to Greenland (Fitzhugh 2002: 127). Around the same time as proto-Inuit began to expand eastward, the ancestor of the Yupik languages was expanding and

diversifying on both sides of the Bering Strait. Later, Inuit speakers spread into the Seward Peninsula, acting as a ‘wedge’ dividing the Yupik continuum (Woodbury 1984: 53). The current distribution of Yupik-Inuit peoples, which has been fairly constant since their first contact with Europeans, is the result of these migrations.

The Thule arrived at Qaanaaq (Thule) in Greenland by the thirteenth century (Friesen and Arnold 2008; McGhee 2000). These Inuit arriving in Greenland would have been the speakers of a proto-Greenlandic, the ancestor of Kalaallisut and Tunumiisut. From the Qaanaaq area, early Greenlanders spread out through migrations down the west coast and over to northeast Greenland over the next several centuries, reaching southern Greenland by the fifteenth century (Fortescue 1986). The speakers of Inuktun (North Greenlandic), called the Inughuit, represent a separate, later migration into Greenland from the western Canadian Arctic, possibly as late as the 18th century (Fortescue 1991). Inuktun shares linguistic features with the Copper, Caribou, and Netsilik dialects of Western Canadian Inuit, absent in the other Greenlandic dialects (Fortescue 1986). However, Inuktun has been influenced sufficiently by Kalaallisut to presently be considered a Greenlandic Inuit dialect.

## 3.2 Proto Yupik-Inuit demonstratives

### 3.2.1 Reconstructed paradigm

The Proto-Yupik-Inuit (PYI) demonstrative paradigm is reconstructed in Fortescue et al. (2010), reproduced in Table 3.1. It consists of 28 stems, similar to several Yupik and Inuit languages spoken today. Morphosyntactically, the PYI demonstratives appear to have functioned similarly to those of Kalaallisut, the stems inflected as pronouns/adnominals, adverbs or predicatives (as described in Chapter 2). Thus they refer to both referents and locations. The stems may also be prefixed with *ta(ð)-*, to shift the deictic origo or for anaphora, though this is not productive in all languages today.

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Near speaker</b>		maǎ-	uv-	im-
<b>Away from speaker</b>	More accessible	av-	iŋ-	am-
	Less accessible	aɣ-	ik-	akəm-
<b>Inside/outside</b>	More accessible	qav-	kiv-	qam-
	Less accessible	qay-	kiɣ-	qakəm-
<b>Down from speaker</b>	More accessible	un-	kan-/kaǎ-	cam-
	Less accessible	unəɣ-	uɣ-	cakəm-
<b>Up from speaker</b>	More accessible	pav-	piŋ-	pam-
	Less accessible	pay-	pik-	pakəm-
‘approaching speaker’		uk-		

Table 3.1: Proto-Yupik-Inuit Demonstrative stems (reproduced from Fortescue et al. 2010)

### 3.2.2 Deictic and semantic categories

With a significantly higher number of forms, the PYI paradigm contains several categorizing features not found in Kalaallisut. The overall structure of the paradigm consists of five spatial categories which combine several deictic distinctions in order to specify a spatial search domain; these spatial zones are further broken down into sub-categories based on accessibility, visibility/perceptibility, and physical properties of the referent. Shown on the leftmost column of Table 3.1, the spatial categories combine distance, verticality, and inside/outside features to give: ‘near speaker’ versus ‘away from speaker’ versus ‘inside/outside from speaker’ versus ‘down from speaker’ versus ‘up from speaker’. These categories are broadly consistent between PYI and all of today’s languages and dialects.

Each of the non-proximal spatial categories is sub-divided based on spatial and physical accessibility, which further defines the search domain being projected for the localization of a referent. Additionally, the forms within all five spatial categories and their accessibility sub-divisions are further distinguished by a three-way contrast combining perceptual and physical qualities of the referent, which may be referred to as the ‘extended-restricted-obscured’ distinction. The demonstrative variation across the Yupik-Inuit varieties spoken

today centers upon such semantic breakdown within the broad spatial categories, including the accessibility contrast and in the extended-restricted-obscured distinction. Lastly, the single form for ‘approaching speaker’, which encodes a motion distinction, is furthermore inconsistent across the family.

As indicated by the spatial category labels, the deictic origo upon which the Yupik-Inuit demonstratives are generally anchored is egocentric: the speaker’s body acts as the spatial point of reference for the calculation of the search domains and the speaker’s own perception of the referent determines their choice of demonstrative. As discussed in Section 3.3, the deictic origo may be transposed and some varieties have specific forms for addressee-anchoring, using the *ta(ð)*- prefix.

### **Spatial categories or zones**

Five broad spatial categories characterize the PYI demonstrative paradigm as well as those Yupik-Inuit paradigms used today. These categories indicate the region of space within which the referent may be located, defined in relation to the location of the speaker and constituted through several deictic distinctions: distance, vertical orientation, and interior/exterior orientation. For most of the demonstratives, the spatial categories provide a spatial vector which indicates the direction projected from the deictic origo to the referent.

The proximal NEAR SPEAKER category is not actually directional, but simply indicates proximity to the deictic origo. This stands in opposition to the other four spatial categories which are used for non-proximal referents. AWAY FROM SPEAKER contrasts with the former category through distance, denoting medial/distal referents, as well as contrasting with the vertical categories through usage for the the horizontal dimension, i.e. for referents on the same level as the origo. The DOWN FROM SPEAKER and UP FROM SPEAKER categories indicate spatial zones or directions which are vertically below or down from the origo and vertically above or up from the origo, respectively. These include both vertically above/below and more diagonal up/down such as uphill/downhill. Often the vertical demon-

stratives carry topographic meanings, such as ‘inland’, ‘downriver’ or ‘seaward’. Finally, the INSIDE/OUTSIDE category locates referents with respect to enclosed spaces or barriers; they may also carry environmental meanings such as ‘inland’ or ‘upriver’. In sum, the spatial categories determine the search domain wherein the referent is located, drawing upon the orientation of the external environment.

### **Accessibility**

Within the spatial categories, the PYI paradigm further sub-categorizes the spatial zones based on ACCESSIBILITY, which gives further information about where to locate the referent within that region. In both the PYI paradigm and those of today’s languages, the ‘more accessible’ versus ‘less accessible’ distinction is manifested by particular environmental or spatial meanings which differ depending upon characteristics of the spatial zone and the relevant distinctions within the local environment. For instance, the vertical categories may distinguish between ‘down below’/‘down-slope’ (more accessible) versus ‘downriver’/‘seaward’ (less accessible), and conversely ‘up-slope’ (more accessible) versus ‘up above’ (less accessible). As for the ‘same level’ (away from speaker) category, the accessibility contrast may distinguish referents on the other side of an intervening obstacle or barrier (less accessible) from those that are not (more accessible). The accessibility distinction is particularly prone to variation in meaning across today’s languages and is also a major site for reduction and breakdown from the original system.

### **Perceptual and physical qualities of the referent**

The ‘extended’ versus ‘restricted’ versus ‘obscured’ (ERO) contrast is a distinctive quality of Yupik-Inuit demonstrative systems. However, unlike the spatial categories, ERO has not been preserved across all of today’s languages, as shown in Section 3.3. Broadly, the ERO distinction has to do with perceptual and physical qualities of the referent, as mediated or interpreted by the speaker. The three categories are sometimes presented hierarchi-

cally, with extended and restricted as sub-categories of a larger ‘visible’ category, in contrast with the non-visible ‘obscured’ category. Alternatively, a source for Central Alaskan Yup’ik (Miyaoaka 2012), which upholds the full ERO semantics and which likely strongly influenced the reconstruction of the PYI paradigm, presents the ERO distinction using a different hierarchy grounded in physical properties rather than visibility (‘extended’ versus ‘non-extended’ as primary categories, with ‘non-extended’ breaking into ‘proximal/restricted’ and ‘distal/obscured’). Regardless of the particular organization of the categories, the ERO dimension generally combines several semantic factors, including physical and/or motion properties of the referent (‘extent’) and visibility/perceptibility of the referent. As demonstrated in Section 3.3, there is variation across today’s languages in how these categories are instantiated and in how they are described and analyzed by the researchers. Here, I introduce the concepts in order to understand the PYI paradigm and as a starting point for looking at the individual languages.

**Extent: ‘extended’ versus ‘restricted’** This dimension distinguishes ‘restricted’ and ‘extended’ referents (things or places), involving the *perceived* physical properties of the referent. In general, ‘extent’ involves the shape and orientation of a referent, or a group of referents, and whether or not the referent is in motion. Usage of a RESTRICTED demonstrative indexes referents that are either individuals that are compact in shape or a condensed group, and those which are stationary and/or moving in a contained area. In contrast, usage of an EXTENDED demonstrative indicates that the referent is long in shape, spread out (i.e. an aggregate), and/or in motion (all with regards to the horizontal dimension). These also apply to locations, as in a specific place (restricted) versus a spread out location or region (extended). These semantic features, which are spatial in nature yet not exactly deictic, are nonetheless interpreted by the speaker with respect to the overall speech situation, including the relative orientation of the referent and how perceptible the features are from the reference point (which may involve distance from the speaker). For instance, a harpoon at close

range might appear long and thus ‘extended’ in space, but, seen from a distance, might look more compact or ‘restricted’. These categories are described further for the case of Central Alaskan Yup’ik in Section 3.3.1.

**Visibility** The contrast between extended and restricted referents involves perceptibility via the way they visually appear in space, dependent upon physical properties, orientation, and motion. For both categories, the referent is thus *visible*, though potentially to differing degrees. The third ERO category, OBSCURED, is used for completely non-visible referents. Not being visible, the obscured category does not specify extent properties of the referent. As used within today’s Yupik-Inuit languages, this category often denotes particular, more conventionalized meanings such as ‘upstairs’ or ‘on the roof’. A particular demonstrative, PYI *\*im-*, the near speaker obscured form, displays considerable variation in its usage across the family, but is often more detached from the immediate spatial context (e.g. as a temporally/spatially ‘remote’ or anaphoric demonstrative).

### **Motion: approaching speaker**

Finally, PYI is reconstructed as having an ‘approaching speaker’ demonstrative, falling outside the system of categorization of the other forms (i.e. not having a distinction with regards to spatial location, ERO or accessibility), for use with referents which are in movement toward the deictic origo. Note that the extended-restricted distinction may involve movement that is orthogonal or transverse in relation to the origo (i.e. movement across the field of vision, in the case of the extended category), while the ‘approaching speaker’ demonstrative encodes motion on a different axis, pointing towards the deictic origo.

Fortescue et al. (2010) make note that this may form be from Proto-Yupik-Sirenik rather than PYI. When forms are shared by Yupik and Sirenik but not Inuit, it is unclear whether they were borrowed into Sirenik through Central Siberian Yupik or whether they represent

a genetic relation. The only Inuit language that has *uk-* is Seward Peninsula Inuit, which has significant contact with Yupik.

### 3.3 Demonstrative systems across the family

There is considerable variation in how the PYI demonstrative system has evolved in today's Yupik-Inuit languages, with languages spoken around the Yupik-Inuit homeland in Alaska having conservative systems and those languages further from the center showing more divergence. The Yupik branch has been more conservative in its demonstratives, whereas more variation and reduction has occurred in the Inuit paradigms especially those spoken on the eastern end of the Inuit dialect continuum. In this section, I detail the demonstrative system(s) for each variety of Yupik-Inuit, dependent upon the available data. Some languages have had extensive documentation, while others have very little demonstrative data published.

#### 3.3.1 Yupik and Sirenik

The Yupik languages include Alutiiq, Central Alaskan Yup'ik, Naukan, and Central Siberian Yupik. Sirenik either falls within the Yupik branch or represents a third Yupik-Inuit branch. Spoken in southwestern Alaska and the eastern edge of Chukotka, the Yupik varieties form an intergrading chain from east to west, though it is now broken apart by Inuit (Woodbury 1984).

Overall, Central Alaskan Yupi'ik preserves the fullest, original paradigm. Alutiiq, Naukan, and Central Siberian Yupik more or less preserve the structure of the PYI paradigm, but are less complete and exhibit less abstraction across the paradigms. Sirenik displays the most reduction and semantic conflation. However, all of Yupik and Sirenik has retained the ERO distinction, and most have the 'approaching speaker' demonstrative *\*uk-*, potentially a Proto-Yupik(-Sirenik) innovation.



**Central Alaskan Yupik (CAY)** Also called Yugtun, Cugtun, Yup'ik, Cup'ik (Hooper Bay-Chevak), and Cup'ig (Nunivak Island). Although it is in the middle of the Yupik dialect chain, I start the discussion with Central Alaskan Yupik because it has retained the most conservative and complete demonstrative system and is the most thoroughly described in the literature. Miyaoka (2012) notes that CAY, along with Aleut, has the most elaborate demonstrative system of the family. The demonstrative paradigm of Central Alaskan Yupik has been described by numerous sources, including Jacobson (1984, 2012), Miyaoka (2012), and Rukeyser (2005). There are some small differences in the systems presented by these sources, such as 31 stems given in Jacobson (1984, 2012) and 30 in Miyaoka (2012). Authors likewise give different semantic analyses of the ERO dimension. Table 3.2 summarizes the paradigms presented by Jacobson (1984, 2012).

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Here</b>	near speaker	<i>ma-</i>	<i>u-</i>	<i>im-</i>
	near listener	<i>tama-</i>	<i>tau-</i>	<i>taim-</i>
<b>There</b>	over	<i>aûg-</i>	<i>ing-</i>	<i>am-</i>
	across	<i>ag-</i>	<i>îk-</i>	<i>ak(e)m-</i>
<b>In/out</b>	inside, upriver	<i>qaûg-</i>	<i>kiug-</i>	<i>gam-</i>
	outside	<i>qag-</i>	<i>kegg-</i>	<i>qak(e)m-</i>
<b>Down</b>	down below, downslope	<i>un-</i>	<i>kat-</i>	<i>cam-</i>
	downriver, toward exit	<i>un(e)g-</i>	<i>ug-</i>	<i>cak(e)m-</i>
<b>Up</b>	upslope	<i>paûg-</i>	<i>ping-</i>	<i>pam-</i>
	up above	<i>pag-</i>	<i>pîk-</i>	<i>pak(e)m-</i>
Approaching, towards here		<i>uk-</i>		

Table 3.2: Central Alaskan Yup'ik demonstrative stems (Jacobson 1984, 2012)

Comparing Table 3.2 with Table 3.1, we can see that the structure of the CAY paradigm is almost identical to that of PYI. The reconstructed PYI paradigm (Fortescue et al. 2010) breaks the non-proximal spatial categories into ‘more accessible’ versus ‘less accessible’, whereas the CAY sources instead list the specific spatial meanings without abstraction of these subcategories through the notion of accessibility (e.g. ‘upslope’ vs. ‘up above’). In fact, Miyaoka (2012) does not even break the paradigm into major spatial categories (i.e. here vs. there vs. in/out vs. down vs. up), but instead gives twelve separate spatial cate-

gories indicating “Orientation toward the environment” (e.g. ‘over there’, ‘across there, on the opposite’, ‘inside, up river, inland’, etc.), broken down further only by extent/visibility.

The CAY paradigm includes a category not given for PYI: the proximal ‘near listener’ (addressee) forms (*tama-*, *tau-*, *taim-*), consisting of the ‘near speaker’ forms plus the *ta-* prefix, which introduces an additional person-based contrast within the proximal category. Jacobson (1984) lists *taim-* as the obscured ‘near listener’ form; however, this stem is absent from Jacobson (2012) and Miyaoka (2012). The *ta-* prefix, which is productive in Kalaallisut, is fossilized and non-productive in most<sup>1</sup> dialects of CAY (Miyaoka 2012: 349), which explains why these forms are given separately despite their clear morphological relation to the proximal set *ma-*, *u-*, *im-*. Similarly, Rukeyser (2005: 92) notes that *ta-* may only be attached to a limited number of stems, marking an origo shift from speaker to addressee. Fortescue et al. (2010) lists *ta-* forms of all stems for the Norton Sound Unaliq dialect. With respect to the representation of *im-*/*taim-*, we find variation between the sources: whereas Jacobson (1984) gives *im-* as the proximal (‘here’, ‘more accessible’) obscured form, both Jacobson (2012) and Miyaoka (2012) give it in a separate category meaning ‘aforementioned’ or ‘known’.<sup>2</sup> Rukeyser (2005: 377-378) goes deeper into the semantics of *im-*, explaining that the proximal and obscured features are elaborated to “yield a sense of physical absence but enduring mental presence” such that the referent, though physically absent, has left a trace or memory which remains in the present context.<sup>3</sup>

In addition, Miyaoka (2012) includes some directional meanings not given by Jacobson, including ‘back’ and ‘away from the river’ for the ‘upslope’ demonstratives (*paûg-/ping-/pam-*) as well as ‘north’ for the ‘outside’ demonstratives (*qag-/kegg-/qak(e)m-*). The ‘back’

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<sup>1</sup>Except for the Norton Sound dialect.

<sup>2</sup>Miyaoka (2012: 347) explains *im-* as “anaphoric...refer[ing] to an entity in shared knowledge or in consciousness that is invisible and has no connection with any physical location, often implying that the speaker cannot recollect the name of the entity.”

<sup>3</sup>“This makes *im-* the ideal candidate for anaphoric use (referring back to a coreferential lexeme within the shared discourse) and recognitional use (referring to knowledge shared by both speaker and addressee)” (Rukeyser 2005: 378).

meaning is particularly interesting, as it seems to have an intrinsic meaning rarely found cross-linguistically. An example of this is given in (78). Note that examples from languages other than Kalaallisut utilize the glossing conventions of the original source and may differ from those used in the rest of the dissertation.

(78) (Miyaoaka 2012: 354)

**paūg-na**            yuilquq            ikiitu-ngqer-tura-lria  
back-EX.ABS.SG tundra.ABS.SG celery-have-CNT-VNRL-ABS.SG  
‘the wilderness back there where wild celery grows (but nowhere else)’

The ERO dimension in CAY mirrors that of PYI, though there are differences in its presentation in the literature, both in the structuring of these categories within the paradigm and in the prioritization of the associated semantic factors. Jacobson (1984, 2012) presents ERO as a three-way contrast, as represented in Tables 3.1 and 3.2, explained primarily in terms of visibility: “The extended demonstratives may be characterized as those that refer to an entity or area that requires *more than a single glance to be seen*...restricted demonstratives refer to an entity or area that *may be seen fully in a single glance*...[obscured demonstratives] refer to an entity or area that is *either not in sight or not clearly perceptible*” (Jacobson 2012: 963; my emphasis). Miyaoaka (2012) instead sub-divides ERO into two primary categories—‘extended’ versus ‘non-extended’—based upon physical features of the object or place.<sup>4</sup> The ‘non-extended’ category further divides into two sub-categories: ‘distal’ (=obscured) and ‘proximal’ (=restricted), concerned with both distance and perceptibility: “A [proximal] demonstrative refers to an object or a place that is relatively near, distinct, and visible, while a [distal] refers to an object or a place, indistinct and typically invisible, that is more distant than a corresponding closer one” (Miyaoaka 2012: 347). Thus, for Jacobson visibility/perceptibility determines the distinction between restricted and obscured

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<sup>4</sup>Miyaoaka defines the ‘horizontal extension (and motion)’ contrast thusly: “[an extended referent] is not narrowly localized but is horizontally lengthy, widespread, or which moves lengthwise so that a person needs to move their eyes to understand it” while a non-extended referent is “a more specific place (or time) or...is stationary (or moving within a confined area) and can be located precisely” (Miyaoaka 2012: 346).



(Miyaoaka 2012: 358). This contrast may also be used for temporal reference, with future denoted by motion toward and past by motion away. Miyaoaka (2012: 360) notes that extendedness may also be used for temporal reference, with a point in time represented by a non-extended/restricted demonstrative and a duration by extended.

It is also important to note that the CAY demonstrative paradigm includes a particular alignment to the landscape, particularly the riverine environment of traditional CAY territory, as seen in Table 3.2. In particular, the upriver/downriver axis is represented by the PYI inside (more accessible) forms ('inside, upriver, inland' in CAY) vs. the PYI down from speaker (less accessible) forms (CAY 'downriver, toward exit, toward the mouth of a river'). This juxtaposes what are traditionally 'inside' versus 'down' categories. Fortescue et al. (2010) also note that the locative adverb form of *ug-* 'downriver, toward exit' (restricted) means 'right along coast facing ocean' in Kotlik CAY. According to Jacobson (2012: 965), orthogonal to this upriver/downriver axis (toward/away from the river) is an up/down(hill) axis represented by the PYI more accessible up vs. down categories. Accessibility thus helps determine application to different parts of the landscape. Overall, it is clear that each of the Yupik-Inuit demonstrative systems have a particular application to the different environment of usage; however, many of the available descriptions do not go into enough semantic detail to include the specifics for a given variety.

**Alutiiq** Also called Sugpiaq, Sugcestun, Suk Eskimo, and Pacific (Gulf) Yupik. Alutiiq is spoken on the Alaska and Kenai peninsulas, Kodiak Island, and along Prince William Sound. The two main dialects are called Koniag Alutiiq and Chugach Alutiiq. There is significantly less research published on Alutiiq demonstratives compared to CAY, and Alutiiq is endangered which may be affecting the demonstrative paradigm.

The tables given in Fortescue et al. (2010) present the Alutiiq demonstratives as almost identical to those of CAY, thus mostly preserving the original PYI paradigm, but lacking most *ta-* forms (except *ma-* and *u-*). However, Leer (1978b: 21-22) states that Kenai Penin-

sula (Chugach) Alutiiq has a smaller and simpler demonstrative system than CAY, with some demonstratives no longer being used. Drawing on the demonstratives listed in this dictionary, we find a paradigm of about 22 forms (including the two *ta-* forms), though a number have narrowed into very specialized meanings. These are organized in Table 3.3, according to their original PYI/CAY placement in the paradigm.

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Here</b>	Near speaker	<i>ma-</i>	<i>u-</i>	-
	Near listener	<i>tama-</i>	<i>tau-</i>	-
<b>There</b>	More acc.	(( <i>aûg-</i> )) ((‘s.t. we know’))	( <i>ing-</i> ) (‘next door’)	-
	Less acc.	<i>ag-</i>	<i>ik-</i>	<i>ak(e)m-</i> ‘behind there’
<b>In/out</b>	More acc.	( <i>qauûg-</i> ) (‘up the inlet’)	( <i>kiug-</i> ) (‘in Seldovia’)	<i>qam-</i> ‘in there’
	Less acc.	-	-	<i>qak(e)m-</i> ‘outside’
<b>Down</b>	More acc.	<i>un-</i>	<i>kan-</i>	<i>cam-</i>
	Less acc.	( <i>un(e)g-</i> ) (‘out in open water’)	-	( <i>caġ(e)m-</i> ) (‘out along the sea’)
<b>Up</b>	More acc.	-	<i>pia/ping-</i>	<i>pam-</i>
	Less acc.	<i>pag-</i>	-	( <i>pak(e)m-</i> ) (‘upstairs’)

Table 3.3: Kenai Peninsula Alutiiq demonstrative stems (Leer 1978b)

Demonstratives with a more specialized usage are given in parentheses, while those without glosses have retained their meaning according to their placement in the paradigm. Overall, the extended-restricted distinction has been retained across the major spatial categories, except for inside/outside. The ‘there’ (distal), ‘up’, and ‘down’ categories also have an obscured form, although for ‘there’ the form (*ak(e)m-*) specifically means ‘behind there’. The accessibility contrast appears to have been eroded, as forms expressing the contrast were lost or gained a highly specialized meaning. A number of these have specific usages with respect to the water: *qauûg-/qaw-* ‘up the inlet’, *un(e)g-* ‘out there in the open water, the

bay, or the inlet’, and *cak(e)m-* ‘out there along the sea’. A highly specific demonstrative is *kiug-/ki-* ‘(that) in Seldovia’, a nearby town on the Kenai Peninsula.<sup>5</sup>

The corresponding dictionary on the Kodiak dialect (Leer 1978a) includes a subset of the demonstratives given for Kenai Peninsula Alutiiq. Taking into account these dictionaries plus the data from Fortescue et al. (2010), we may conclude that Alutiiq has had a conservative system similar to CAY, but has experienced some simplification and reduction of its paradigm more recently, likely related to language shift. Rukeyser (2005: 148), like Fortescue et al., groups Alutiiq with CAY and Seward Peninsula Inuit in having “much fuller paradigms with each contrast encoded by a separate lexeme” in contrast with the other Yupik and Inuit languages which have conflated and/or omitted some contrasts, though this is not confirmed by the demonstrative data given by Leer.

**Central Siberian Yupik (CSY)** This language includes two varieties: the Chaplin dialect, spoken on the tip of the Chukotka peninsula in Siberia, and St. Lawrence Island Yupik (Yupigestun), spoken on St. Lawrence Island, Alaska. Jacobson (1990) compares the demonstrative systems of CSY and CAY. Similarly to the situation of Alutiiq, Jacobson notes that the CSY demonstratives are less abstract than those of CAY, with more conventionalized demonstrative meanings. Table 3.4 gives the CSY demonstrative stems<sup>6</sup>; those in parentheses are only present in one of the dialects.

Overall, CSY retains the overarching ERO distinction<sup>7</sup> and, to some degree, accessibility, though it is within this distinction that there appears to be more divergence from PYI. For instance, in St. Lawrence Island CSY the ‘up’ category only retains three forms which

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<sup>5</sup>The dictionary was created with speakers in Nanwalek (English Bay) and Paluwik (Port Graham) (Leer 1978b: 1).

<sup>6</sup>Stems *ay<sup>w</sup>-* ‘over there’ (extended) and *qay<sup>w</sup>-* ‘in there’ (extended) are given in Jacobson (1990) but not in Jacobson (1979); Fortescue et al. (2010) only reports adverbial realizations of *ay<sup>w</sup>-* (PYI \**av-*) but gives a full set for *qay<sup>w</sup>-* (PYI \**qav-*).

<sup>7</sup>However, in the ‘here’ category, the obscured form *im-* is glossed as “the aforementioned, the identity of which is known to speaker and listener” (Jacobson 1979: 43), such that it is not simply the predictable proximal/obscured meaning. This is a common meaning for PYI \**im-* across the languages today.

	<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>this here</b>	mat-	u-	im-
<b>over</b>	aɣ <sup>w</sup> -	iŋ-	am-
<b>across</b>	aɣ-	ik-	akəm-
<b>in</b>	qɑɣ <sup>w</sup> -	kiuɣ-/kiɣ <sup>w</sup> -	qam-
<b>out</b>	qɑɣ-	-	qakəm-
<b>down below</b>	-	kat-	sam-
<b>down toward exit</b>	unəɣ-	uɣ-	(sakəm-) <sup>SLI</sup>
<b>up slope</b>	-	(piŋ-) <sup>Ch</sup>	pam-
<b>up above</b>	pɑɣ-	pik-	(pakəm-) <sup>Ch</sup>
<b>approaching</b>	uk-		

Table 3.4: Central Siberian Yupik demonstrative stems (Jacobson 1990, 1979)

are mostly distinguished with respect to ERO: *pɑɣ*- ‘up hill from here or north or towards the Siberian mainland’ (extended) vs. *pik*- ‘up above’ (restricted) vs. *pam*- ‘on top of the hill or upstairs’ (obscured). As we can see in these examples, particularly *pɑɣ*-, many of the CSY demonstratives have gained more specific/conventionalized meanings, which lead to less abstractness overall across the paradigm. Jacobson (1979) gives these glosses for St. Lawrence Island CSY, such as *kiw*-/*kiɣ<sup>w</sup>*- ‘towards Savoonga or south-east’ and *cakəm*-/*sakm*- ‘on the beach or towards St. Lawrence from outside the island’. Reflecting the two different locations of use, the ‘down’ forms *uɣ*- and *cakəm*- also carry the meaning ‘west’ in St. Lawrence Island CSY and ‘east’ in the Chaplin dialect (Fortescue et al. 2010).

**Naukan Siberian Yupik (NSY)** Naukan is an intermediate between Central Alaskan Yup’ik and Central Siberian Yupik, spoken on the Chukotka Peninsula, and is not recorded as having any (sub-)dialects (Fortescue et al. 2010). As an intermediary between CAY and CSY, we would expect the Naukan demonstrative paradigm to be fairly conservative similarly to CAY or to have experienced smaller changes more similarly to CSY.

The only available source of data on the Naukan demonstratives is Fortescue et al. (2010), which contains limited information on each Yupik-Inuit language through its tables of demonstrative forms. Thus, the data used for this section is synthesized from Fortescue et al. (2010), represented by Table 3.5.



<b>Here</b>		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
		ma(ɣ)-	u-	im-
<b>There</b>	More acc.	aw-	iɣ-/in-	am-
	Less acc.	aɣ-	ik-	akəm-
<b>In/out</b>	More acc.	qaw-	-	qam-
	Less acc.	qay-	kəx-	qakəm-
<b>Down</b>	More acc.	(un-)	kan-	sam-
	Less acc.	unəɣ-	-	sakəm-
<b>Up</b>	More acc.	-	piŋ/piɣ-	pam-
	Less acc.	paɣ-	pik-	pakəm-
<b>approaching</b>		uk-		

Table 3.5: Naukan Siberian Yupik demonstrative stems (based on Fortescue et al. 2010)

Comparing Tables 3.4 and 3.5, we can see that the Naukan paradigm is highly similar to that of the neighboring Chaplin dialect of CSY. Both have retained nearly complete paradigms, having lost a single original inside/outside form (*\*kiv-* for NSY and *\*kiɣ-* for Chaplin), 1-2 down forms (*\*uɣ-* and partially<sup>8</sup> *\*un-* for NSY, and *\*un-* plus *\*cakəm-* for Chaplin CSY), and a single up form (*\*pav-* for both). Though we know of the many more specific, conventionalized CSY demonstrative meanings from Jacobson (1990), there is less semantic information available for the Naukan demonstratives. Fortescue et al. (2010) do list two special meanings for NSY, both based on coastal directions: *qaw-* ‘on right side looking out to sea’ and *sakəm-* ‘on the north side, on left looking out to sea’.

It is worth noting that the demonstrative paradigms given in Fortescue et al. (2010), which provide a subset of the morphological realizations of each PYI root for each Yupik-Inuit language, contain many gaps in the Naukan forms. The authors note that missing forms in the paradigms likely only indicate a form that is not attested, rather than necessarily missing from the language. The preponderance of gaps in Naukan in particular, compared to the other languages, could suggest a lack of documentation of the language and/or an indication of language shift. Naukan has the fewest number of speakers<sup>9</sup> of any Yupik-Inuit language save the extinct Sirenik.

<sup>8</sup>Fortescue et al. (2010) only list a single form for *\*un-*, the locative adverb *unani*.

<sup>9</sup>Based on the data presented in Woodbury (1984) from 1980; more recent speaker data is needed.

**Sirenik** Originally spoken in Sireniki, Chukotka and neighbor to Chaplin CSY, Sirenik has been extinct since the late twentieth century. No dialects are recorded. Sirenik is very divergent from the other Yupik languages, potentially a third branch of Yupik-Inuit. Like Naukan, data on the Sirenik demonstratives has been unavailable beyond that of Fortescue et al. (2010) which is the source drawn upon here.

<b>Here</b>		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
		ma(ɣ)-	u-	im-
<b>There</b>	More acc.	-	iɲ-	am-
	Less acc.	aɣ-	-	akəm-
<b>In/out</b>	More acc.	-	-	qam-
	Less acc.	qay-	-	qakəm-
<b>Down</b>	More acc.	-	kan-	sam-
	Less acc.	unəɣ-	uɣ-	-
<b>Up</b>	More acc.	-	-	pam-
	Less acc.	pay-	pik-	-
<b>approaching</b>		uk-		

Table 3.6: Sirenik demonstrative stems (Fortescue et al. 2010)

As is clear in Table 3.6, Sirenik had retained the least number of the original PYI demonstratives and associated categories in comparison with the other Yupik languages. In this way, the Sirenik paradigm looks more similar to the Western Canadian Inuit systems, such as Copper (Kangiryuarmiut), with 3-4 (of the PYI 6) stems retained within each major spatial category. For each spatial zone, there is approximately one (sometimes two) stem(s) left in each ERO sub-category which suggests that the ERO distinction was preserved in Sirenik; however, Fortescue et al. (2010) does not include semantic information on the Sirenik demonstratives making it hard to determine conclusively.

There is significant overlap between Sirenik and the other Yupik languages in which particular PYI stems were lost. For instance, all stems missing from CSY (one or both dialects) are also missing from the Sirenik system. An important pattern here, which we also find when looking at other less conservative paradigms across the family, involves pairs of PYI stems distinguished only by accessibility within each non-proximal spatial ERO category.

These pairs, in vertically contiguous cells in the PYI paradigm, are phonologically similar, only differing in their stem-final consonant across most of the extended/restricted pairs: *\*av-* vs. *aɣ-*, *\*iŋ* vs. *\*ik-*, *\*qav-* vs. *\*qaɣ-*, *\*kiv-* vs. *\*kig-*, *\*pav-* vs. *\*pag-*, and *\*piŋ-* vs. *\*pik-*. Only the down category lacks this pattern across its accessibility pairs (*\*un-* vs. *\*unex-* and *\*kan-/kað-* vs. *\*uɣ-*). What we tend to find when languages diverge from the PYI paradigm is the conflation and collapse of these pairs. Sirenik only retains one member of each of these pairs (except for inside/outside restricted pair *\*kiv-* vs. *\*kig-*, which disappeared entirely). The result, beyond the loss of accessibility as a semantic factor in the demonstrative system, is a higher degree of phonetic distinctness of forms. However, Sirenik did still retain other phonetically similar pairs, identical except for stem-final consonants, generally the extended and obscured members of a spatial category (extended *aɣ-/qaɣ-/paɣ-* vs. obscured *am-/qam-/pam-*). However, these pairs are in fact more phonetically distinct than the accessibility pairs.

### 3.3.2 Iñupiaq/Iñupiatun

Iñupiaq (also called Iñupiatun) refers to the Inuit dialects spoken in Alaska. Fortescue et al. (2010) breaks it up into two main languages, Seward Peninsula Inuit (SPI) and North Alaskan Inuit (NAI), while Woodbury (1984) describes the four main Iñupiaq dialects as being paired into two groups: Bering Strait and Qawiarq (SPI), and Malimiut and North Slope (NAI). However, they are collectively referred to as Iñupiaq (or Inupiaq, Iñupiatun).

The Iñupiaq dialects have the most conservative demonstrative paradigms of the Inuit branch and share some features with the neighboring Yupik languages spoken in Alaska. In particular, the Seward Peninsula Inuit paradigm looks very similar to that of Central Alaskan Yup'ik. North Alaskan Inuit, on the other hand, shows slightly more divergence, which varies by dialect. Malimiut is similar to Seward Peninsula Inuit, whereas the North Slope dialects start to diverge more from PYI with slightly smaller paradigms, similar to the westernmost Western Canadian Inuit dialects.

## Seward Peninsula Inuit

Seward Peninsula Inuit/Iñupiaq is spoken in northwestern Alaska, on the Seward Peninsula and on islands in the Bering Strait (Big Diomedede, Little Diomedede, and King Island). Thus SPI is in close contact with Yupik to the west and south, and with NAI to the east. Likely due to its contact with Yupik, the SPI demonstrative system shares several features with those of the Yupik languages. Like several languages already discussed, the only data source available is Fortescue et al. (2010) which has been synthesized into Table 3.7 below.

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Near speaker</b>		ma-	u-	im-
<b>Away from speaker</b>	More accessible	((av-))	iŋ-	am-
	Less accessible	aɣ-	ik-	ak(i)m-
<b>Inside/outside</b>	More accessible	qav-	kiv-	qam-
	Less accessible	qay-	kiɣ-	qak(i)m-
<b>Down from speaker</b>	More accessible	un-	kan-	sam-
	Less accessible	(un(i)ɣ-)	uɣ-	sak(i)m-
<b>Up from speaker</b>	More accessible	pav-	piŋ-	pam-
	Less accessible	pay-	pik-	pak(i)m-
‘approaching speaker’		uk-		

Table 3.7: Seward Peninsula Inuit demonstrative stems (Fortescue et al. 2010)

The SPI demonstrative paradigm is similar to that of neighboring CAY, being highly conservative to the PYI paradigm. Notably, SPI is the only Inuit variety to have the ‘approaching speaker’ demonstrative *uk-*, which all Yupik varieties have retained. Likewise, SPI (except for the King Island dialect) has retained demonstrative *un(i)ɣ-* ‘toward exit, down-river’ (extended), which no other Inuit languages (but all Yupik languages) have conserved. Fortescue et al. (2010) note that these two stems, *\*uk-* and *\*unəɣ-*, may have originated from Proto-Yupik-Sirenik instead of PYI and been borrowed by SPI from Yupik. In contrast with *un(i)ɣ-*, *av-* is present in King Island SPI only; thus, all dialects of SPI have retained 27 of the original 28 PYI stems.

Without more thorough documentation of the demonstratives, we cannot tell for certain how similar the semantics of the SPI system is to CAY, but the structure of the paradigm is suggestive of this. Fortescue et al. (2010) make note of several stems with geophysical meanings for SPI: some Away forms (*av-*, *aγ-*, *ij-*) mean ‘in east’ and some Inside forms (*kiv-*, *qav-*) mean ‘in west’ or ‘upriver’.

### North Alaskan Inuit

North Alaskan Inuit/Iñupiaq (NAI) is spoken in northern Alaska, with the Malimiut dialect spoken to the south, bordering SPI, and the North Slope dialect spoken mostly along Alaska’s northern coast. Fortunately, sources exist for both NAI dialects that give a fuller picture of their demonstrative systems than does Fortescue et al. (2010). Furthermore, there is enough difference between the paradigms of the two dialects to consider them separately here, a fact which also applies to the rest of the Inuit dialects moving eastward. In contrast with SPI, both NAI dialects lack PYI stems *\*uk-* and *\*unəγ-*.

In addition, NAI lacks the proximal obscured meaning of *im-*, instead having a spatially/temporally distal meaning, usually something aforementioned and cognitively accessible, or not yet seen but expected, something in the remote past or a far distance away (and not visible) (Lanz 2010; MacLean 1986, 1995). An example of its usage referencing something temporally distal, from MacLean (1986: 225) for North Slope, is given in (82):

(82) ***Ipkuak*** *iññuk atiyik ukiaq Qikiqtaḡruymĩñ tikitchuak iħisimavigik?*

‘Do you know the names of **those (brought to mind)** persons who arrived from Kotzebue last fall?’

**Malimiut** The Malimiut dialect has the most conservative demonstrative paradigm of NAI, highly similar to that of SPI and CAY. Descriptions of the Malimiut demonstrative system are found in several sources: Lanz (2010), Nagai (2006), and Seiler (2012). Malimiut retains almost the full paradigm of PYI stems, except for *\*unəγ-* and *\*uk-* (thus there is

no ‘approaching speaker’ category in Malimiut or other Inuit dialects to the east). The paradigm given in Lanz (2010) is presented in Table 3.8, re-organized for easier comparison with the other tables following the format of Fortescue et al. (2010).

	visible		not visible
	extended	restricted	
<b>proximal to speaker</b>	marra	uvva	imma (remote)
<b>proximal to listener</b>	tavra	-	-
<b>distal to speaker &amp; listener across there</b>	avva agga	iñña ikka	amma akma
<b>in there (inland/upriver) out there</b>	qavva qagga	kivva kigga	qamma qakma
<b>down there (downriver) near/outside the door</b>	unna -	kanna ugga	samma sakma
<b>back there up above</b>	pavva pagga	piñña pikka	pamma pakma

Table 3.8: Malimiut demonstrative adverbs (abs. case) (Lanz 2010; reformatted to match Fortescue et al. 2010)

Semantically, the Malimiut demonstrative system is highly similar to that of CAY; SPI is also likely similar, but semantic data for the SPI system is lacking. The ERO parameter appears consistent across the Yupik-Inuit languages spoken in this region (Alaska and western Canada); for Malimiut, Lanz (2010) describes the extended/restricted distinction in terms of ‘spatial compactness’, combining physical properties of the referent or group of referents with properties of motion. Both extended and restricted are classified as visible, standing in contrast with the non-visible/obscured category. Further, Malimiut and CAY share similar meanings as accessibility sub-divides each spatial zone, including the uncommon ‘back there’ category representing what was the PYI ‘more accessible’ / ‘up (upslope)’ category; see example (83) and compare to example (78), both of which use *\*pav-* ‘up-slope’ (extended) with an intrinsic ‘back’ (behind origo) meaning.

(83) *Papkua tuttut niqaaq nigirut.*

(Lanz 2010: 129)

**papkua**      tuttu-t      niqa:q-∅      niḃi-zut  
back.there-PL caribou-PL moss-ABS.SG eat-3PL.IND

‘The caribou (pl.) back there (visible, extended, distal) are eating moss.’

Likewise, both Malimiut and CAY share the usage of in/inside forms as ‘upriver’ and down forms as both ‘downriver’ and ‘toward exit’/‘near the door’, though Malimiut juxtaposes the general down set (down there and downriver) with the near/outside the door set whereas CAY contrasts a ‘more accessible down’ category (down below, downslope) with ‘less accessible down’ (downriver *and* toward exit). This opposition between ‘inside’ (‘upriver’) and ‘down’ (‘out to sea’) is identified and discussed by Fortescue (2011) as a greater Arctic and broader North Pacific Rim phenomenon, based on the traditional sod house (or igloo). Furthermore, the river-based usages of the Malimiut and CAY demonstratives reflect both languages’ riverine environments. In contrast, the North Slope NAI system includes both riverine and coastal meanings.

**North Slope** The North Slope dialect of NAI shows more divergence from PYI than Malimiut, very similar to the westernmost WCI dialect Siglit. North Slope includes four sub-dialects: Point Hope, Barrow, Nunamiut and Uummarmiut, with a distribution from west to east. The first three are spoken in Alaska, whereas Uummarmiut is spoken over the Canadian border in Aklavik and Inuvik, Northwest Territories, next to Siglit (WCI). Uummarmiut speakers moved from Alaska into western Canada next to Siglit speakers around 1910. Descriptions of the North Slope demonstrative systems are found in MacLean (1986, 1995) for Barrow and Lowe (1985c) for Uummarmiut. The general North Slope paradigm is shown in Table 3.9; stems in parentheses are present in Barrow, but not recorded for Uummarmiut.

North Slope contrasts with Malimiut through a lack of several of the Accessibility contrasts found in Malimiut, SPI, and CAY. As we saw in Sirenik, several of the ‘more/less

	Visible		Not visible
	Extended	Restricted	
<b>Here</b>	mar-	uv-	(sam-) <sup>Ba</sup>
<b>Over there</b>	(av-) <sup>Ba</sup>	ik-	am-
<b>Over there across</b>	ag-		akim-
<b>In there</b>	(qav-) <sup>Ba</sup>	kiv-	qam-
<b>Out there</b>	qag-	kig-	qakim-
<b>Down there</b>	un-	kan-	sam- sakim- ‘in cold porch’
<b>Up there</b>	pag-	pik-	pam- pakim- ‘on roof’
<b>Temporal - distal</b>	im- ‘aforementioned’		

Table 3.9: North Slope demonstrative stems (MacLean 1986, 1995; Lowe 1985c)

accessible’ pairs within a particular ERO category and spatial zone are conflated in North Slope Iñupiaq. In most of the cases, the stems are phonetically similar (*ij-* vs. *ik-*, *pav-* vs. *pag-*, and *piḡ-* vs. *pik-*) and only one stem has been retained (the less accessible, in these cases). Semantically, the remaining stems seem to have combined the meaning of the pair, losing the prior distinction. For instance, demonstrative *ik-* may be used for both ‘over there’ and ‘across there’ (restricted). Within both the ‘down there’ and ‘up there’ categories, the original 6 forms have shifted to 4 forms, losing the accessibility distinction everywhere except in the obscured category, in which the fourth ‘extra’ demonstrative (the bisyllabic stems in both cases) receives a more specialized meaning. For instance, the up category has three main demonstratives following the ERO distinction: *pag-* ‘up there’ (extended), *pik-* ‘up there’ (restricted), and *pam-* ‘up there’ (not visible). The final *pakim-* has the more specific meaning ‘on top of the roof’ (also not visible). For the down category, *sakim-* means ‘in the cold porch’ or ‘oceanward’.

As shown in Table 3.9, *sam-* (usually ‘down there’ (obscured)) is also used, at least in some NAI dialects, for proximal obscured reference (MacLean 1986; Fortescue et al. 2010), pre-



sumably to replace *im-* which has shifted to an ‘aforementioned’ and/or spatially/temporally distal meaning. This is also true for some WCI dialects (see Section 3.3.3).

As reported by Lowe (1985c)<sup>10</sup>, the Uummarmiut dialect is slightly less conservative than the Barrow dialect presented by MacLean (1986, 1995) and is similar to neighboring Siglit. Several stems found in the other NAI dialects are not recorded for Uummarmiut: *av-*, *am-*, and *qav-* (however, *taamna* ‘that one right there, visible, restricted, away from speaker, near listener’ is used).

Finally, MacLean (1986) provides additional geophysical meanings for some North Slope demonstratives, which derive from an origo along Alaska’s northern coast, with both coastal and riverine usages. The ‘in there’ demonstratives are also glossed as ‘the one up the coast to the east’, while, in opposition, the ‘over there’ stems share the gloss ‘down the coast to the west (some distance away from the beach/ocean)’. A potentially orthogonal axis is represented by the up vs down demonstrative categories: ‘that up there’ forms are also glossed as ‘that away from the ocean, or the one upriver’ while the ‘down there’ forms are mean ‘oceanward’ and ‘near the doorway, or in/near the ocean, or the one downriver, or the one along the coast to the west’.

### 3.3.3 Inuvialuktun/Inuinnaqtun (Western Canadian Inuit)

Western Canadian Inuit (WCI), called Inuvialuktun, Inuinnaqtun<sup>11</sup>, or Inuktitut by speakers, is spoken across the northern Northwest Territories into Nunavut. WCI is broken into four main dialects, moving west to east: Siglit, Copper, Netsilik, and Caribou. Overall, WCI continues the pattern in which the dialects closest to the Yupik-Inuit homeland are more conservative to the PYI demonstrative paradigm, with more divergence occurring across dialects further away. In this sense, Siglit is the most conservative WCI dialect, looking very

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<sup>10</sup>Lowe published parallel grammars for Uummarmiut, Siglit, and Kangiryuarmit, which he describes as three dialects of Inuvialuktun (Lowe 1985a,b,c).

<sup>11</sup>Inuinnaqtun is the term that covers the language spoken by Inuinnaik communities in Cambridge Bay, Kugluktuk, Gjoa Haven, and Ulukhaktok (Holman) ([www.inuinnaqtun.ca](http://www.inuinnaqtun.ca)) which matches up with Fortescue et al. (2010)’s Copper and part of Netsilik.

similar to neighboring North Slope NAI (and particularly Uummarmiut). However, there is a distinct lack of data available about the demonstrative systems of the easternmost WCI dialects.

**Siglit** As mentioned above, Siglit is the most conservative of the WCI dialects and retains most of the PYI paradigm, as shown in Table 3.10. It shares several features with Yupik and Iñupiaq, breaking with the other WCI dialects (plus ECI and GRI), such as retaining the full set of bisyllabic stems (all obscured demonstratives) and several other stems retained only by Siglit and dialects to the west (e.g. *am-*, *kiv-*, *pam-*).

		Extended	Restricted	Non-visible
<b>Near speaker</b>			<i>una</i>	
<b>Near listener</b>		<i>manna</i>	----- <i>taamna</i>	<i>imna</i>
<b>Away from speaker</b>	Distal	<i>taavamna</i>		<i>taamamna</i>
	Across	<i>angna</i>	----- <i>ingna/ikingna</i>	<i>akimna</i>
<b>Down from speaker</b>	More acc.	<i>unna</i>	----- <i>kanna</i>	<i>samna</i>
	Less acc.			<i>sakimna</i>
<b>Up from speaker</b>	More acc.			<i>pamna</i>
	Less acc.	<i>pangna</i>	----- <i>pingna/pikingna</i>	<i>pakimna</i>
<b>Other side of enclosure</b>	Inside	( <i>qamna</i> )	<i>kimna</i>	<i>qamna</i>
	Outside	<i>qangna</i>	----- <i>kingna</i>	<i>qakimna</i>

Table 3.10: Siglit demonstrative pronouns (data from Fortescue et al. 2010; Lowe 1985b)

Demonstratives *ingna/ikingna* can be ‘same level’ distal or ‘across’ (Lowe 1985b). This could indicate a blending of *\*iŋ-* and *\*ik-*. Phonetically similar stems *\*piŋ-* and *\*pik-*, occupying parallel spaces within the ‘up from speaker’ category, also appear to have been collapsed/combined and do not encode the more vs. less-accessible semantics. Interestingly, Lowe (1985b) lists a pair of phonetically parallel forms for both of these demonstratives, *ingna/ikingna* and *pingna/pikingna*, each member of the pair with the same gloss as the other. Fortescue et al. (2010) does not include *ikingna* or *pikingna*.

Similarly to Sirenik and NAI, the Siglit paradigm exhibits some collapse of the accessibility distinction, especially within the up and down categories; in both, only one extended

and one restricted form remains. For the vertical contrasts within the obscured/non-visible category, the two demonstratives remain distinct with more specific meanings based on the house: *pamna* ‘that one up there, upstairs’ versus *pakimna* ‘that one up there, on the roof’, and *samna* ‘that one down there, downstairs’ versus *sakimna* ‘that one outside, by the door, in the cold porch’. Though Lowe (1985b) categorizes and glosses *sakimna* as outside/‘out there’ (specifying ‘by the door’/‘in the cold porch’), this demonstrative clearly comes from PYI \**caḱəm-* ‘toward exit, downriver’ (down from speaker, less accessible, obscured). This illustrates the “in versus down” axis based upon the traditional semi-subterranean house discussed in Fortescue (2011), in which ‘out(side)’ is conflated with ‘down’, explained by the sunken tunnel entrance of such a house. Thus, *sakimna* ‘that one outside, by the door, in the cold porch’ from Lowe (1985b) fits best, both semantically and historically, in the ‘down from speaker’ category contrasting with *samna*.

A final thing to note about the Siglit demonstratives is that *qamna* ‘that inside (obscured)’ may also mean ‘that one in the east’. Lowe (1985b: 278) specifies that it “may also refer to someone or something located east of Tuktoyaktuk, that is, in the central part of the Northwest Territories.” This appears to indicate a spatial conflation of ‘inside(/inland)’ with ‘east’, also found in North Slope NAI.

**Copper** Lowe (1985a)’s grammar of Kangiryuarmiut is the only data found on Copper Inuit demonstratives, gathered by Lowe in Ulukhaqtuuq (Holman Island) in the early 1980’s. This is the western edge of Copper territory, based on the map in Fortescue et al. (2010), but will have to represent Copper for this purpose. As can be seen in Table 3.11, the Kangiryuarmiut paradigm is quite reduced compared to Siglit. Lacking a greater number of the PYI stems, we start to see a breakdown of the original ERO distinction, a pattern which continues moving on to the eastern Inuit dialects. Within each non-proximal spatial category, Kangiryuarmiut only has 2-3 demonstratives in contrast with the original 6.

		<b>Extended</b>	<b>Restricted</b>	<b>Non-visible</b>
<b>Near speaker</b>		*	<i>una</i>	<i>imna</i>
<b>Near listener</b>			<i>taamna</i>	
<b>Away from speaker</b>	Distal	<i>avamna</i>		
	Across	<i>angna</i>	<i>ingna</i>	
<b>Down from speaker</b>	More accessible	<i>unna</i>	<i>kanna</i>	<i>*hamna</i>
	Less accessible		<i>ungna</i>	
<b>Up from speaker</b>	More accessible			
	Less accessible	<i>pangna</i>	<i>pingna</i>	
<b>Other side of enclosure</b>	Inside			<i>qamna</i>
	Outside	<i>qangna</i>		<i>qakimna</i>

Table 3.11: Kangiryuarmit demonstrative pronouns (data from Lowe 1985a; Fortescue et al. 2010)

To capture the semantics of the remaining ERO categories—a binomial rather than trinomial contrast—Lowe (1985a) describes the distinction between ‘pointable to’ versus ‘not pointable to’, which depends on a combination of factors: distance to speaker, clarity of outline (perceptibility), and number. For instance, for a proximal object to be ‘pointable to’ it “must be of a fairly small size, that is, its entire outline must be easily perceived by the speaker” (Lowe 1985a: 210). Something that cannot be perceived as a whole, like a river or road, is ‘not pointable to’. When a referent is seen from a distance, it is more easily perceived as a whole and thus may become pointable to. Additionally, a group of objects will not have a specific outline and may be referred to using a ‘not pointable to’ demonstrative. Visibility plays a role here, as less visual correlates with less easily pointable to. For the non-proximal categories especially, ‘not pointable to’ more broadly covers distant, less easily pointable to locations, unspecific locations, and potentially non-visible referents. Table 3.12 presents the Kangiryuarmit system in terms of ‘pointability’; the rightmost column gives several other demonstratives with more specific meanings, remnants of the original larger system.

Finally, as shown by Tables 3.11 and 3.12, Kangiryuarmit has replaced PYI *\*maḏ-* ‘near speaker (extended)’ with *\*cam-* ‘down below (obscured)’, such that *hamna* (from *\*cam-*) is the demonstrative expressing the proximal ‘not pointable to’ meaning. This may also be true

	Pointable to	Not pointable to	
Proximal	<i>una</i>	<i>hamna</i>	<i>imna</i> ‘remote’
Same level	<i>taamna, ingna</i>	<i>avamna</i>	<i>angna</i> ‘across’
Below	<i>kanna</i>	<i>unna</i> ‘by seashore’	<i>ungna</i> ‘by exit’
Above	<i>pingna</i>	<i>pangna</i>	
Outside	<i>qangna</i>	<i>qakimna</i>	
Inside	<i>gamna</i>		

Table 3.12: Kangiryuarmitut demonstratives (data from Lowe 1985a)

for the rest of WCI except for Siglit. The tables in Fortescue et al. (2010: 499-526) note that PYI \**cam-* means ‘here’ in Copper but ‘down there’ in Siglit, without specifying its meaning in Netsilik and Caribou; for PYI \**mað-*, the tables only give the forms for Siglit. This is particularly interesting because \**mað-* is preserved by all other Yupik-Inuit languages.

It is not clear what the situation is for Netsilik and Caribou, without other demonstrative data for these dialects (which I have not been able to locate).

### 3.3.4 Inuktitut (Eastern Canadian Inuit)

Fortescue et al. (2010) divide Inuktitut, or Eastern Canadian Inuit (ECI), into six main dialects: Aivilik, South Baffin, Tarramiut, North Baffin-Iglulik, Itivimmiut, and Labrador. There are a number of descriptions and analyses of the various Inuktitut demonstrative systems, including Arnakak (1995); Bourquin (1891); Denny (1982); Dorais (1971, 1978, 1988); Gagné (1968) and Schneider (1967), which provide a more in-depth look compared with WCI. Overall, the ECI dialects display much consistency across their demonstrative paradigms, with some small differences in stems conserved. While presenting very similar systems across the dialects, the authors present different semantic analyses of the ERO distinction from PYI. Continuing the trend which shows up in the eastern part of WCI, all ECI dialects show a breakdown of ERO as a three-way distinction. Instead, it is preserved as two contrasting categories, with different semantic descriptions, as noted. From the available data, it is hard to determine to what degree the different dialects indeed embody distinct semantics here, or whether it has more to do with each author’s different interpretation of

what is clearly a complex and abstract distinction. The western ECI dialects tend to have more conservative features, with more divergence (close to GRI) in the east.

**Aivilik** Denny (1982) represents the most thorough treatment of Inuktitut demonstratives, focusing on Aivilik spoken in Kangiqliniq (Rankin Inlet), Nunavut. He gives twelve demonstrative stems, sub-divided by an extended/restricted distinction and the usual spatial categories. Note that accessibility is absent here, except for the contrast between inside (PVI more accessible) and outside (PVI less accessible).

LOCATION			Restricted	Extended
At reference point			<i>wv-</i>	<i>maj-</i>
Away from reference point	horizontal		<i>ik-</i>	<i>av-</i>
	vertical	superior	<i>pik-</i>	<i>pag-</i>
		inferior	<i>kan-</i>	<i>ug-</i>
	bounded	interior	<i>qav-</i>	
exterior		<i>kig-</i>	<i>qag-</i>	
Out-of-field			<i>ip-</i>	

Table 3.13: Aivilik Inuktitut demonstrative stems (Denny 1982: 372)

For Aivilik, Denny (1982: 360) describes the extended/restricted distinction: restricted locations are “unitary spots”, while extended locations involve “areas or stretches of space which are combinations of several spots” – a “composite of several places at which an object could be located.” For objects, the contrast may indicate spatial characteristics of the object(s), its/their configuration in space, or characteristics of movement. Restricted forms are used when the referent is a roughly equidimensional object (e.g. a ball or box), is very small (e.g. a pencil), is occupying a restricted space (e.g. a coiled up rope), is a condensed group and/or is stationary or moving in a contained area (e.g. grazing caribou). Use of an extended form indicates that the referent has significantly unequal dimensions (e.g. something long like a harpoon or rope, or wide like a blanket), is a spread out group, or is in motion (Denny 1982: 366-367). Some examples of the usage of extended/restricted forms in Aivilik are given in (84) and (85) (Denny 1982: 366-7):

(84) *pangna takuvara*

‘I see the [extended] one up there’ (referring to a curtain rod)

(85) a. *ingna iksivajuq*

‘the [restricted] one there is sitting’

b. *amna pisuktuq*

‘the [extended in motion] one there is walking’.

This distinction cross-cuts all spatial categories in Aivilik, except for the ‘inside’ category and ‘out-of-field’, both of which contain a single demonstrative. The latter, *ip-* ‘out-of-field’ (from PYI \**im-* ‘here (obscured)’) is a remnant of the original three-way ERO distinction, though Denny does not present it as a proximal form. Denny (1982) categorizes the other demonstratives as ‘in-field’, which must be visible or be easily made visible, while *ip-* is used when this is not the case (without specifying any other spatial or physical characteristics, as do the rest of the forms).

The other ECI paradigms are highly similar to that of Aivilik, with 10-12 demonstratives (mostly the same set of PYI forms) and with a similar overall structure.

**Baffin Island/Iglulik** The Baffin Island dialects are broken into North Baffin-Iglulik and South Baffin by Fortescue et al. (2010); Woodbury (1984) distinguishes three dialects spoken on Baffin Island: Iglulingmiut, Southeast Baffin Inuktitut, and Kinngarmiut (Cape Dorset Inuktitut). Arnakak (1995) addresses the Baffin Island dialects as a whole, as having twelve demonstratives that are very similar to those of Aivilik. The main differences are: 1) a different semantic analysis to the extended/restricted contrast, 2) four inside/outside forms compared to three in Aivilik and two for the other Baffin/Iglulik descriptions, and 3) the lack of an ‘out-of-field’ form.

Rather than an ERO contrast based on shape, motion, or visibility, Arnakak (1995: 120) describes a semantic distinction between the concepts of ‘aggregative’ and ‘non-aggregative’ based on “distinguish[ing] an entity as a complete whole from the parts that make up this

whole.” ‘Aggregative’ corresponds to restricted, used to refer to whole or static entities, in contrast with use of the ‘non-aggregative’ (corresponding to extended) forms, which put focus on features, qualities, or states of entities. For instance, *una saa* ‘this table (aggregative) vs. *manna qaanga* ‘this table-top (non-aggregative)’. Arnakak (1995: 121) notes that the latter may “denote the notion of continuity, thus giving the impression that the referent must be elongated or continuous somehow,” making reference to other descriptions of the ERO distinction based upon the shape of the referent, whether equidimensional or elongated. Arnakak does not state how this distinction is applied to locations.

Two other sources presenting the Baffin Island/Iglulik demonstrative paradigms use different criteria in capturing this distinction. Gagné (1968), likely based on Baffin Island data, describes this contrast in terms of physical dimensions—‘non-slender’ vs. ‘slender’—similarly to Denny (1982). Again, being in motion may cause a normally non-slender referent to be treated as slender, if the motion creates the illusion of a line (Gagné 1968: 35-36), as shown in examples (86a) vs. (86b). Example (87) shows how the ER(O) contrast can give different locational interpretations in the (allative) adverbial form, with slender/extended *avunga* in (87a) indicating the entire length of an object, whereas non-slender/restricted *ikunga* in (87b) indicates a particular, constrained part of the larger object.

- (86) a. *takkuuk **kanna** tuttu!* (Gagné 1968: 36)  
 ‘Look at the caribou (motionless) down there!’
- b. *takkuuk **unna** tuttu!*  
 ‘Look at the caribou (in motion) down there!’
- (87) a. *ililauruk manna **avunga!*** (Gagné 1968: 37)  
 ‘Please put this (slender thing) over there (lengthwise on that slender thing)!’
- b. *ililauruk manna **ikunga!***  
 ‘Please put this (slender thing) over there (crosswise on that end of that slender thing to which I am pointing)!’



Finally, Dorais (1978) gives the demonstratives for Igloolik, but only lists them with glosses without any further discussion of the system. According to Dorais' glosses, the extended/restricted distinction is replaced here by a proximal-distal distinction, with the forms elsewhere categorized as restricted/non-slender generally glossed as 'here' and those categorized as extended/slender as 'there', except within the already distance-based categories of 'at reference point' and 'away from reference point (horizontal)', where the former (*una/wvani* and *manna/maani*) are both glossed 'this one'/'here' and the latter (*inna/ikani*, *ingna*, and *anna/avani*) are all glossed 'that one'/'there'. Arnakak (1995); Dorais (1978) and Gagné (1968) all describe closely related dialects, and thus it would be surprising if these differing semantic analyses of the ERO distinction reflected dialectal differences. Instead, I expect the differing analyses reflect the authors' different interpretations of complex and abstract semantic concepts, possibly capturing minor differences in usage between communities. Distal referents are more likely to be less delimitable and less perceptible, which explains the alignment of the 'distal', 'extended', 'slender'/'in-motion', and 'non-aggregative' concepts (and likewise, 'proximal', 'restricted', 'non-slender'/'stationary', and 'aggregative').

Like Denny (1982), Arnakak (1995) gives twelve demonstratives for Baffin Island with slight variation from Aivilik, whereas Dorais (1978) and Gagné (1968) present the same ten for Igloolik and North Baffin (Dorais (1978) lists an 11th demonstrative pronoun, *ingna* 'that one'/'there', without a corresponding adverbial). Though Arnakak's paradigm for Baffin Island is close to that for Aivilik, the former lacks the non-visible, 'out-of-field' demonstrative *ip-* but adds an inside/outside demonstrative not given by Denny, resulting in a complete inside/outside category: *kinna* 'that inside (aggregative)', *kigga* 'that outside (aggregative)', *qamma* 'that inside (non-aggregative)', and *qanna* 'that outside (non-aggregative)'. In contrast, Igloolik and Gagné's North Baffin only have two: *kingna/kinna* 'outside' and *qanna* 'inside'.

**Nunavik** The Inuktitut dialects spoken in Nunavik, Quebec are divided into Itivimmiut (along Hudson Bay) and Tarramiut (along Hudson Strait and Ungava Bay) by Fortescue et al. (2010). Dorais (1988) is a grammar of ‘Arctic Quebec’ Inuktitut, giving variants for Hudson Strait and Hudson Bay, so presumably the grammar covers both Tarramiut and Itivimmiut. Both Schneider (1967) and Dorais (1971) give demonstrative paradigms for Ungava Bay (Tarramiut), although that of Dorais (1971) comes from working with a single speaker. All three paradigms give identical forms (only abs.sg pronouns), and all of these pronouns show complete regressive assimilation of the consonants at the boundary between the stem and suffix (see Section 3.4). The only difference in forms given is that Dorais (1988) gives a dialectal alternative for the below/distal category: *unna* for Tarramiut (matching Schneider (1967) and Dorais (1971)) and *sanna* for Itivimmiut. Interestingly, *sanna* (PYI \**cam-*) occurs in WCI and Greenlandic dialects, but nowhere else in ECI.

	Proximal/Visible	Distal/Invisible
<b>Horizontal</b>	<i>una, manna</i>	<i>inna, anna</i>
<b>Up</b>	<i>pinna</i>	<i>panna</i>
<b>Down</b>	<i>kanna</i>	<i>unna</i> (Tar.) <i>sanna</i> (Iti.)
<b>Inside</b>	<i>qanna</i>	
<b>Outside</b>	<i>kinna</i>	

Table 3.14: Nunavik demonstratives, based on Dorais (1971, 1988); Schneider (1967)

Semantically, the Nunavik sources treat the ERO distinction differently: Dorais (1988) and Schneider (1967) in terms of proximity and Dorais (1971) in terms of visual perceptibility. Schneider (1967) includes information on visibility (within near speaker *una/manna* ‘visible’ vs. *inna* ‘invisible’), while Dorais (1988) leaves visibility out entirely. Table 3.14 summarizes the three descriptions to give the general system for Nunavik.

**Labrador Inuttut** Bourquin (1891) gives the demonstrative paradigm for Labrador (also called Nunatsiavut). This is the only source found for this dialect, and it is quite old which creates problems for comparison with the other ECI dialects. The Labrador system presented

by Bourquin (1891) has a number of differences with the other ECI descriptions, including more forms (14) and some cardinal meanings, as shown in Table 3.15. It includes two demonstratives not found in the other Canadian Inuit descriptions, except for Siglit: *ikingna* and *angna*, both denoting ‘south’ in Labrador (‘across’ forms in Siglit). These contrast with *ingna* and *amna/avna* denoting ‘north’, giving Labrador several demonstratives based purely on cardinal meaning, like neighboring Greenlandic Inuit (GRI). Also like GRI, the above/below demonstratives have additional cardinal meanings (above = inland = west, and below = seaward = east). Unlike neighboring ECI dialects, Labrador retains *qangna* as do Aivilik and Arnakak (1995)’s description of Baffin Island, though Bourquin (1891) glosses it the same as *kingna* (though listing them as separate forms). Finally, Bourquin (1891) does not make clear the difference between pairs like *ikingna-angna*, *pingna-pangna*, *kanna-ungna*, but the difference seems to be based on proximity/distance rather than on ERO, like the Nunavik dialects.

Dem. pronoun	Gloss
<i>manna</i>	‘this one here’
<i>una</i>	‘this one’
<i>imna</i>	‘that’
<i>ingna</i>	‘that (one) here in the north’
<i>amna/avna</i>	‘that (one) in the north’
<i>ikingna</i>	‘that (one) here in the south’
<i>angna</i>	‘that (one) in the south’
<i>pingna</i>	‘that (one) here up (also in west)’
<i>pangna</i>	‘that (one) in the west, up (inland)’
<i>kanna</i>	‘that (one) here down (also in east)’
<i>ungna</i>	‘that (one) in the east, down (seaward)’
<i>qamna</i>	‘that (one) inside’
<i>qangna/kingna</i>	‘that (one) outside’

Table 3.15: Labrador/Nunatsiavut demonstratives (translated from Bourquin 1891)

A final quality that distinguishes Labrador from neighboring dialects is its more conservative degree of consonant cluster assimilation, displaying only manner assimilation within the clusters formed by pronominal inflection, like Aivilik. Without access to a more recent description of the Labrador demonstratives, it is unclear whether Labrador is indeed

more conservative than its neighboring ECI dialects (having less assimilation, retaining more forms from PYI) or whether it appears this way because the source is over a century old and captured an earlier form of the system (or a combination of the two). Semantically, the Labrador paradigm is quite similar to those of the Greenlandic dialects; however, an even older source on Kalaallisut (Kleinschmidt 1851) describes a system which is highly similar to that retained by older Kalaallisut speakers today.

### 3.3.5 Greenlandic Inuit

Greenlandic Inuit (GRI) refers to the Inuit dialects spoken in Greenland, which include Kalaallisut (West Greenlandic), Tunumiisut (East Greenlandic), and Inuktun (North Greenlandic, also called Polar Eskimo). Their demonstrative paradigms are highly similar, having retained the same set of twelve stems from PYI. These are given in Table 3.16, shown within the PYI paradigm. Slight semantic differences between the dialects’ paradigms mainly consist of the ways the systems are geophysically anchored to the landscape, reflecting different origins of use.

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
		ma-	uv-	im-
<b>Near speaker</b>	More accessible	av-		
	Less accessible		ik-	
<b>Away from speaker</b>	More accessible	qav-		qam-
	Less accessible		kig-	
<b>Inside/outside</b>	More accessible		kan-	sam-
	Less accessible			
<b>Down from speaker</b>	More accessible	pav-		
	Less accessible		pik-	
<b>Up from speaker</b>				
<b>‘approaching speaker’</b>				

Table 3.16: Greenlandic Inuit demonstrative stems within the Proto-Yupik-Inuit paradigm (Fortescue et al. 2010)

The stems retained and the overall structure of the paradigm in GRI is very similar to those of the easternmost ECI dialects. Along with Labrador/Nunatsiavut, the GRI dialects almost completely lack the ERO parameter, the only Yupik-Inuit languages to have lost

this overarching distinction from the PYI paradigm. Beginning at Kangiryuarmitut (Copper) and moving east, the demonstrative systems include a similar number of stems: 14 for Kangiryuarmitut, 11-13 for ECI dialects, and 12 for GRI. Also in common with the rest of ECI, the GRI dialects have retained none of the bisyllabic PYI stems. However, most of ECI has nonetheless retained some version of the ERO parameter as a fundamental structuring of their demonstrative paradigm, though the paradigms are considerably smaller than those found further west. Aivilik Inuktitut, for instance, retains the fundamental distinction between extended and restricted categories, though the obscured category is only represented by a single form (*ip-* ‘out of field’). The Baffin Island dialects likewise have some version of the ER distinction. Nunavik and Labrador ECI dialects start to show a shift from ‘extent of referent’ towards more of a distance distinction (proximal vs. distal) as a manifestation of a related ‘visual perceptibility’ distinction. Finally, within GRI, this has transitioned fully to a categorization based upon distance, though clearly visual perceptibility is semantically tied in with a distance distinction.

As is shown in Table 3.16, GRI has conserved the original PYI ‘near speaker’ demonstratives, *ma-*, *uv-*, and *im-*, and here is where we find a vestige of the ERO distinction. Although *im-* has been disappearing from Kalaallisut, at the least, it is the last GRI demonstrative to retain the ‘non-visible’ meaning. The main difference between *ma-* and *uv-*, both generally ‘proximal’, is related to the extended-restricted distinction: *ma-* is used for extended places/spaces that include the origo (or transposed origo), glossed most naturally as ‘here’, though it can also be used pronominally to refer to the place or building containing the speaker/origo, e.g. *illu manna* ‘this house (that we’re in)’. In contrast, *uv-* has a more general usage, like the other demonstratives, to refer to objects and places that are proximal/medial to the origo but which can be pointed to, i.e. which aren’t the place you’re in (e.g. *illu una* ‘this house (nearby, that I am pointing to)'). *uv-* is also used in Kalaallisut in place of a third person pronoun.

In GRI, both the ERO distinction and the accessibility distinction have mostly collapsed, transforming into a distance distinction which interacts with the vertical (up/down) distinction, and contrasts with coastal/geophysical forms as well as inside/outside forms. Continuing the pattern found in other, less conservative languages, most PYI demonstratives with identical stems except for the stem-final consonant have been conflated, a process which also likely motivated the loss of the bisyllabic stems (see Section 3.4).

**Kalaallisut** Kalaallisut is spoken along Greenland’s west/southwest coast, from Upernavik in the north through Narsarmijit in the south. Fortescue et al. (2010) note four main sub-dialects: Upernavik, Northwest Greenlandic, Central West Greenlandic, and Southwest Greenlandic. The demonstrative data discussed here is based on the standard/standardized Central West Greenlandic variety, particularly as used around the Nuuk/Sisimiut area. Table 3.17 schematizes the data from Table 3.16 using the semantic structure of the Kalaallisut system (though there are other possible representations of the paradigm; see Chapter 4).

	PROXIMAL	DISTAL	GEOPHYSICAL/CARDINAL
HORIZONTAL	<i>ma-</i> <i>wv-</i>	<i>ik-</i>	-
UP	<i>pik-</i>	<i>pav-</i>	inland; East
DOWN	<i>kan-</i>	<i>sam-</i>	seawards; West
INTERIOR/ EXTERIOR	<i>qam-</i> <i>kig-</i>		inside fjord (South)
COAST	<i>av-</i> <i>qav-</i>		R-along-coast; North L-along-coast; South
	<i>im-</i> ‘non-visible’		-

Table 3.17: Kalaallisut demonstrative stems

Most importantly, with respect to the patterns found in (Proto-)Yupik-Inuit, we can see that proximity/distance is a crucial overarching dimension and that geophysical meanings are also fundamental to the system. Two stems, *av-* and *qav-*, have a meaning based purely on geophysical criteria, arising from a semantics based on coastal directions: *av-* references the rightward direction along the coastline while facing out to sea, while *qav-* points in

the opposing leftward direction. Being used, in Kalaallisut, predominantly on Greenland’s west coast, *av-* thus refers to ‘(that) to the north’ and *qav-* to ‘(that) to the south’. These cardinal meanings are the primary usages of *av-/qav-* today. The up/down demonstratives, particularly the distal forms, likewise have a secondary geophysical meaning derived from Greenland’s coastal environment. The up demonstratives also refer inland, which points east when on the west coast of Greenland. Likewise, the down demonstratives refer seaward, which points west. Exterior demonstrative *kig-*, which is falling out of use, also has an older meaning ‘(that) to the south’.

These geophysical anchorings and the paradigm as a whole have been robust over time, as we find looking back to the demonstrative data given in Kleinschmidt (1851). Samuel Kleinschmidt, who was born in 1814 in southern Greenland to Danish and German parents (Moravian missionaries), conducted pioneering linguistic work on Kalaallisut (Sadock 2016). Table 3.18 gives the demonstrative paradigm as listed in Kleinschmidt (1851: 21). The original stem and the German gloss are given in the first (numbered) line, while the second line gives an English translation as well as the stem in modern orthography, if needed.

Kleinschmidt’s grammar would have been based on Kalaallisut usage in the early to mid nineteenth century, and comparing the stems and glosses of Table 3.18 to Table 3.17 we can see that the system looks more or less the same as it has more recently. The set of 12 stems is consistent, although Kleinschmidt includes *táss-* which appears to reference predicative form *tassa* not usually listed as a separate demonstrative form, and Kleinschmidt’s 4) *ik/iv* seems to collapse *ik-* and *im-*. This suggests the possibility that *im-* was not in common usage as a regular demonstrative then as is true now, such that it was not identified as a separate demonstrative with a clear meaning by Kleinschmidt.

Semantically, it is noteworthy that Kleinschmidt’s glosses more or less align with today’s descriptions of the system, including the geophysical anchorings and cardinal directions: the coastal and cardinal meanings of *av-/qav-*, the cardinal and landscape meanings of the up/down demonstratives, and ‘south’ for *kig-* (though no interior/exterior meaning is given).

1)	<i>ma</i>	hier (wo ich bin) 'here (where I am)'
2)	<i>táss</i>	da (wo du bist, oder wovon man spricht) 'there (where you are, or what you're talking about)'
3)	<i>uv</i>	hier, da (wohin man zeigt) 'here, there (wherever you point)'
4)	<i>ik/iv</i>	dort, drüben 'over there'
5)	<i>av</i>	nord (eig. rechts wenn man das gesicht der offenen see zukehrt) 'north (right when you face the open sea)'
6)	<i>Kav</i> ( <i>qav</i> )	süd (eig. links wenn man das gesicht der offenen see zukehrt) 'south (left when you face the open sea)'
7)	<i>pav</i>	ost- oder landwärts; auch oben 'east or inland; also above'
8)	<i>sam</i>	west- oder seewärts; auch unten 'west or seaward; also below'
9)	<i>pik</i>	dort oben; auch ost- oder landwärts 'up there; also east or inland'
10)	<i>kan</i>	hier unten; auch west- oder seewärts 'here below; also west or seaward'
11)	<i>kig</i>	süd (wo die sonne geht) 'south (where the sun goes)'
12)	<i>kam</i> ( <i>qam</i> )	drinner oder draussen 'inside or outside'

Table 3.18: Kalaallisut demonstratives as given by Kleinschmidt (1851)

It is interesting that Kleinschmidt explains *kig*- 'south' as 'where the sun goes', making a clear differentiation with the coastal-based 'south' of *qav*-. Finally, Kleinschmidt (1851) does not explicitly note the difference between pairs *pik*-/*pav*- and *kan*-/*sam*- (distinguished by distance) beyond different orders in the glosses (listing the up/down meaning first for the more proximal *pik*-/*kan*-). However, this interpretation is close enough to their meanings as described in this dissertation and in modern sources to show that the meanings of these demonstratives have remained constant.

Overall, the data from Kleinschmidt (1851) indicates that the demonstrative system has been very stable, at least until the onset of the changes we are seeing today (see Chapter 4). Other descriptions published over the following century, particularly Thalbitzer (1911) and



Bergsland (1955), continue to show this stability with respect to the ‘traditional’ Kalaallisut system described more recently by Fortescue (1984, 1988, 2018) and Sadock (2003).

Thalbitzer (1911) gives the same set of stems, but combines *qav-* and *qam-* under *qanna* (*qā<sup>w</sup>nna*) with the gloss ‘he in the south; he in there (in the house); he out there (outside of the house)’, and includes *inna* (*i<sup>w</sup>nna*) ‘the one previously mentioned’. The cardinal directions given are the same as Kleinschmidt (1851), except that *kan-/sam-* are only ‘down there in the sea’. As we saw for *qav-*, cardinal not coastal meanings are given for *av-/qav-*. Finally, Thalbitzer (1911) echoes Kleinschmidt (1851) by listing the meaning for *kig-* simply as south (‘he there in the south’).

The demonstrative paradigm presented by Bergsland (1955) lists all twelve stems, dividing them into three categories: General, Horizontal, and Vertical. The General category includes *wv-*, *im-*, *ma-*, and *qam-*. The Horizontal category includes *ik-*, *kig-*, *av-*, and *qav-*. The Vertical category includes the expected *pik-*, *kan-*, *pav-*, and *sam-*. Under General, *wv-* and *im-* are given in a pair, seemingly in contrast with regards to their presence/proximity within the spacio-temporal context: *wv-* ‘he she it; they (which you see, which is pointed at, which now is going to be mentioned)’ versus *im-* ‘that (remote, absent-past or future, but known to the addressee)’. This usage of *im-*, which sounds more like a cotextual or discourse deictic (or temporal deictic) in contrast with the highly spatial, exophoric deictics which comprise the majority of the Yupik-Inuit demonstrative paradigms, echoes meanings for PYI *im-* in several other Yupik-Inuit languages.

Within the Horizontal and Vertical categories, Bergsland (1955) gives many of the same cardinal mappings as Kleinschmidt (1851) and Thalbitzer (1911), including east/west for the vertical demonstratives and north/south for *av-/qav-* (without reference to the coastline). However, Bergsland also includes several additional meanings within his Horizontal category that are not included in the older sources, though Bergsland notes that they are old or obsolete: *av-* is glossed as both ‘that in the north’ and ‘far yonder’, while *ik-* is both ‘he/she/it over there, yonder’ and ‘in the north’. This reflects a parallel or relatedness of meaning

between *av-* and *ik-*, also found elsewhere, likely coming from their original shared category (away from speaker) in the PYI paradigm. Finally, *kig-* is glossed as ‘south’, like in the older sources, but Bergsland also glosses it as ‘in there, here’ reflecting its original presence within the inside/outside category. Fortescue et al. (2010) also note ‘in north’ as an older meaning for *ik-*, as well as *kig-* meaning both ‘in/out there’ and ‘south’. This variety of meanings given for the Kalaallisut demonstratives is further explored in Chapter 4.

**Inuktun** Inuktun (also called North Greenlandic or Polar Inuit/Eskimo) is spoken in the north of Greenland’s northernmost municipality, Avannaata Kommunia, primarily in the town of Qaanaaq as well as in several smaller settlements. As described in Section 3.1.1, the Inughuit (speakers of Inuktun) represent a later migration to Greenland from the Western Canadian Arctic as late as the 18th century (Fortescue 1991). Thus, Inuktun shares linguistic features with the WCI dialects, with influence from Kalaallisut by way of more recent contact. However, the Inuktun demonstratives are highly similar to those of Kalaallisut, without much resemblance to the WCI systems. The Inuktun paradigm is given in Table 3.19, with data from Fortescue (1991).

Stem	Gloss
<i>tass-</i>	‘here, there (near listener or already named/understood)’
<i>ma-</i>	‘(this one) around here’
<i>u-</i>	‘here, just here (near speaker)’
<i>im-</i>	‘that one previously’
<i>ik-</i>	‘(that one) over there’
<i>av-</i>	‘(that one) way over there (or in the north)’
<i>qav-</i>	‘(that one) in the south’
<i>pik-</i>	‘(that one) up there’
<i>pav-</i>	‘(that one) way up there (or in east)’
<i>kan-</i>	‘(that one) down there’
<i>ham-</i>	‘(that one) way down there (or in west)’
<i>kig-</i>	‘(that one) out/in there (in neighboring room or house)’
<i>qam-</i>	‘(that one) in there (from outside)/ out there (from within), in the fjord’

Table 3.19: Inuktun demonstratives (synthesized from Fortescue 1991)

The main difference between the Inuktun paradigm and that of Kalaallisut is the usage of *av-* as ‘(that) way over there’. Though this distal usage of *av-* is also noted for Kalaallisut by Bergsland (1955), it seems to be an archaic meaning there whereas it is the primary usage in Inuktun (Fortescue 1991; Leonard 2015). Fortescue et al. (2010) notes that this usage in Inuktun is due to conflation with PYI *aγ-*, which may explain the pronominal (ABS.SG) form listed in Fortescue (1991): *angna* instead of *anna* (but the loc. adverbial form is *avani*). Leonard (2015: 38) gives an example of usage for *av-*: “when pointing to Herbert Island from Qaanaaq” (which is towards the west). It is also worth noting that only the inside/outside meaning is given for *kig-*, rather than the cardinal meaning sometimes listed for Kalaallisut.

Finally, a vestige of phonetic influence from WCI to be seen in the Inuktun system (unless this is also the source for the distal meaning of *av-*) is *ham-* as the reflex of PYI *\*cam-*, which is *sam-* in Kalaallisut. PYI */\*c/* is preserved in some Yupik dialects, but has become */s/* in most other Yupik-Inuit languages; however, */\*c/* became */h/* in most of the WCI dialects, in the easternmost NAI dialects, and in Inuktun (Fortescue et al. 2010: xvi). In some of these NAI and WCI dialects, we have seen that *sam-/ham-* has become a proximal demonstrative rather than ‘down’; however, its meaning in Inuktun seems to match that of Kalaallisut (‘way down there’, ‘seaward/in west’). Leonard (2015: 38) also notes that it may be used to refer to Europe.

**Tunumiisut** Spoken in East Greenland, Tunumiisut has diverged somewhat from Kalaallisut due to both sound change and extensive lexical replacement via taboo avoidance (Dorais 1981; Fortescue et al. 2010). However, according to demonstrative data from Fortescue et al. (2010), Robbe and Dorais (1986), and Thalbitzer (1923), the Tunumiisut system is very consistent with the other GRI systems, retaining the same set of 12 stems. The main difference between the Tunumiisut demonstratives and those of Kalaallisut/Inuktun is their geophysical anchoring based on the east coast of Greenland, rather than the west coast. Every cardinal axis is flipped 180 degrees, reflecting the anchoring of the demonstratives’ meanings within

the coastal environment (based on deictic orientation with respect to leftwards/rightwards along the coast and orthogonal landwards/seawards). These meanings are summarized in Table 3.20.

	PROXIMAL	DISTAL	CARDINAL USAGE
HORIZONTAL	<i>ma-/ uv-</i>	<i>ik- im-</i>	(South)
UP	<i>pik-</i>	<i>pav-</i>	West
DOWN	<i>kan-</i>	<i>sam-</i>	East
INTERIOR/ EXTERIOR	<i>qam- kig-</i>		(North)
COAST	<i>av- qav-</i>		South North

Table 3.20: Tunumiisut demonstrative stems (data synthesized from Fortescue et al. 2010; Robbe and Dorais 1986; Thalbitzer 1923)

Predictably, this rotation of both axes gives the following meanings for the coastal and vertical demonstratives: *av-* ‘south’, *qav-* ‘north’, *pik-/pav-* ‘west’, and *kan-/sam-* ‘east’ (see Figure 3.4). However, Thalbitzer (1923: 145) further includes cardinal meanings for two other demonstratives: *ik-* ‘over there/yonder (in south, near)’ and *kig-* ‘in the north (near)’.<sup>12</sup> Because these meanings are given by Thalbitzer, who’s work was conducted in 1905-1906, but not in the more recent Robbe and Dorais (1986), they are likely older or archaic usages of the demonstratives. This mirrors Kalaallisut, with older meanings ‘north’ for *ik-* and ‘south’ for *kig-*. It is interesting, however, that these too are transposed 180 degrees with respect to Kalaallisut/Inuktun. If *kig-* were based on ‘where the sun goes’ as Kleinschmidt (1851) states for Kalaallisut, we would expect this demonstrative to refer to ‘south’ in both dialects. Instead, it seems that *kig-* is associated with *qav-* (and *ik-* with *av-*) through their historical placements in the paradigm (*kig-/qav-* in the inside/outside category and *ik-/av-* in the away from speaker category), which must be broadly anchored to the coastline.

<sup>12</sup>Thalbitzer (1923: 145) juxtaposes *ik-/kig-* with *av-/qav-* as more proximal (‘near’) versus distal (‘distant’) distinctions within the south-north axis. For Kalaallisut, too, *ik-* at least appears to be used for more proximal (intermediate) referents than do *av-/qav-*, which seem to imply a far distance.

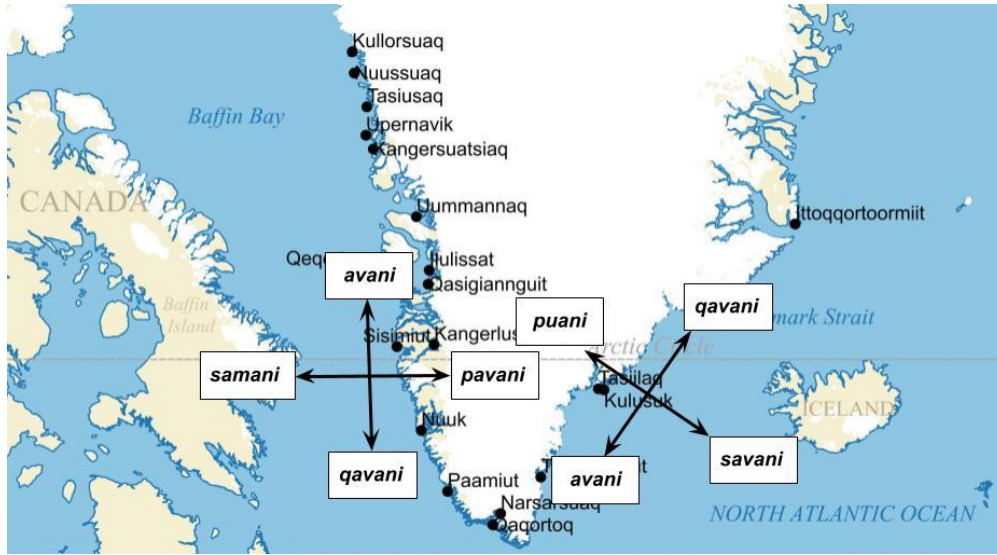


Figure 3.4: Geophysical/cardinal usages of Kalaallisut and Tunumiisut demonstratives (map by Carmen Caswell)

Finally, there are indications within the Tunumiisut data that stem *im-* has been conflated somewhat with *ik-*. Both Thalbitzer (1923) and Robbe and Dorais (1986) list *im-* as a demonstrative pronoun but not as an adverb, and the pronominal realizations given by Robbe and Dorais (1986) are identical to those of *ik-* in all inflections save the absolute singular (*inna* vs. *innga*). Further, the meanings given for *im-* are concerned with distance: Thalbitzer (1923) glosses *i<sup>w</sup>na* as ‘yon; that’ (distant) (contrast with *ij•a* ‘he over there’), while Robbe and Dorais (1986) gloss *inna* as ‘that one’/‘den histhenne’ (contrast with *innga* ‘he over there’/‘den derhenne’). Thus we do not see any indication of the non-visible, temporal, or ‘aforementioned’ meaning in demonstrative *im-*. Instead, its usage seems closer to that of *ik-*, with a distal meaning; however, the lack of adverbial forms hints that it has gone out of usage as a fully productive demonstrative, perhaps related to its phonetic similarity with *ik-*. We have seen the loss of *im-* in Kalaallisut as well, but not the conflation with *ik-*. Similarly, stems *qav-* and *qam-*, like in Kalaallisut, show signs of conflation relating to their phonetic similarity, and in fact all realizations listed in Thalbitzer (1923) and Robbe and Dorais (1986) are identical between the two stems, though they are still listed as separate stems in their adverbial forms.

## 3.4 Discussion: motivations for change

### 3.4.1 Overall patterns

Across the Yupik-Inuit languages and dialects, there is wide variation in how the PYI demonstrative system has evolved and is used today. As shown in Section 3.3, several languages—including Central Alaskan Yup'ik, Seward Peninsula Inuit, and the Malimiut dialect of North Alaskan Inuit—more or less replicate the PYI paradigm, preserving (nearly) the full set of PYI stems as well as the original semantic categories and distinctions. Notably, these particular varieties are spoken around the area which was likely the Yupik-Inuit homeland, an area with a long history of Yupik-Inuit presence and contact. Kaplan (2009) describes the diversity of Yupik-Inuit languages in the Bering Strait region and the extensive (social and linguistic) contact between them. Though Central Alaskan Yup'ik as a whole is not as much a part of this region, spoken predominantly in southwest Alaska, it has the important feature of currently having a much larger speaker population than the other languages in the area (based on speaker data from Krauss 2007).

Central Siberian Yupik, Naukan, and Sirenik are also part of the Bering Strait region. Naukan and Central Siberian Yupik both retain most of the original paradigm, only having lost three or four demonstratives. The semantic structures of their paradigms are mostly intact, with a small amount of conflation within accessibility pairs, and some more specific/conventionalized meanings which indicate a less abstract system overall. Likewise, putting together the limited demonstrative data on Alutiiq suggests a similar shift from the full system toward one with many specialized meanings and a lack of the accessibility distinction (through loss or conventionalization of one member of the pair). Finally, Sirenik represents a more advanced stage of reduction, following the same patterns of divergence. In particular, it shows significant loss/conflation within accessibility pairs, such that each spatial category is represented by 3-4 demonstratives which appear to preserve the ERO

distinction. All of these Yupik and western Inuit languages preserve ERO as an overarching semantic factor, as well as the basic spatial categories. Across the family, it is the Accessibility distinction which appears to be the most susceptible to being lost when reduction occurs.

Turning to the rest of Inuit, we find patterns of divergence from PYI which progressively affect dialects moving eastward across Canada to Greenland. Overall, Iñupiaq is the most conservative, especially SPI and Malimiut NAI as shown in Section 3.3.2. Moving further from the Bering Strait area and the Yupik-Inuit homeland, the North Slope dialect of NAI exhibits some collapse of the accessibility pairs, yet ERO (including the full obscured/non-visible category) is preserved. The paradigm of Siglit, the westernmost WCI dialect and neighbor to NAI, is very similar to North Slope. However, moving east across the Inuit continuum we find progressively smaller paradigms and increased divergence from PYI. After Siglit, we start to see patterns which characterize the eastern Inuit paradigms, including significant reduction in the obscured category and further accessibility conflation. With reduction of the obscured demonstratives, there is loss of the bisyllabic stems; Copper (Kangiryarmiut) only retains one of the original bisyllabic stems, compared to neighboring Siglit which retains them all.

Within Eastern Canadian Inuit, the paradigms are relatively homogeneous with a common set of 10-13 demonstratives. At this point in the dialect continuum, obscured/non-visible is absent as a larger category and instead is represented by a single stem. Further, accessibility has disappeared as a distinction, except in the case of distinguishing ‘inside’ vs. ‘outside’; however, extended/restricted remains an important distinction across the paradigms. Potentially in Baffin Island and in the Quebec dialects, however, we start to see the extended/restricted distinction replaced by one defined more by distance and/or visibility, with the easternmost Labrador dialect showing no trace of ERO. Finally, the Greenlandic Inuit dialects continue this trend with a proximal/distal distinction entirely replacing the

ERO and accessibility contrasts (save the single non-visible stem and inside/outside). Along with Labrador, GRI has several demonstratives with fully coastal/cardinal meanings.

Overall, there is a clear trend for accessibility contrasts to be the first to be lost when there is reduction within a paradigm. All dialects with any divergence from PYI exhibit some degree of breakdown here, except for the inside versus outside distinction. As mentioned above, demonstrative pairs only distinguished by accessibility occupy vertically contiguous cells within the PYI paradigm (refer back to Table 3.1), such that we often find mergers across these cells. Furthermore, these pairs of stems are phonetically similar in almost all cases, only differing in their final consonant (while obscured forms distinguish accessibility with an extra syllable). The question is thus raised whether it is this phonetic similarity which leaves accessibility more vulnerable to reduction or whether it is vulnerable for semantic reasons, perhaps being less crucial for the functionality of these deictic systems (or a combination of both phonetic and semantic factors).

### 3.4.2 Sound change

Several sound changes in Inuit are linked to the ways in which the Inuit paradigms have reduced into smaller systems moving eastward across the continuum, particularly affecting the Accessibility pairs due to their phonetic similarity. Consonant cluster assimilation has progressively affected the Inuit languages more and more from west to east. The loss of the Yupik-Inuit fourth vowel ( $/*ə/$ ) helped to make consonant cluster assimilation more applicable to the demonstrative paradigms, especially within the bisyllabic stems, and increased phonetic similarity between pairs. Merger and collapse of phonologically similar demonstratives explains much of the divergence from the PYI paradigm.

**Consonant cluster assimilation (CCA)** Accelerating this reduction across the paradigms is a sound change that has occurred in Inuit called consonant cluster assimilation. In CCA, classes of consonant clusters have undergone partial or total assimilation. These changes



proceed eastward from Alaska, through a stepwise fashion across Canada, to Greenland (with more and more clusters affected moving east). Many unassimilated clusters were still present several centuries ago in Labrador and West Greenland, indicating a sound change that has even recently still been in effect (Woodbury 1984: 59-60).

Consonant clusters appear in many of the inflected realizations of the demonstratives, for instance in the commonly used absolutive singular pronouns. Even on the extreme western end of the Inuit continuum some dialectal differences display this progression, exhibiting differing degrees of assimilation. For instance, pronominal inflections of *pik-* in NAI (absolutive singular) are *pikña* for Malimiut versus *pigña* for North Slope. In WCI we find *pįjna*, but typically *pinna* in ECI and *pįjŋa* (*pinnga*) in GRI. The assimilation of clusters across the stem-suffix morpheme boundary has created phonological mergers, such that the (absolutive singular) nominal forms of PYI stems *paɣ-* and *pav-*, for instance, both surface as *panna* (*paɣ-na* vs. *pav-na*) in Inuit dialects with more advanced CCA. Dialects closer to the middle of the continuum display a lesser degree of CCA, e.g. Siglit *paɣna* (*paɣ-*) vs. *pamna* (*pam-*), having lost *pav-*. Compare with CAY *paɣna* vs. *paɣ<sup>w</sup>na* vs. *pamna*. These patterns of CCA are important for understanding the evolution of the demonstrative paradigm across Inuit, as full assimilation causes homophony (in some inflections) across pairs of stems which only differ in their final consonant (the accessibility pairs), which may lead to their convergence.

We can see this phenomenon at work in ECI, where there is variation across the dialects in degree of CCA.<sup>13</sup> In particular, we can compare *ip-* ‘out-of-field’ and *ik-* ‘that/there’ (restricted), which are preserved as separate forms in Aivilik where there is only partial

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<sup>13</sup>Aivilik has displayed the least degree of assimilation within the demonstratives, with only manner assimilation to the initial nasal of the (absolutive.sg) pronominal suffix. Arnakak (1995) only gives the (ABS.SG) pronominal forms of the Baffin Island demonstratives, and all show full assimilation of the consonants across the morpheme boundary (*panna*, *inna*, *anna*, *kinna*, etc. vs. Aivilik *pangna*, *ingna*, *amna*, *kingna*). Arnakak includes the only demonstrative forms which exhibit assimilation of the second consonant (the initial consonant of the suffix) to the first consonant (stem-final) rather than vice versa which is the usual pattern and occurs in the majority of forms presented by Arnakak. There are two cases of this, *kigga* ‘outside (aggregative)’ and *qamma* ‘inside (non-aggregative)’ (presumably PYI *\*kiɣ-* and *\*qav-*). This may have been motivated by the need to contrast with *kinna* ‘inside (aggregative)’ and *qanna* ‘outside (non-aggregative)’ (PYI *\*kiv-* and *\*qay-*). Gagné (1968) also presents fully assimilated forms, whereas Igloodik displays a mix: *manna*, *inna*, *anna*, *pinna*, *panna*, *kanna*, *qanna* vs. *ingna*, *ungna*, *kingna* (Dorais 1978).

assimilation (resulting in *imna* vs. *ingna*), but not in full assimilation Baffin Island dialects described by Arnakak (1995) and Gagné (1968) which only have distal *inna*. With its mix of partial and full assimilation, Igloolik again displays an in-between state; Dorais (1978) lists *inna* and *ingna* (both glossed as distal ‘that one’/‘there’), but shows a partial phonetic overlap in some realizations (e.g. nom.sg *ikka* for both) as well as a lack of adverbial realizations for *ingna*. This suggests an ongoing (at the time) convergence between these two demonstratives.

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Near speaker</b>		mað-	uv-	im-
<b>Away from speaker</b>	More accessible	av-	iŋ-	am-
	Less accessible	aʏ-	ik-	akəm-
<b>Inside/outside</b>	More accessible	qav-	kiv-	qam-
	Less accessible	qay-	kiy-	qakəm-
<b>Down from speaker</b>	More accessible	ʌ-	kan-/kað-	cam-
	Less accessible	ʌəy-	ʌy-	eakəm-
<b>Up from speaker</b>	More accessible	pav-	piŋ-	pam-
	Less accessible	pay-	pik-	pakəm-
‘approaching speaker’		ʌk-		

Table 3.21: Kalaallisut retentions of Proto-Inuit-Yupik demonstrative roots (Fortescue et al. 2010)

Kalaallisut exhibits an advanced degree of CCA. Table 3.21 shows which PYI stems have been preserved in Kalaallisut, exhibiting these patterns of conflation/collapse. For each Accessibility pair, only a single demonstrative has been retained; for some PYI pairs, neither has (though loss of the entire pair only occurs in pairs involving a bisyllabic stem). Phonetically similar pairs of stems, specifically in terms of only exhibiting a difference in the stem-final consonant, have shown convergence and a collapse of the semantic distinction. The advanced CCA occurring across the stem-suffix boundary heightens the phonetic similarity of such pairs, creating more pressure for merging/conflation. Kalaallisut (and GRI more generally) is an extreme case with regards to this process, showing one of the most reduced systems exhibiting the resulting set of highly phonetically contrastive stems.

In fact, this largescale trend of mergers and reduction related to CCA is still in effect, motivating several recent/ongong changes in the Kalaallisut paradigm. The remaining pairs of stems that are identical except for their final consonant, *ik-* vs *im-* and *qav-* vs *qam-*, have also shown signs of change. For the former, *im-* is archaic today, although it may be used as an enclitic (Fortescue 1984). As discussed for ECI, its phonetic similarity to *ik-* could be a factor motivating the loss of *im-* (although the two stems are not homophonous in their pronominal forms, e.g. *innqa* (*ik-*) vs. *inna* (*im-*)<sup>14</sup>. Stems *qav-* ‘south (left along coast)’ and *qam-* ‘in/out there’, which both surface pronominally as *qanna*, appear to be in the process of convergence, not being recognized as separate demonstratives by some speakers (especially young/urban speakers). However, semantically, we simply find a loss of the coastal/cardinal meaning associated with *qav-* (demonstrative *qam-* with an inside/outside meaning is in common usage). This case is discussed further in Chapter 4.

**Elimination of the fourth vowel (PYI \*ə)** A striking pattern is the complete loss of all bisyllabic stems in every Inuit dialect east of Copper, while Copper only retains one bisyllabic stem from PYI. Siglit and the Iñupiaq dialects all retain the full set of bisyllabic stems (except *unəy-*, which may originate from Proto Yupik-Sirenik), marking a significant difference between these geographically divided language groups. Again, this exhibits both a phonetic pattern and a semantic pattern, since all of the bisyllabic stems (except *unəy-*) represent the obscured category; their disappearance thus marks both a loss of all stems with more than a single syllable as well as the loss of half of the obscured category. These stems represent the ‘less accessible’ obscured forms, the disappearance of which removes the accessibility distinction across the entire obscured category in parallel with the changes discussed above similarly affecting accessibility. However, although the extended/restricted distinction has remained robust across all of Yupik-Inuit except for the easternmost Inuit dialects amidst the disappearance of accessibility, the obscured distinction has seemed to

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<sup>14</sup>However, *im-* does in fact exhibit homophony with *uv-* in some realizations, such as anaphoric pronoun *taanna* for both.

be more susceptible to reduction. Loss of the bisyllabic stems and the loss of obscured as a fully paradigmatic distinction (as part of ERO) co-occur in their distribution across the dialects: the boundary between WCI dialects Siglit and Copper (Kangiryuarmitut) marks both phonetic and semantic shifts within the family.

The question is thus raised why the bisyllabic stems in particular underwent complete deletion partway through the Inuit dialect continuum, whereas variation still remains in which other PYI stems are retained i.e. between ECI and GRI. This suggests a particular motivation for their loss in eastern Inuit (they do not appear particularly vulnerable to loss in Yupik). Beyond their shared syllable count, the PYI bisyllabic stems also share the phonetic feature of all containing what is called ‘the fourth vowel’ in Yupik-Inuit literature, */\*ə/* (always in the second syllable). Although this vowel is preserved in Yupik, it has merged with */\*i/* in most of Inuit except in some conditions for Bering Strait SPI (Woodbury 1984: 58). In some cases, */\*ə/* has merged with another vowel, like */a/*, or has disappeared entirely (Fortescue et al. 2010; Woodbury 1984). We see this vowel preserved across the Yupik demonstrative paradigms, but it has become */i/* in the Inuit demonstratives which have retained bisyllabic stems. Across the family, some inflections of the demonstrative stems result in deletion of the */\*ə/* reflex. These patterns can be seen in Table 3.22 which gives particular inflections for *\*qakəm-*.

Language	abs.sg. pronoun	rel.sg. pronoun	abs./rel. pl. pronoun	loc. adverb	predicative
AAJ/CAY	qakəmna	qakmum	qakəmkut	qakməni	qakmə
NSY/CSY	qakəmna	qakməum	qakəmkut	qakməni	qakmə
Sir	qamkəna	-	qakəmkäza	-	-
SPI	qayimna	qayiptuma	qayipkua	qakmani	qakma
Malimiut NAI	qakimna	qakiptuma	qakipkua	qakmani	qakma
North Slope NAI	qakimna	qakiptuma	qakipkua	qaymani	qayma
WCI	qakimna	qakiffuma	qakipkuat	qaymani	qayma
ECI/GRI	-	-	-	-	-

Table 3.22: Some inflections of demonstrative *qakəm-* across Yupik-Inuit (Fortescue et al. 2010)

This table shows some different patterns of both \*ə retention and CCA, the latter which becomes relevant to the adverbial forms within the bisyllabic stems. In the adverbial and predicative forms, the \*ə reflex disappears creating another consonant cluster to which CCA may apply. Here, we see a split between the two dialects of NAI; compare Malimiut locative adverb *qakmani* and predicative *qakma* with North Slope *qaymani* and *qayma*, in which CCA has applied across the morpheme boundary. The combination of both sound changes would have created and/or increased homophony across particular inflections of phonetically similar stems. Table 3.23 gives some WCI inflections of a phonetically similar set of stems beginning with *qa-*:

<b>Stem</b>	<b>abs.sg. pronoun</b>	<b>loc. adverb</b>	<b>predicative</b>
<i>qay-</i>	<i>qayna</i>	<i>qaani</i>	<i>qayya</i>
<i>qam-</i>	<i>qamna</i>	<i>qamani</i>	<i>qamma</i>
<i>qakəm-</i>	<i>qakimna</i>	<i>qaymani</i>	<i>qayma</i>
<i>qav-</i> (Siglit)	<i>qamna</i>	<i>qavani</i>	<i>qavva</i>

Table 3.23: Western Canadian Inuit inflections of several demonstrative stems (Fortescue et al. 2010)

Some homophony due to CCA can be seen comparing the pronominal forms of *qam-* versus *qav-*, which may have motivated the loss of *qav-* in most of WCI and in ECI (though it was retained in GRI). Comparing *qam-* with *qakəm-* (both obscured forms), there is a high degree of phonetic similarity in the adverbial and predicative forms. With further CCA, as has occurred in dialects to the east, these would become homophonous, which may have motivated the merging of such bisyllabic stems with the other member of the pair. Finally, since the majority of PYI stems are monosyllabic, the disappearance of bisyllabic stems may also be motivated by a drive for phonological regularity across the paradigm.

### 3.4.3 External factors

It is clear that language internal sound change has motivated the patterns of paradigm reduction found in the Inuit dialects, especially those towards the east in the continuum.

These are connected with the reduction and loss of particular semantic categories within the deictic systems, namely accessibility and the obscured category (visibility). Other semantic categories such as the spatial zones and the extended/restricted distinction have been much more resistant to change overall. Thus both phonological and semantic factors seem to have played a role in the development of the Yupik-Inuit systems out of PYI.

External factors have also played a role. As mentioned in Section 3.3.2, Seward Peninsula Inuit has had close contact with Yupik and likely borrowed *uk-* and *unəy-*. Geographically, the area around the Yupik-Inuit homeland—the Bering Strait region and western Alaska—has maintained the most conservative demonstrative paradigms in comparison with those of dialects spoken in the western and eastern edges of the family. On the westernmost periphery of Yupik-Inuit, language shift may have played a greater role in demonstrative reduction. Alutiiq and the Siberian Yupik languages are highly endangered, while Sirenik is extinct today. Language shift may thus be linked to the changes seen in the less conservative Yupik languages, which are less systematic than those found in the easternmost Inuit dialects related to sound change.

Chapter 4 goes deeper into the semantics of the Kalaallisut demonstratives, including variation and change within the system which may also be linked to external factors.

## Chapter 4

### Demonstrative semantics and recent change

#### 4.1 Introduction

Although significantly reduced from that of Proto-Yupik-Inuit (PYI), the Kalaallisut demonstrative paradigm is, nonetheless, very large from a typological perspective and contains cross-linguistically uncommon features of spatial deixis, particularly in its directional semantics which includes topographic, cardinal, and interior/exterior distinctions. The directional demonstratives qualify as ‘spatial coordinate demonstratives’, defined by Burenhult (2008) as those which locate a referent by way of a spatial vector rooted in a coordinate system or frame of reference, based upon some spatial asymmetry. The Kalaallisut demonstratives are anchored to the spatial and geophysical environment of Greenland.

The stems which were inherited from PYI are shown in Table 4.1, reproduced from Chapter 3. All of the closer/more proximal forms, beyond the rear speaker category, occurred in the PYI restricted category, in opposition to the distal forms historically located in either the extended or obscured categories.

		<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Near speaker</b>		ma-	uv-	im-
<b>Away from speaker</b>	More accessible	av-		
	Less accessible	-----	ik-	-----
<b>Inside/outside</b>	More accessible	qav-		qam-
	Less accessible	-----	kig-	-----
<b>Down from speaker</b>	More accessible		kan-	sam-
	Less accessible	-----	-----	-----
<b>Up from speaker</b>	More accessible	pav-		
	Less accessible	-----	pik-	-----
‘approaching speaker’				

Table 4.1: Greenlandic Inuit demonstrative stems within the Proto-Yupik-Inuit paradigm (Fortescue et al. 2010)

As discussed in Chapter 2, these stems are inflected as demonstrative nominals, adverbs, or predicatives through suffixes. They may also occur with anaphoric prefix *ta-* or as a clitic with deictic particle *aa-*. Derivational suffixes may further modify the meaning of the stem, or may create other morphosyntactic constructions (e.g. *pikaniippoq* ‘he/she/it is up there’ or *ikaniittoq* ‘the one that is over there’). Distance can be modified by size/degree suffixes such as *-rsuaq* and *-nnguaq*, for instance *ikaninnguaq* ‘not that far’ (<*ik-*), *pavanersuaq* ‘far up there’ (<*pav-*), or *taavanersuaq* ‘way in the north’ (<*ta-* + *av-*), referring to the far north of Greenland.

This chapter details the spatial semantics of this ‘traditional’ Kalaallisut demonstrative system, the system which 1) has been reported more or less consistently by older sources (such as Kleinschmidt (1851), Thalbitzer (1911), Bergsland (1955), and Fortescue (1984)), 2) was confirmed by older speakers in my fieldwork, and 3) aligns with the systems found in the other Greenlandic dialects, Tunumiisut and Inuktun. We may hypothesize that this ‘traditional’ system, or something close to it, was the general Greenlandic Inuit demonstrative system inherited from Proto-Inuit, in use prior to the external influences of European contact and urbanization that have appeared to affect the system more recently. The demonstratives have non-spatial and non-exophoric usages as well, such as discourse and temporal reference, though the spatial usages are the focus of description here. Section 4.2 describes the deictic distinctions which form the basis for the demonstrative paradigm. These deictic categories and features are predominantly spatial in nature, reflecting the physical location of the referent by way of spatial and geophysical properties. Section 4.3 discusses ways in which the basic spatial distinctions undergo semantic extensions giving other layers of meaning to the demonstratives, particularly on the geophysical and cardinal level. Section 4.4 details important overarching conceptual and semantic features of the demonstrative system, including the flexibility of their application to spatial contexts and the frames of reference in which they are situated.



Additionally, this chapter presents some patterns of ongoing variation and change within the system. Although the data on change presented here is preliminary, large-scale trends of change may be clearly seen. Most notable are the differences in demonstrative usage and knowledge between older and younger age groups of speakers. Other factors can also be seen to play a role in shaping a speaker's demonstrative system, including hometown, family background, and experience with traditional activities. However, age is the most significant factor reflecting how closely a given speaker's demonstrative proficiency most closely matches the 'traditional' system. The significant differences between the 'traditional system', as used by older speakers, and the demonstrative system used by the youngest speakers give evidence to broad and rapid change. Section 4.5 details different types of divergence from the traditional system, including the loss of particular demonstratives, semantic shifts mostly affecting the geophysical meanings of the demonstratives, and the most reduced system used by the youngest and urban speakers. Lastly, overall trends and motivations for change are discussed in Section 4.6.

## **4.2 Basic spatial semantics of the traditional system**

The Kalaallisut system involves the interaction of several deictic distinctions which define a spatial relation to the deictic origo in order to localize referents. Several semantic dimensions combine to organize the structure of the paradigm and give the most abstract spatial meanings of the demonstratives. First, the SPATIAL ZONES break up the demonstratives into the primary spatial categories based on their orientation toward the physical environment, namely distance, vertical orientation, and orientation toward an enclosed space. Next, DISTANCE distinguishes two sub-categories within most of the spatial zones, determining the degree of proximity to the deictic origo which is primarily anchored to the speaker. Finally, several of the categories are further sub-divided by finer spatial distinctions, including coastal orientation and containment of the origo. The basic paradigm which forms the basis of the

‘traditional’ system is presented in Table 4.2. The spatial zones are denoted by row, and distance distinctions are denoted by column.

	<b>Proximal/ Medial</b>	<b>Distal</b>
<b>Near speaker</b>	$\frac{ma-}{uv-}$	( <i>im-</i> )
<b>Away from speaker, same level</b>	<i>ik-</i>	$\frac{av-}{qav-}$
<b>Down from speaker</b>	<i>kan-</i>	<i>sam-</i>
<b>Up from speaker</b>	<i>pik-</i>	<i>pav-</i>
<b>Inside/outside</b>	$\frac{qam-}{kig-}$	

Table 4.2: Kalaallisut demonstrative paradigm

All of the spatial zone categories except for ‘near speaker’ carry directional meanings, which become anchored to the topography of the environment. Furthermore, distal demonstratives in particular also carry cardinal meanings based upon the geophysical configuration of the language locus. Those demonstratives in the ‘near speaker’ category function more similarly to other demonstratives cross-linguistically by not explicitly encoding a spatial direction, and instead localizing referents solely through proximity or other qualities not rooted in a coordinate system. Linking back to the older and larger Yupik-Inuit paradigms, both extent of referent and visibility play a role in the semantics of these demonstratives. However, they do stand in relation to a coordinate system through being paradigmatically linked to the other, more spatially specific demonstratives.

In this section, the demonstrative distinctions are described with respect to each spatial zone, detailing the more abstract spatial semantics of the Kalaallisut demonstrative system. Section 4.3 shows how they are further anchored to the physical environment, triggering additional semantic extensions.

### 4.2.1 Near speaker demonstratives

The ‘near speaker’ demonstratives represent the last vestige of the original PYI extended-restricted-obscured distinction in Kalaallisut, involving extent and visibility semantics. The highest degree of proximity is denoted by demonstratives *ma-* and *uv-*. In particular, *ma-* ‘this here’ must include the deictic origo, and thus is limited to referents that consist of an extended space or place. In contrast, demonstrative *uv-* ‘this/that’ is used for the most proximal referents not containing the origo; as such, *uv-* is not limited in type of referent, but may refer to any type of object, person or place (also mostly true for the other demonstratives). Finally, *im-* ‘that (non-visible)’, though archaic today, has been the last remnant of the obscured/visibility distinction inherited from PYI.

#### Proximal *ma-* and *uv-*

The contrast between *ma-* and *uv-* in part preserves the extended-restricted distinction, with *ma-* tending to reference more spatially extended referents and *uv-* more restricted ones. Because *ma-* includes the origo, it may only refer to larger spaces or locations (hence more extended referents) rather than to constrained objects, as opposed to *uv-* (which is not limited in this way). This represents a shift from the original extended-restricted distinction because of the necessity of including the origo; speakers rejected usage of *ma-* with more extended referents that did not include the origo (e.g. a pen or harpoon).

Demonstrative *ma-* is close in meaning to English ‘here’, though it can be used pronominally or adverbially as for all the demonstratives. When used pronominally, the object being referenced must be spatially vast enough to include the origo, for instance *illu manna* ‘this house’ (that we’re in) or *nuna manna* ‘this country’. One speaker (M/early 70’s/Sisimiut) described the meaning of *ma-* as “the place where you are”. In contrast, *illu una* ‘this house’ would reference a house nearby (likely that you’re pointing to) or one that is relevant to

the context/discourse. An example of *ma-* mirroring English ‘here’ is shown in (88), from a speaker’s travel narrative about hunting trips:

(88) *maani tupeqarfeqartarpugut*

ma-ani                      tupeqarfik-qar-tar-pugut  
 DEM.PROX.EXT-LOC tent.place-have-HAB-1PL.IND  
 ‘here we have a camp’

In this example the deictic origo being referenced is relative to the context of the story, not the speaker’s origo at the time of speaking.

As mentioned, demonstrative *uv-* has a more neutral and broad usage than *ma-*.<sup>1</sup> When used exophorically, *uv-* draws the addressee’s attention to something proximal being indicated within the physical setting. Examples of *uv-* usage given by speakers tended to localize referents that were within reach. For example, *aqerluusaq aajuna* (aqerluusaq aa-uv-na, pencil.ABS.SG AA-DEM.PROX-ABS.SG) ‘this is a pencil’ while holding a pencil, from a speaker showing the difference between a pen and pencil. Similarly, example (89) shows the usage of *uv-* to describe a location on the table we were sitting at.

(89) *Una mikrofoni nerriviup qeqqaniippoq.*

uv-na                      mikrofoni                      nerrivik-p  
 DEM.PROX-ABS.SG microphone.ABS.SG table-ERG.SG  
 qeqq-ani=ik-poq  
 middle-3SG/SG.LOC=be-3SG.IND  
 ‘This microphone is in the middle of the table.’

An adverbial example of *uv-* usage comes from the Arctic Animals Tabletop Task (AATT). In example (90), the director of the task describes the location of the caribou figurine (*qaqqap qaavani* ‘on top of the mountain’), then corrects its location using adverbial *uv-* (*uaneeri-aruni < uani*) as she adjusts its position. Also from the AATT, example (102) below similarly shows usage of *uv-* to indicate objects within the speaker’s hands.

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<sup>1</sup>As described in Chapter 2, *uv-* is also commonly used as a third person pronoun.



Figure 4.1: Landscape Photo Task picture #1

- (90) a. *Okay, taava qaqqap qaavaniissaaq tuttu,* (AATT 3070)

okay taava qaqqap-p                    qaav-ani=ik-ssa-aq  
 then mountain-ERG.SG top-3SG/SG.LOC=be-FUT-3SG.IND  
 tuttu  
 caribou.ABS.SG  
 ‘Okay, then the caribou will be on top of the mountain,’

- b. *aap, kujataa.. eeh.. tuttu uaneeriaruni.*

aap kujata-a                    tuttu                    uv-ani=ik-riar-uni  
 yes south-3SG/SG.ABS caribou.ABS.SG DEM.PROX-LOC=be-after-3RSG.FSUB  
 ‘Yes, south uhh... as soon as the caribou is here.’

Usage of *uv-* beyond immediate, arm’s reach can be found in the Landscape Photo Task (LPT), an elicitation task in which speakers were shown pictures taken of landscape scenes within Greenland with arrows indicating different referents and locations. The speakers were asked how they would refer to each using a demonstrative. In Figure 4.1 from the LPT, a few speakers used *uv-* for referent (a), though the majority used ‘away from speaker’ *ik-*.

## Non-visible *im-*

A remnant of the visibility contrast present in PYI and most of the other Yupik-Inuit languages has existed in the Kalaallisut demonstrative *im-* ‘that (non-visible)’, which is found (though archaic) in its pronominal forms only today (e.g. *inna*, NOM.SG). In my fieldwork, only middle-aged and older speakers recognized *inna*, with the two eldest speakers being the only ones able to describe its meaning. Just one speaker (M/early 70’s/Sisimiut) reported the proximal obscured meaning, explaining it as ‘behind something’, while another (F/late 70’s/Aasiaat) explained its usage by elders when describing what happened a long time ago (as in telling a story), giving it a temporal rather than spatial meaning; see example (91) with *inna* acting as a clitic. This latter meaning follows the same trajectory as PYI \**im-* in some western Inuit languages, in which the proximal/obscured meaning evolved into a more remote, distal meaning, in space or time. Lastly, some middle aged speakers identified *inna* as used in the bible and psalms, for instance *inna paradisi*. All identified it as an old word.

(91) *qangalinna takussaarakku* (Fortescue 1984: 61)

qangali=inna            taku-ssaa-rakku  
long-ago=DEM.OBSC see-no.longer-1SG/3SG.PSUB

‘It’s a long time since I have seen him’

### 4.2.2 Away from speaker (same level)

Moving away from the speaker, the next set of demonstratives are at a greater distance yet on the same level (horizontal plane) as the deictic origo. They contrast with the near speaker demonstratives, particularly *uv-*, in distance, and exhibit a further distance contrast within the category: *ik-* as medial, and *av-/qav-* as distal. The latter pair also encodes a coastal distinction. In contrast with the ‘near speaker’ demonstratives, these encode directional meanings through their spatial specificity (i.e. denoting locations on the same horizontal level, as well as the coastal information of *av-qav-*).



Figure 4.2: *Innga qaqqaraq* ‘that hill’ (<ik-)

### Medial *ik-*

Demonstrative *ik-* is used for referents an intermediate or medial distance away, on the same level as the speaker. Speakers describe *ik-* as farther than *uv-*, but not too far. One speaker described *innga* (ik-na, DEM.DIST-ABS.SG) as *ungasinnerulaartog* ‘the one that’s a little farther away’ (ungasit-neru-laar-toq, be.far-more-a.little-APRT.ABS.SG). As such, another speaker described it as close by, where you can go. In this way, *ik-* is more accessible than the distal demonstratives.

In Figure 4.1 from the LPT, most speakers used *innga* for the house in (a) of Figure , and a majority used it for (b) as well. A similar example of *ik-* usage for a landscape entity referent is shown in Figure 4.2, which shows a *qaqqaraq* (*qaqqaq* ‘mountain’ + *-araq* ‘little’) in Sisimiut, which a speaker made reference to using *innga*. As can be seen in these photos, referents of *ik-* are on approximately the same horizontal plane as the origo, away but not too far away.

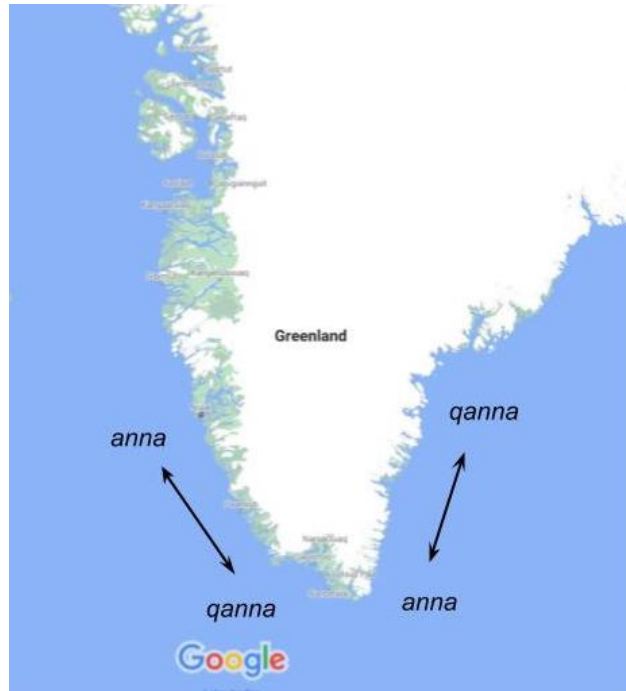


Figure 4.3: Coastal usage of *av-/qav-* (map source: Google Maps)

### Coastal demonstratives *av-* and *qav-*

All of the distal demonstratives encode more specific directional information, including topographic and cardinal meanings. On the same horizontal level with *ik-* are the coastal demonstratives *av-* and *qav-*, used for referents that are far away and may be indicated with particular geophysical vectors. Their meaning is rooted in the Arctic coastline and represent a coastal axis, with *av-* referring to the right along the coast (when looking out to sea) and *qav-* to the left along the coast. The semantics of *av-/qav-* is based upon the major north-south coastline of Greenland, rather than on smaller intricacies such as the coastline within a fjord; their directions are calculated with respect to the open sea. However, depending on the location within Greenland these could point in different cardinal directions (e.g. on the southern tip of Greenland). Figure 4.3, based on a drawing by an older speaker (M/early 70's/Sisimiut) in an elicitation session, shows this coastal usage of *av-/qav-* (abs.sg pronouns *anna/qanna*) as the directions move around the coastline.



The demonstratives *av-* and *qav-* are used for far distal referents, often for other places in Greenland. From the origo of central West Greenland where fieldwork was conducted, ‘right along the coastline’ (*av-*) points toward more northern places in Greenland, while ‘left along the coastline’ (*qav-*) points toward the southern parts of Greenland. Thus we have the following examples (92) and (93) of the coastal demonstratives being used adverbially to reference places to the north and south, respectively.

(92) *Avani Upernavimmi inunngorpunga.*

av-ani                                      Upernavik-mi              inunngor-punga  
 DEM.RIGHT.COAST-LOC Upernavik-LOC.SG be.born-1SG.IND  
 ‘I was born there (right-along-coast/north) in Upernavik’

(93) *Qavani Qaqortumi ilinniarnikuuvunga.*

qav-ani                                      Qaqortoq-mi              ilinniar-nikuu-vunga  
 DEM.LEFT.COAST-LOC Qaqortoq-LOC.SG study-PERF-1SG.IND  
 ‘I have studied there (left-along-coast/south) in Qaqortoq’

More locally, one speaker (M/42/South Greenland) described the location of the Qinngorput neighborhood, with respect to our location in central/downtown Nuuk, using *qavani*. Figure 4.4 shows the geography of Nuuk. Qinngorput is located toward the left along the coastline from the city center.

Furthermore, in Figure 4.1 of the LPT, several speakers used the demonstrative *av-* in referencing points (d) and (e), which are to the right along the coastline while facing out to sea (north) from the perspective of the photo. The distant mountain shown in Figure 4.1, called Sermitsiaq, can also be seen in Figure 4.4 (located north-east of Nuuk). Thus the LPT and Qinngorput examples show coastal usage of both *av-* and *qav-* with respect to central Nuuk, indicating opposing directions along the coastline. Importantly, points (d) and (e) in Figure 4.1, referenced using *anna/avani*, are ones that are further away from the deictic origo; *av-* was not used for point (b) by any speakers. The coastal demonstratives are only used for distal referents, usually even farther than the points in the LPT photos. Finally,



Figure 4.4: Instances of *pav-* and *qav-* usage in Nuuk (reproduced from Salamon 2011: 47)

some speakers used *av-* for the referents in another LPT photo, shown in Figure 4.5, which again shows locations to the right along the coastline from the origo shown in the photo.

Referring back to Table 4.1, we can see that *av-* and *qav-* were not historically in direct contrast, with *\*av-* an ‘away from speaker’ demonstrative and *\*qav-* an ‘inside/outside’ demonstrative (both extended and more accessible) in PYI. Though Kalaallisut *av-* specifically refers to the right along the coast/north, the (far) distal ‘away from speaker’ meaning remains as part of its semantics. In fact, Bergsland (1955) lists a separate ‘far yonder’ meaning for *av-*, noting that it may be obsolete, though Kleinschmidt (1851) gives the coastal meaning which shows that it is an old usage as well. Both of the other Greenlandic Inuit dialects, Inuktun and Tunumiisut, have *av-/qav-* as coastal demonstratives which likewise suggests that it was an older development. However, Inuktun preserves the non-coastal ‘over there’ as the primary meaning for *av-*, with the coastal one also present (Fortescue 1991).



Figure 4.5: Landscape Photo Task picture #5

### 4.2.3 Down/up from speaker: *kan-*, *sam-*, *pik-* and *pav-*

The ‘up from speaker’ and ‘down from speaker’ demonstratives denote oppositions along the vertical dimension, referencing things/places above or below the deictic origo. These categories contrast two dimensions of deictic distinctions: distance and vertical orientation. The direction is based both on abstract verticality (straight up above versus below the speaker) as well as on geophysical features of the environment: uphill versus downhill and landward/inland versus seaward/out-to-sea (also see Section 4.3). Within each non-horizontal spatial zone, the demonstratives are distinguished by distance in parallel fashion across the two categories.

#### Vertical orientation

The vertical demonstratives are used for up/above and down/below, as in *timmisartog pavaniippoq* ‘the airplane is way up there’ (in the sky) (<timmisartog pav-ani=ik-poq, airplane.ABS.SG DEM.UP.DIST-LOC.ADV=BE-3SG.IND) or *Nuka pikaniippoq* ‘Nuka is up there (upstairs)’ (<*pik-*) (both referring directly upwards/overhead in space). Likewise, *kan-*

*/kanani* could be used to reference downstairs (vertically down from/underneath the deictic origo). Demonstrative *sam-* also may refer directly down, although spatial contexts that allow this are rare; one speaker (F/24/Sisimiut) explained it as referencing ‘underground’, as in *samani nunap iluani* ‘down there in the earth’. In this vein, another speaker (M/47/Kangaamiut) mentioned that, in the old days, *panna* (<*pav-*) was used to refer to ‘God’ and *sanna* (<*sam-*) for ‘Satan’. However, *sam-* is usually associated with the sea (discussed further below).

These demonstratives are also used for oblique up/down, a very common usage of the vertical demonstratives often encoding topographic elevation (i.e. uphill/downhill). In the spatial environment of Greenland, particularly the coastal environment in which permanent settlements exist, elevation of the terrain is highly salient and thus such oblique up(hill)/down(hill) demonstrative meaning is in frequent usage for pointing out objects and locations in the local environment. A straightforward example of this occurs in the following excerpt from a route description from one location to another in Sisimiut. Example (94) shows consecutive adverbial usages of *pik-* ‘up there’ (medial) to reference the location of a building which is higher up from the origo:

(94) a. *Tappikunga majuassatit,*

ta-pik-unga                      majuar-ssa-tit  
 ANAPH-DEM.UP-ALL go.upwards-FUT-2SG.IND  
 ‘You should go up there,’

b. *tappikaniipput illut qasertut.*

ta-pik-ani=ik-put                      illu-t                      qaser-toq-t  
 ANAPH-DEM.UP-LOC=BE-3PL.IND house-ABS.PL gray-APRT-ABS.PL  
 ‘the gray houses are up there.’

c. *Tappikani najugaqarput.*

ta-pik-ani                      najugaqaq-put  
 ANAPH-DEM.UP-LOC dwell-3PL.IND  
 ‘They live up there.’

Figure 4.6 shows usage of *pik-* in referencing a statue of Hans Egede on top of a nearby hill, while Figure 4.7 shows a speaker using *pav-* for the mountain a further distance away. These usages may be compared to that of Figure 4.2, in which the *qaqqaaraq* ‘small mountain’/‘hill’ is referenced using horizontal demonstrative *ik-*. While the statue in Figure 4.6 receives the vertical form *pik-*, being on top of the hill (above the speaker), the hill itself (also a *qaqqaaraq*) would be referenced using *ik-*. The actual landforms in Figures 4.2 and 4.6 are not, on the whole, vertically higher than the deictic origo since they are sitting on the ground horizontally from the speaker. In contrast, the mountain *qaqqaq* in Figure 4.7 is located up from the speaker in terms of elevation.



Figure 4.6: *Hans Egede pinnga* (<pik-)



Figure 4.7: *Qaqqaq panna* (<pav-)

We find usage of *kan-* in the AATT; however, it are used in the context of the tabletop spatial setup which recreates the landscape shown in the picture. As described in Chapter 1, the AATT task includes some photos of figurines on a tabletop and some photos taken outside on rocks and plants (as in Figure 4.8). Only the medial vertical demonstratives (*kan-/pik-*) are found in the AATT descriptions, not their distal counterparts. Description of Figure 4.8 from the AATT is shown in example (95).



Figure 4.8: AATT\_42

- (95) a. D: *Qaqqaqqap eqqaani taakani qaarsumi taakaniissaaq inuk...piniartog.* (AATT 42)

qaqqaq-araq-p            eqqa-ani            ta-ik-ani  
 mountain-small-ERG.SG near-3SG/SG.LOC ANAPH-DEM.DIST-LOC  
 qaarsoq-mi            ta-ik-ani=ik-ssa-aq            inuk  
 qaarsoq-LOC.SG ANAPH-DEM.DIST-LOC=be-FUT-3SG.IND person.ABS.SG  
 piniartog  
 hunter.ABS.SG

‘Over there near the hill, on the *qaarsoq*, the person...hunter will be there.’

- b. M: *Qaavani?*

qaav-ani  
 top-3SG/SG.LOC

‘On top?’

- c. D: *Naah, takanani nunap ataani, nunami.*

naah ta-kan-ani            nuna-p            ata-ani            nuna-mi  
 no ANAPH-DEM.DOWN-LOC land-ERG.SG below-3SG/SG.LOC land-LOC.SG

‘No, down there below the land, on the land’

In example (95), the director (D) describes the location of the hunter figurine in Figure 4.8, at first using demonstrative *ik-* to indicate a position near the rock<sup>2</sup> then switching to *kan-* in order to clarify its specific spatial location lower down (*nunap ataani* ‘below the land’) with *takanani* ‘down there’.

## Distance

Most of the examples of vertical demonstrative usage so far have been of the medial demonstratives *kan-/pik-*; *sam-* and *pav-* represent the distal category within the vertical spatial zones. Additionally, the latter forms have a stronger association with particular geophysical meanings. However, the contrast between *kan-/pik-* and *sam-/pav-* is predominantly based on distance, the same within both ‘up’ and ‘down’ categories. Similarly to descriptions of horizontal medial *ik-*, one speaker described down medial *kan-* as ‘reachable’. In this way, there is a semantic parallel between *ik-*, *kan-*, and *pik-* (also potentially *kig-*), which all indicate referents that are away from the origo yet are somewhat accessible. In the PYI paradigm (Table 4.1), these stems are all in the restricted category, which has evolved into a closer (proximal/medial), more accessible and visible category in Eastern Inuit.

Demonstratives *sam-* and *pav-* are only used for truly distal referents (in parallel with *av-* and *qav-*, usually within the context of the landscape or more broadly across the settlement or country (the latter often with cardinal meanings). Comparing Figure 4.6 with Figure 4.7 illustrates the distance distinction within the up/above category, with the latter taking the distal form *pav-* (this example also illustrates the geophysical meaning of *pav-*, further detailed below). In the down/below category, the distance distinction can be seen in the results of the LPT.

Figure 4.9 shows an LPT photo with classic usages of *kan-* versus *sam-*. For referent (a), all speakers used demonstrative *kan-* for the car which is down from the origo, but not

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<sup>2</sup>The director also uses the term *qaarsoq*, a landscape term that has no easy translation in English, but is found very often in Greenland. It refers to rock that is attached to the land and is rounded, but has a relatively flat top surface (which one can sit on). A hill/mountain (*qaqqaq*) may have smaller sections each comprised by a *qaarsoq*, broken up patches of vegetation (as seen in Figures 4.8 and ??).



Figure 4.9: Landscape Photo Task picture #4

too far away. In contrast, the majority of speakers answered *sam-* for points (b), (c), and (d), which are downwards and further away than (a). Some speakers suggested the coastal demonstratives for (b) and (d), though several noted that the points needed to be further to the left or right for that usage to be correct. Especially in contrasting with point (c), point (b) is towards the south (which is left along coast, giving *qanna/qavani*), and (d) is more towards the north (right-along-coast, giving *anna/avani*).

### **Inland/uphill vs. seaward/downhill**

As seen in many of these examples, a frequent usage of the vertical demonstratives is for referents uphill or downhill from the origo, which is in accordance with the significant elevation which characterizes the Greenlandic landscape, including the more urban environments of towns and settlements. The up/uphill and down/downhill meanings may be used to refer in different directions based upon local geophysiography (for instance, example (4.6) shows a speaker using medial up demonstrative *pik-* to point vertically upwards in a situation where this vector is pointing toward the sea/west).





Figure 4.10: Landscape Photo Task #3

However, the overall lay of the land associates up/uphill with ‘inland’ and down/downhill with ‘seaward’. In this way, the vertical demonstratives are likewise associated with the landward-seaward axis, especially in the case of the distal vertical demonstratives which tend towards usage for oblique spatial vectors compared to a more intensely vertical up/down. For example, in Figure 4.7, the speaker refers to the *qaqqaq* ‘mountain’ using *panna* (<pav-) because it is uphill from the origo, but simultaneously it is towards the landward/inland direction. This photo shows how the landscape saliently goes uphill as it moves away from the sea (which lies to the opposite direction as the photo).

The association between ‘down’ and ‘seaward’ is likewise shown clearly by the LPT photos in Figures 4.9 and 4.10. The perspective in Figure 4.10 is looking toward the sea and the harbor in Sisimiut, located slightly downhill from the point of reference but nonetheless most referents look to be on roughly the same horizontal plane. This is reflected by the answers given for (a): the majority of speakers were split between *ik-* and *kan-*. However, the further referents (b) and (c) received ‘down there’ demonstratives from the majority of speakers, as they are located seaward or on the sea (the difference between *kan-* and *sam-* can be seen here, with speakers using them in equal numbers for (b) but only using the

distal *sam-* for (c)). Finally, the house shown in (d) is vertically level or slightly higher than the origo represented by the photo, and thus the majority of speakers used *ik-* to reference it. However, the house is simultaneously located distinctly seaward from the deictic origo and, accordingly, many speakers instead used *sam-*. This usage of *sam-* clearly expresses its ‘seaward’ denotation, as the referent is not in fact down from the speaker.

Other examples come from the usage of the demonstratives as directionals within the city of Nuuk. From Ilisimatusarfik, the University of Greenland, one speaker used *samunga* (allative case adverbial form of *sam-*) to indicate the direction towards the open water in saying ‘let’s go downtown’ (city center). Conversely, from a location within the city center, another speaker described a friend’s house in Qinngorput with *pav-*:

(96) *Pavani illoqarpoq*

pav-ani                      illu-qar-poq  
 DEM.UP.DIST-LOC house-have-3SG.IND

‘He has a house over/up there (inland).’ (referring to Qinngorput)

Note that another speaker used *qav-* for the same direction, as described above. The location being referenced, Qinngorput, is both ‘left along the coast’ and ‘inland/landward’ from the origo in the city center (see Figure 4.4). This flexibility in the application of the demonstratives to particular spatial contexts is discussed in Section 4.4.1.

Another example of the landward usage of demonstrative *pav-* can be found in Salamon (2011: 45), by way of a route description within Nuuk. The speaker (male, over 70) was asked to describe the location of the airport in relation to the Nuussuaq neighborhood (example 97; my glosses)<sup>3</sup>.

(97) a. *Massakkut Nuussuarmiippugut,* (Salamon 2011: 45)

massakkut Nuussuaq-mi=ik-pugut  
 now              Nuussuaq-LOC=BE-1PL.IND

‘We are in Nuussuaq now,’

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<sup>3</sup>Some corrections to Salamon (2011)’s transcription are indicated.

- b. *taava Ilisimatusarfik aammalu timmisartoqarfik pavaniipput.*

taava Ilisimatusarfik aamma=lu timmisartoqarfik  
 and.then Ilisimatusarfik.ABS.SG also=CONJ airport.ABS.SG  
 pav-ani=ik-put  
 DEM.UP.DIST-LOC=be-3PL.IND

‘so Ilisimatusarfik and also the airport are up there (inland/east).’

- c. *Taava timmisartoqarfik tungaanut ilumukassaagut pavunga,*

taava timmisartoqarfik(-p) tunga-anut  
 and.then airport(-ERG.SG) direction-3SG/SG.ALL  
 ilu(m)-mut=kar-ssa-agut pav-unga  
 inside-ALL.SG=go-FUT-1PL.IND DEM.UP.DIST-ALL

‘So in the direction of the airport we will go inland, up there (inland/east).’

- d. *ilumukassaagut pavunga.*

ilu(m)-mut=kar-ssa-agut pav-unga  
 inside-ALL.SG=go-FUT-1PL.IND DEM.UP.DIST-ALL

‘we will go inland up there (inland/east).’

- e. *Aammalu kangerlu(ar)mi ilumukassaagut,*

aamma=lu kangerluk-mi ilu(m)-mut-kar-ssa-agut  
 also=CONJ fjord-LOC.SG inside-ALL.SG=go-FUT-1PL.IND

‘And also we will go inland at the fjord,’

- f. *taava isumaqarpoq kangerluup iluaanut.*

taava isumaqar-poq kangerluk-p ilu-anut  
 and.then think-3SG.IND fjord-ERG.SG inside-3SG/SG.ALL

‘so it means inside the fjord.’

The speaker describes the direction pointing from his location in Nuussuaq using *pavani/pavunga*. He elaborates with the spatial description *ilumukassaagut*, using the directional stem *ilu-* ‘inside/inland’ in parallel with *pav-*. This highlights the geophysical usage of *pav-* specifically meaning ‘landward/inland’ rather than strictly ‘up there’. Finally, the speaker further explains that the meaning of *ilu-* is with respect to the fjord (toward the interior of the fjord). The spatial vector described here is illustrated in Figure 4.4 (“pavunga

2”). Section 4.3 further discusses the geophysical anchorings of the vertical demonstratives and their associations with cardinal directions resulting from the particular context of West Greenland coastal geography.

#### 4.2.4 Inside/outside from speaker

Demonstratives *qam-* and *kig-* make spatial reference with respect to enclosed spaces, denoting ‘inside’ or ‘outside’. Unlike the other demonstratives, the inside/outside demonstratives do not exactly encode a distance contrast (but see Section 4.3.3).

##### Inside/allo-space: *qam-*

Most commonly used is *qam-*, which refers to another space (‘allo-space’) with respect to the location of the deictic origo: ‘inside’ from an outside origo, ‘outside’ from an inside origo, or on the other side of a wall or barrier (e.g. ‘in the room next door’). In other words, *qam-* means “on the other side of where you are”. Thus, unlike the other demonstratives, the semantics of *qam-* (and *kig-*) is based upon the built/inhabited environment rather than the geophysical environment (though it is conceptually extended to apply there; see Section 4.3).<sup>4</sup>

Prototypical usage of *qam-* is for ‘in there’, either ‘in the other room’ or ‘inside’ (from an outside origo). Several speakers explained *qam-* as used when outside and talking about something inside a house or building, especially while looking in: e.g. *qamaniippoq* ‘he/she/it is in there’. When used inside, speakers tended to explain this as meaning in another room (e.g. *qanna igafimmiiittoq* ‘that one in the kitchen’). While inside a house, *illu qanna* would mean ‘that house next door’ (versus *illu manna* for the house you are currently in). In fact, *qam-* and *ma-* are opposites, though not traditionally shown in direct opposition, as *ma-* denotes a space containing the deictic origo while *qam-* denotes a space defined specifically as

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<sup>4</sup>The vertical demonstratives also have particular extensions for usage within the home, though these may be falling out of use (see Fortescue 2018).

not containing the origo (one speaker explained, “you have to be excluded from a particular location”). Interestingly, *qam-* can also be used for ‘inside’ a person/body, such as when referencing one’s emotions or the fetus inside a pregnant woman.

Some speakers in my fieldwork did not want to use *qam-* for ‘outside’, though others would use it this way and provided examples. Referring to a tree outside the building, a speaker said *Aaqanna!* ‘(It’s) there (outside)!’. Other examples are given in (98) and (99), both of which combine *qam-* with nominal *sila* ‘outside’ to reinforce this alternate meaning. However, the most basic or prototypical meaning for *qam-* is clearly ‘inside’, which also contrasts with *kig-* ‘outside’.

(98) *Qanna silamiittoq qiuvoq*

qam-na                      sila-mi=ik-toq                      qiu-voq  
 DEM.IN/OUT-ABS.SG outside-LOC.SG=be-APRT.ABS.SG freeze-3SG.IND  
 ‘That somebody outside must be freezing’

(99) *Taqqama sila anorlerpoq*

ta-qam-a                      sila      anorler-poq  
 ANAPH-DEM.IN/OUT-PRED outside be.windy-3SG.IND  
 ‘It is windy outside out there’

Finally, unlike most of the other demonstratives, there is no evidence that *qam-* encodes distance within its semantics. Its usage appears to stretch from (proximal/)medial reference, as in examples referring to the room next door, to far distal reference (see geophysical usage in Section 4.3.3).

### Outside: *kig-*

Demonstrative *kig-* has the meaning ‘that outside (a building)’ or ‘just out there’ (never ‘inside’); it has a cardinal meaning also, discussed in Section 4.3. However, *kig-* is not in common usage by the speakers interviewed here and only known by the middle-aged and older speakers (see Section 4.5). One such speaker (F/38/Sisimiut) gave the example in (100), but also said that people do not use it in the city, but use *qam-* instead.

(100) *Meeqqat kigani aneerput.*

meeraq-t      kig-ani              aneer-put  
child-ABS.PL DEM.OUT-LOC play-3PL.IND

‘The children are playing outside (just out there).’

#### 4.2.5 Prefix *ta-*

Finally, the only prefix in Kalaallisut, *ta-*, combines with the demonstrative stems to give an anaphoric meaning. A clear example of this is given in (101) from the story *Aapakaaq kuukkuuriarlu* ‘The monkey and the crocodile’ (Sommer et al. 1972; morphological analysis, glosses, and translation by Maria Bittner<sup>5</sup>). Note that Bittner uses a different spelling system than standard Kalaallisut, as well as different glossing conventions; Bittner’s original is shown here. In the example, demonstrative *ik-* occurs in both lines, first unprefixes then prefixed. In the first case (101a), *ik-* indicates a place (‘that island’) being referenced for the first time. In (101b), the prefixed form (*taaka*) refers back to the already mentioned place.

(101) a. *Qiqirtamut ikunga ilagiumaatsuvarma,* (Sommer et al. 1972/Bittner, 4.2-4.3)

qiqirta-mut      ik-unga              ilagi-uma-it-u-pa-rma  
island-SG.DAT DEM.DIST-ALL accompany-want-non-be-IND.TV-2SG.1SG

‘You’ve never consented to go with me to that island just over there,’

b. *taaka paarnat inirititat ingasavipput.*

ta-ika                              paarnaq-t inirig-tit-gaq-t  
ANAPH-DEM.DIST.excl fruit-PL      get.ripe-cause-TV/CN-PL  
ingasag-vig-pu-t  
be.excessive-really-IND.IV-3PL

‘it’s (lit. there, as mentioned) full of ripe fruit.’

An example of *ta-* occurs in the AATT (example 102), in which the director states that some of the props are not needed anymore. Again, the director first refers to the props with an unprefixes demonstrative (*uku* ‘these’), then again with a prefixed form (*taakku*):

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<sup>5</sup>Found at <https://sites.google.com/view/maria-bittner/kalaallisut?authuser=0>.

(102) *Uku peerpagut, atorunnaarpagut taakku.*

(AATT 10)

uv-ku                      peer-pagut                      ator-unnaar-pagut  
DEM.PROX-ABS.PL remove-1PL/3PL.IND use-no.longer-1PL/3PL.IND  
ta-uv-ku  
ANAPH-DEM.PROX-ABS.PL

‘We remove these ones, we are not using them (as mentioned) anymore.’

However, demonstratives prefixed with *ta-* do not necessarily follow an unprefixd demonstrative correlate. In addition, *ta-* may also be used for something that is known or of common knowledge. For instance, in response to the question *naammi seqineq?* ‘where is the sun?’ a speaker answered *tappava* (ta-pav-a) ‘way up there’, explaining that we know it’s up there somewhere though we don’t see it (we were inside a building). Other locations mentioned in this elicitation not based upon such common knowledge were not indicated using the prefix. Commonly, known locations (i.e. regions or towns) in Greenland are referenced through a prefixed adverbial demonstrative, as in *taavanersuaq* (ta-av-ani-rsuaq, ANAPH-DEM.RIGHT.COAST-LOC-large) ‘way in the north’ (referring to North Greenland).

### 4.3 Geophysical and cardinal extensions

The basic semantics of the demonstratives is overlaid by further directional meanings rooted in the geophysiography of the language locus—the west coast of Greenland. As seen in the map of Greenland from Chapter 1, the west coastline (the main inhabited region of the country) runs roughly north-south. The demonstratives map onto the geophysical axes prevalent in the Kalaallisut spatial domain (see Chapter 2). Figure 4.11, based on a sketch made by an older speaker during an elicitation session, shows how the more geophysical demonstratives are used within the landscape of west Greenland; their cardinal meanings arise from this mapping onto the environment. It is primarily the distal demonstratives, *av-/qav-* and *sam-/pav-*, which carry a geophysical layer of meaning based in the wider environment of Greenland, but the medial ones may also to a lesser degree. The distal,

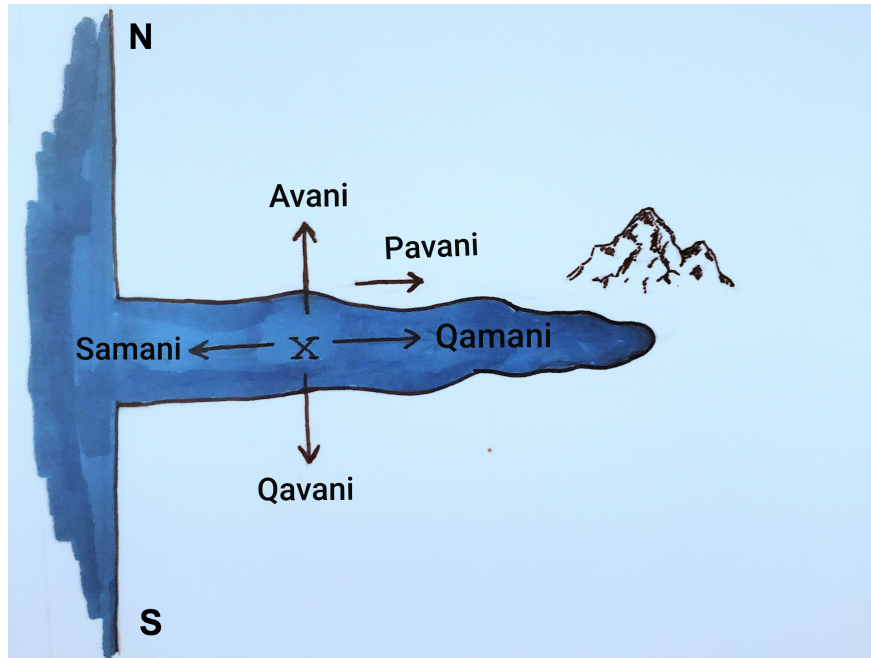


Figure 4.11: Geophysical usage of demonstratives (image by Jon WuWong)

geophysical demonstratives are mostly used for referents located at a far distance situated within the landscape or geography of Greenland.

As can be seen in Figure 4.11, it is the coastal configuration, involving a coastal axis and the orthogonal landward-seaward axis, which makes up the primary basis for macro scale spatial orientation in Kalaallisut. This arises from a conceptual ontology based upon the land-water dichotomy at work across the landscape and other spatial domains, crucial to navigation and orientation in Greenland (see Chapter 2 and Grenoble et al. 2019). This spatial conceptualization is directly motivated by the physical environment, a large island with purely coastal habitation (McMahan et al. (2022)). The resulting cardinal meanings are summarized in Table 4.3, organized by distance. As mentioned, it is the distal demonstratives which primarily carry the cardinal meanings, yet the medial demonstratives have some vestige of associated cardinal meanings as well.

To illustrate, several speakers in the LPT responded, particularly in the cases of the horizontal/same-level, distal referents, that it depends where we are. Although the surrounding landscape is evident in the photos, the cardinal orientation and overall geophysical



	<b>Medial</b>	<b>Distal</b>
<b>North</b>	<i>ik-</i>	<i>av-</i>
<b>South</b>	<i>kig-</i>	<i>qav-</i>
<b>East</b>	<i>pik-</i>	<i>pav-</i>
<b>West</b>	<i>kan-</i>	<i>sam-</i>

Table 4.3: Cardinal meanings in the demonstratives

configuration was not necessarily so though many of the locations were immediately identified by speakers. Some speakers described their use of this information in selecting a demonstrative (or, as the case often was for this type of referent, several demonstratives). For instance, with regards to another LPT photo shown in Figure 4.12, a speaker (M/42/Nanortalik) described how his answer for referent (d) depends on where we are with respect to the fjord and the cardinal directions, whether it was *samani*, *avani*, *qavani*, or *qamani*. However, the surrounding referents were more straightforward for this speaker, answering *samani* for (c) and *pavani* for (e) (due to their positions on the water and on top of a mountain, respectively). While the locations in the other LPT photos were known to many speakers, being in Nuuk and Sisimiut, the LPT photo in Figure 4.12 was not an easily transparent location. In general, speakers identified it as East Greenland, but they mostly did not know its geophysical orientation as mentioned by this speaker. Other examples of this need for the macro-scale spatial orientation are given in the sections below.

Figure 4.11 shows the three geophysical axes which are mapped onto the demonstrative system, resulting in macro-directional and cardinal meanings: coastal axis, land-sea axis, and fjord axis. These contribute to a ‘spatial coordinate demonstrative’ function at work in the spatial deictics. The geophysical meanings of the demonstratives are added to the Kalaallisut paradigm in Table 4.4.

### 4.3.1 North-south and the coastal axis

As Greenland’s west coast runs roughly north-south, abstracted from the local intricacies of the coastline, a salient coastal axis with the rightward direction pointing north and the



Figure 4.12: Landscape Photo Task #2

	Proximal/ Medial	Distal	Topographic/cardinal meanings
Near speaker	<i>ma-</i> <i>uv-</i>	( <i>im-</i> )	–
Away from speaker, same level	<i>ik-</i>	<i>av-</i> <i>qav-</i>	R-coast/north L-coast/south
Down from speaker	<i>kan-</i>	<i>sam-</i>	seawards/west
Up from speaker	<i>pik-</i>	<i>pav-</i>	inland/east
Inside/outside	<i>qam-</i> <i>kig-</i>		inside fjord south

Table 4.4: Kalaallisut demonstrative paradigm with geophysical meanings

leftward direction pointing south is continuous throughout the language locus area. The coastal demonstratives are thus aligned with the cardinal directions, making *av-* ‘that to the north’ and *qav-* ‘that to the south’, shown in Figure 4.11. As seen here, the coastal demonstratives apply only to the macro-scale coastline, not to the intricacies of the fjord, for instance, and therefore only denote the directions ‘north’ and ‘south’ in modern usage. As these are used for far distal referents, *av-/qav-* are often found referring to North and South Greenland, respectively, as in examples (92)-(93) above. In fact, most of the speakers who

were able to explain the meaning of *av-/qav-* did so using the cardinal terms rather than the coastal directions.

The Landscape Photo Task provides some examples of cardinal *av-/qav-* usage on a closer (yet still distal) scale. Looking back at Figure 4.9, points (b), (c) and (d) differ in their placement along the coastal/north-south axis. Although most speakers used *sam-* for all three (as they are all distal and seaward), other speakers distinguished the three by giving *qav*-<sup>6</sup> as an option for (b) and *av-* as an option for (d) (along with *sam-*). In LPT Figure 4.10, though most speakers used down distal *sam-* for (c), another (F/38/Sisimiut) explained that because she is from Sisimiut, where the photo was taken, she knows that the direction is north and so used *anna* (<av-na, DEM.RIGHT.COAST-ABS.SG ‘that to the north’) or *avaniittoq* (<av-ani=ik-toq, DEM.RIGHT.COAST-LOC=BE-APRT ‘the one that is in the north’). If she hadn’t known the direction, she would have used *sam-* because it is on the ocean.

As mentioned in Chapter 3, the coastal-based meanings of *av-* and *qav-* are preserved in Tunumiisut, the Inuit dialect spoken in East Greenland. However, like in Kalaallisut, they are used to reference the cardinal directions, flipped 180 degrees to match the coastal geography of the east coast giving *av-* ‘that to the south’ and *qav-* ‘that to the north’.

Finally, the usage of *av-/qav-* by some speakers for locations outside of Greenland exemplifies their cardinal meanings. For instance, one speaker (F/29/Nuuk) who has traveled in the United States explained using *avani* to refer to San Francisco from Los Angeles. Another (F/30/Sisimiut) gave the examples of *taavani Canadami* and *taqqavani Mexicommi* from our location within the United States. However, other speakers felt that they can only be used for Greenland, referring more specifically to North and South Greenland and reliant upon that coastal configuration.

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<sup>6</sup>Speakers noted that this referent needs to be further left/south to really qualify as a potential referent of *qav-*.

### 4.3.2 East-west and the land-sea axis

As described in Section 4.2.3, the vertical demonstratives (*kan-*, *sam-*, *pik-*, *pav-*) also encode the geophysical meaning of ‘seaward/landward’, with ‘down’ semantically aligned with ‘seaward’ and ‘up’ with ‘landward/inland’. This is based upon a geophysically natural structure wherein the coast/sea are physically lower than the inland region.

However, a further layer of meaning encoded in the demonstratives arises through an anchoring to the west coast of Greenland. Here, the seaward-landward axis which points orthogonally to the coastline aligns with the west-east cardinal axis. Thus, particularly for the distal *sam-* and *pav-*, the vertical demonstratives additionally encode the meanings of ‘west’ (*sam-*) and ‘east’ (*pav-*). ‘Down’ and ‘sea/seaward’ are strongly associated with the western direction, and likewise ‘up’ and ‘landward/inland’ with the eastern direction. As such, demonstrative *pav-* may be used to refer to Denmark. Thus, this set of demonstratives simultaneously encodes both abstract physical (up above/down below), landscape-based/geophysical (uphill-landward/downhill-seaward) and cardinal (east/west) meanings.

Together with the coastal demonstratives, the vertical demonstratives map onto the NSEW cardinal directions as the geophysical land-coast axes align with the cardinal axes through a reference point of West Greenland (Figure 4.13). In this way, the far distal *av-*, *qav-*, *pav-* and *sam-* may be directly contrastive with regard to direction within the space of ‘far away’ (but same level) referents. During fieldwork, older speakers often explained the uses of these four demonstratives by way of the cardinal directions. However, as discussed in Section 4.5, younger speakers tended not to know the cardinal meanings. Several other demonstratives may also fit into the structure (conceptual ontology) shown in Figure 4.13, described below.

Part of the conceptual ontology shown in Figure 4.13 is the encoding of a particular bodily orientation mapped onto the environmental structures. This bodily orientation has already been noted for the coastal directions, which are defined from the perspective of facing out

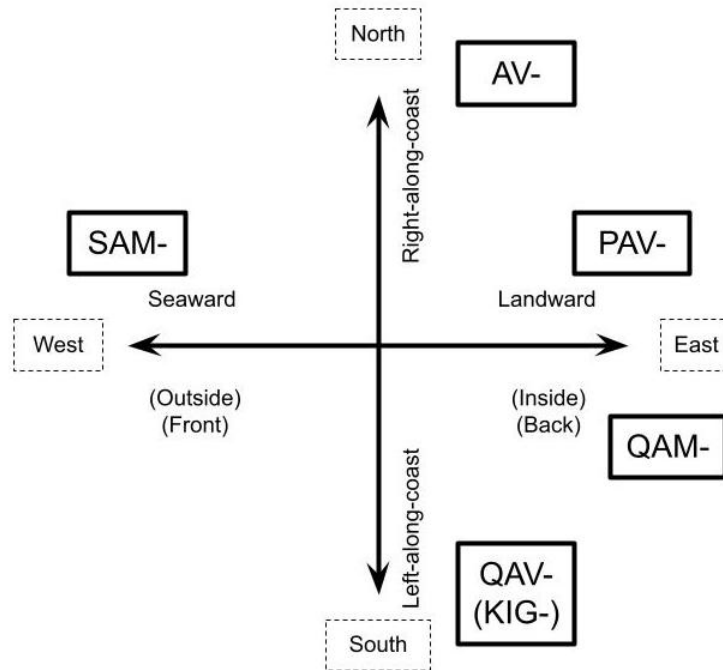


Figure 4.13: Geophysical axes

to sea (giving ‘right along coast’ and ‘left along coast’). Further, there is conflation between the sea (i.e. *sam-*) and *saa-* ‘front’ (and west), while *tunu-* ‘behind’ is used for east and East Greenland. One speaker explained by saying to imagine that you are standing facing toward the water.

### 4.3.3 Interior of the fjord

Figure 4.11 shows demonstrative usage with respect to a fjord; fjords are very important and numerous in Greenland. Most settlements are located on or near a fjord, including Nuuk and Sisimiut, and they are often used as waterways for travel. Thus an important demonstrative usage is the geophysical meaning of inside/outside *qam-* for the direction ‘inside/inward (in) a fjord’. This may often, but not necessarily, point in the same direction as inland/east *pav-*. Conceptually, the distinction of ‘inside’ versus ‘outside’ is important to the perception of the landscape of Greenland and is encoded in other spatial nouns and directionals. ‘Inside’ is the interior of the country (and the inland direction), while ‘outside’ is the area away

from the country (out to sea). Demonstrative *qam-* is thus used for this ‘inside’ (the land) vector, while the opposite is *sam-* (one speaker explained it as *nunap avataani* ‘outside/off the land’).

An example of this ‘inland/inside-fjord’ usage in the LPT is from Figure 4.1. A speaker (F/41/Maniitsoq) gave *qanna* (<*qam-*) for point (d), because she knows Nuuk and that direction is towards the inside of the fjord (this can be seen in Figure 4.4). Note that other speakers used *av-* for this direction, as it is also towards the right along the coast and north. Interestingly, another speaker (M/65/Paamiut) used *pav-* for these points, explaining that this is east. This shows some semantic overlap between *pav-* and *qam-*, with both sharing a meaning/usage having to do with the direction towards the interior of the land. All of these speakers are, in fact, utilizing different aspects of the geophysical environment in their demonstrative selection; the direction is both towards the interior of the fjord and towards the north-east. The complexity of the Greenlandic coastline leads to such seemingly contradictory cases. Also, there is significant flexibility in demonstrative choice for many deictic contexts, discussed further in Section 4.4.1.

#### 4.3.4 Cardinal *kig-* and *ik-*, and a historical perspective

Beyond the primary demonstratives representing the coastal, land-sea, and fjord-based axes described above, two other demonstratives have also had an element of cardinal meaning. Demonstrative *kig-* ‘that outside’ also means ‘south’ for some speakers (although this demonstrative seems to be disappearing; see Section 4.5). It is not clear if this meaning is coastally-based, like *qav-*. However, *qav-* and *kig-* historically share the inside/outside category (respectively extended and restricted). The demonstrative *qam-* also comes from the PYI inside/outside category (obscured), from which the current meaning of ‘that on the other side of a barrier’ clearly derives. Unlike the distal cardinal demonstrative meanings, there is no obvious linkage between the *kig-* meanings of ‘outside’ and ‘south’, except for the parallel between *kig-* and *qav-* (as both originally inside/outside demonstratives gaining the

meaning of ‘south’). However, the nominal stem used for cardinal ‘south’ (*kujat-*) derives from PYI *\*kivan* ‘area toward back (of house) or inside’, a nominalization of demonstrative stem *\*kiv-* (Fortescue 1988; Fortescue et al. 2010).<sup>7</sup> There was a close linkage and collapse in eastern Inuit of PYI *\*kiv-* and *\*kiy-* (>*kig-*), which could explain the association between *kig-* and ‘south’.

In both of its meanings, *kig-* is for closer (medial) referents. In its ‘exterior’ meaning, speakers explained its usage for ‘just outside’. For its cardinal ‘south’ meaning, *kig-* is used for closer referents than *qav-*; this fits the pattern seen already of a distance-based (medial versus far distal) contrast within the up/down, east/west demonstratives.

Similarly, as mentioned above, demonstrative *av-* has an older meaning ‘far yonder’ (distal away/over there). With this usage, we find another distance-based contrast between *ik-* (medial) and *av-* (distal) for the horizontal plane (i.e. in parallel with *kan-* vs. *sam-* and *pik-* vs. *pav-*). In fact, older sources including Kleinschmidt (1871) and Bergsland (1955) list ‘north’ as a meaning for *ik-*. Kleinschmidt (1871) describes *ik-* as the opposite of *kig-*: a place nearby in a northerly (*ik-*) or southerly (*kig-*) direction (both medial as opposed to distal *av-/qav-*). Thus, we find a parallel between *ik-/av-* as ‘north’ and *kig-/qav-* as ‘south’, showing a juxtaposition between the (historic) ‘away from speaker’ and ‘inside/outside’ categories.<sup>8</sup>

The four medial-distal pairs representing each of the cardinal directions are summarized in Table 4.3 above. However, this schematization is more representative of the historical trajectory of the system, as some of these meanings are older and not in common usage today (at least for the speakers interviewed for this project, mostly from larger towns in central West Greenland). Finally, Table 4.5, based upon the PYI table from Fortescue et al. (2010), hypothesizes what the inherited Greenlandic system may have looked like, with a loss/collapse of the PYI accessibility contrast characteristic of Eastern Inuit varieties as well

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<sup>7</sup>Fortescue et al. (2010) give the word *kialaa* ‘north’ for Tunumiisut, related to Kalaallisut *kujat* ‘south’ (<PYI *\*kiv-*), which could indeed indicate a coastal (left along the coast) link for *kig-*.

<sup>8</sup>This semantic contrast/conceptualization of AWAY (over there) versus INSIDE (in there) is found in other Yupik-Inuit languages such as North Slope Iñupiaq (see Chapter 3).

as semantic shifts in the extended-restricted-obscured distinction. As seen in Chapter 3, the easternmost varieties have undergone a shift from a contrast based on extent to one based on distance. As Table 4.5 shows for the Kalaallisut categories, all restricted demonstratives (apart from the near speaker forms) have become medial demonstratives, while the majority of distal demonstratives derive from the extended category.

	<b>Extended</b>	<b>Restricted</b>	<b>Obscured</b>
<b>Near speaker</b>	ma-	uv-	im-
<b>Away from speaker</b>	((av-	ik-))	
<b>Inside/outside</b>	((qav-	kig-))	qam-
<b>Down from speaker</b>		((kan-	sam-))
<b>Up from speaker</b>	((pav-	pik-))	

Table 4.5: Historical trajectory of Kalaallisut demonstratives

## 4.4 Overarching semantic factors and conceptual organization

### 4.4.1 Flexibility in demonstrative usage

The Kalaallisut demonstratives allow for a degree of flexibility in usage, such that for a particular referent in a particular deictic context there is often some flexibility in which demonstrative stem could be appropriately used depending upon which contextual factors are to be highlighted. Both the geophysical complexity of the Greenlandic coastal landscape as well as the multiple layers of meaningfulness within the demonstratives themselves, including the different spatial axes to which the system is anchored, lead to a flexible application of the demonstratives. This variation is a built in part of the system, its semantic complexity and its ability to be applied on different (spatial) levels.

This flexibility may be seen in the results from the Landscape Photo Task. Although some variation occurs in reflection of differing demonstrative knowledge (i.e. based on age,





background, etc.; see Section 4.5), other variation reflects multiple possibilities for a particular spatial context. This is highlighted by the fact that some speakers would give several potential options for a single referent. For instance, answers from Figure 4.10 (LPT #3, reproduced here) exemplify this variation. For referent (a), roughly a third of respondents used *ik-* while another third used *kan-*. This reflects the location of referent (a) as slightly but not distinctly lower than the origo, at a medial distance (close enough that a few respondents gave *uv-*). Again for referent (b), the majority of responses were split between *kan-* and *sam-*, as the distance of (b) could be conceived as medial or distal. For (d), the majority of responses were split between *ik-* and *sam-*, capturing the fact that the house in (d) is on a similar horizontal level to the origo but is also towards the direction of the ocean.

These splits in responses in the LPT data illustrate how particular aspects of the geophysical environment may be drawn upon in demonstrative selection, highlighting different physical aspects of the spatial context. On a finer level is the example discussed in Section 4.3.3, in which three different geophysical demonstratives (*av-*, *pav-*, and *qam-*) were used in Figure 4.1 point (d) in accordance with difference aspects of the environmental context (R-along-coast/north, inland/east, and inside-fjord).

However, not all spatial contexts warrant this kind of flexible demonstrative usage. As a particular deictic feature of the referential context becomes more extreme or salient, demonstrative choice is restricted. For instance, a referent which is very high up will almost certainly trigger a vertical ‘up/above’ demonstrative, regardless of its cardinal direction (such as point (e) in Figure 4.12, with *pav-* given by most speakers). Similarly, point (a) in Figure 4.9 is distinctly ‘down from origo’ and thus all speakers used demonstrative *kan-*. A salient difference in vertical orientation from the origo tends to override other potential spatial descriptors.

#### 4.4.2 Frames of reference encoded in spatial deixis

An important quality of the Kalaallisut demonstratives is their encoding of spatial and geophysical directions or vectors, which qualifies the majority of them as ‘spatial coordinate demonstratives’ as articulated by Burenhult (2008). As such, the demonstratives’ spatial zones narrow down the search domain within the physical setting of the speech event to produce a particular spatial vector, often combined with pointing. Search domains are projected through demonstrative usage from the deictic origo through a coordinate system anchored to the external physical environment, for instance up/uphill versus down/downhill, inland versus seaward, up-coast versus down-coast, east versus west and north versus south. Within the search domain denoted by the spatial zone, the distance distinction (plus other fine distinctions) help to narrow the search domain down further. These come together into a multi-dimensional coordinate system like that in Figure 4.13, which anchors demonstrative usage and allows them to locate referents quite specifically within the spatial context.

The spatial coordinate systems embedded in the Kalaallisut demonstratives are mostly based upon the external environment. In this way, they reflect an ‘absolute’ frame of reference, with referents located in space by way of external asymmetries (e.g. up versus down, land versus sea). This type of spatial coordinate demonstrative is described by Burenhult as reliant upon ‘array external’ asymmetries, “external to and independent of the deictic

Figure-Ground array” (Burenhult 2008: 109).<sup>9</sup> As has been discussed, these array external asymmetries occur on different spatial levels—abstract space, geophysical environment, and cardinal orientation—all linked in a particular organization through an anchoring to the west coast of Greenland. This absolute (array-external) FoR deixis is the most common type of spatial coordinate demonstrative, according to Burenhult.

However, several of the Kalaallisut demonstratives locate referents with respect to enclosed spaces, rather than facets of the physical environment. In their inside/outside usages, *qam-* and *kig-* employ spatial asymmetries such as inside versus outside or this room versus another room. This would qualify as an ‘intrinsic’ frame of reference or ‘array internal’ coordinate system in the typology laid out by Burenhult (2008). Rather than using facets of the external environment for deictic localization, these ‘intrinsic’ demonstratives use facets of containment/enclosure of the origo (which acts as the ground). Relatedly, demonstrative *ma-*, though not clearly a spatial coordinate demonstrative, makes reference to a space or location by way of containing the deictic origo: this contrasts with *qam-* which necessarily refers to (a referent within) a location defined as not being the one containing the deictic origo (‘allo-space’). The extended-restricted contrast from PYI could potentially be conceived of as intrinsic by encoding spatial aspects of the referent (as the figure) with respect to the origo (as the ground). If so, we have a potentially interesting situation in which intrinsic and absolute FoRs are both encoded within the same demonstrative forms.

This employment of both the absolute and intrinsic frames of reference in demonstrative usage matches that of non-demonstrative spatial reference, described in Chapter 2. The demonstrative system is conceptually linked to representations of space in other domains of spatial language, through the frames of reference they participate in, the spatial/geophysical coordinate systems they represent, and the broader conceptual ontologies they are linked

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<sup>9</sup>The figure being the demonstrative referent, and the ground being the deictic origo (Burenhult 2008: 107); see Chapter 1.

with (such as that of the landscape domain and the land-sea interface; see Grenoble et al. 2019).

## 4.5 Change from the traditional system

Clearly shown in the data gathered for this project is significant variation of demonstrative knowledge and usage between different speakers. Overall, ‘traditional’ demonstrative usage is highly associated with older speakers, smaller, rural settlements, and traditional subsistence activities particularly hunting. Many speakers, especially those in the younger age group but also those of middle ages, remarked upon this during their demonstrative elicitation, for instance, “my grandmother/father/etc. uses that word” or “hunters use those words” (in regards to the demonstratives with geophysical/cardinal meanings; see below). A younger speaker (M/25/Sisimiut) remarked that it would be “hardcore Greenlandic” to regularly use those demonstratives. Additionally, people described how younger people these days, as well as people in Nuuk, get mixed up about the directional meanings. Both such metapragmatic data and data from the elicitation tasks themselves present a picture of significant ongoing and recent change.

### 4.5.1 Differential knowledge of the system

Knowledge of particular demonstratives varied widely between different speakers, whereas some demonstratives displayed broad consistency in meaning and reported usage across speakers. Those which display such variation appear to be undergoing change, consistent with overall shifts in the demonstrative system particularly as used by younger, urban Kalaallisut speakers. Some variation simply reflects which demonstratives are known by all speakers and which are not; this points at demonstratives which are likely disappearing entirely from usage. Others show a range of different meanings correlating with age, speaker background, etc. and displaying particular semantic shifts. Table 4.6 shows the demonstratives which

are undergoing the most significant change (in bold). Those that are crossed out are in the process of disappearing entirely.

	<b>Proximal/ Medial</b>	<b>Distal</b>
<b>Near speaker</b>	<del>ma-</del> <del>uv-</del>	<b>im-</b>
<b>Away from speaker, same level</b>	ik-	<del>av-</del> <del>qav-</del>
<b>Down from speaker</b>	kan-	<b>sam-</b>
<b>Up from speaker</b>	pik-	pav-
<b>Inside/outside</b>	<del>gam-</del> <del>kig-</del>	

Table 4.6: Demonstratives stems undergoing change (in bold)

### Loss of demonstratives

Two demonstratives which were not known by almost any speaker under the age of 38 were *kig-* ‘that outside/south’ and *im-* ‘that (non-visible)’, indicating their being lost from the demonstrative paradigm. In the case of *im-/inna*, it is archaic even for speakers who have heard it. The only speaker who reported hearing people use *im-* was the oldest speaker (F/79/Attu), who said she remembered elders using it for stories. Besides the next oldest speaker (M/early 70’s/Sisimiut), who only described its meaning, the other speakers familiar with *im-* were familiar from liturgical contexts only, not in everyday usage. Already, *im-* is found only in pronominal and interjectional forms. However, *im-* occurs in some fossilized contexts, such as *taama* (ta-im-a) ‘thus’.

As for *kig-*, no speakers under the age of 38 were familiar with it at all, except for one (M/25/Sisimiut) whose father uses it. This speaker, though one of the younger speakers interviewed, had a greater knowledge of the demonstrative system than his peers (see Section 4.5.3 for further discussion). Of those who did know it, the majority only gave the ‘outside’ meaning and all those under age 42 reported that they do not actively use it and associated it with older relatives. One explained that they do not use it in the city (Nuuk). Only three

speakers reported the ‘south’ meaning for *kig-*, consistent with the overall shift away from the cardinal meanings in the demonstrative system (described below).

### Variation involving directional/cardinal meanings

The full, traditional set of cardinal directions—*av-* ‘north’, *qav-* ‘south’, *pav-* ‘east’, and *sam-* ‘west’—were known and explained by speakers over 40 only. The speakers over 40 who did not know the traditional directional usages were mostly<sup>10</sup> from Nuuk, whereas those who did were from Sisimiut and other smaller west coast towns. The majority of those (speakers 40 and over) who did not give the full set did report the coastal/north-south axis (some younger speakers did also).

Overall, there was significant variation in knowledge of the macro-directional and/or cardinal meanings of the demonstratives among speakers interviewed here. Most of the youngest speakers (early/mid 20’s) were not familiar with directional usages of the demonstratives beyond abstract up/down and inside, instead describing most of the demonstratives in terms of proximity and distance (see Section 4.5.3). Many younger speakers did have a sense that the demonstratives have directional meanings, but did not know them.

In between these two groups at opposite ends of the spectrum were speakers who knew some, but not all, of the macro-directional meanings as well as those who displayed semantic shifts away from the ‘traditional’ geophysical/cardinal usages. These semantic shifts and the speaker variation within the different demonstrative conceptualizations are described in detail in Section 4.5.2.

### 4.5.2 Semantic shifts

Variation in demonstrative usage is exemplified by an example from Figure 4.14, in which a speaker (F/32/Nuuk) gave several possible options for referring to the boat. Unlike the

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<sup>10</sup>One speaker (M/51) from South Greenland also did not know the full set. Another speaker from South Greenland reported three of the four cardinal usages, leaving out *pav-* as ‘east’.



Figure 4.14: Variation: *sanna/anna/innga*

variation based upon semantic flexibility described in Section 4.4.1, the variety of options given here reflect different demonstrative usages based on age and proficiency with the traditional system. The speaker gave three options: *sanna* (<*sam*-), *innga* (<*ik*-), and *anna* (<*av*-). According to the traditional system, the boat would likely be referred to using *sam*-, being far out to sea (and roughly west/southwest). However, the other two options given by the speaker each indicate a semantic shift. First, the speaker here would tend to use *ik*- in this situation, simply to indicate the distal referent; this increased usage of *ik*- instead of the more spatially specific demonstratives is associated with language use in Nuuk (see Section 4.5.3). Second, usage of *av*- here demonstrates a particular semantic shift in which speakers use *av*- to refer to ‘out to sea’ referents instead of ‘right-along-coast/north’ (discussed further below).

Several main semantic shifts characterize the majority of variation in demonstrative usages given by different speakers. As mentioned above, these are mostly shifts within the geophysical layers of meaning, reflecting an overall shift away from the traditional environments and contexts of use. Most of these semantic shifts may be seen within the distal demonstratives; as seen in Table 4.6, the demonstratives undergoing significant change all

occur within the distal category (except *kig-*, which does not exhibit a distance contrast in the same way). Even *pav-* and *qam-*, not marked as undergoing significant change, are exhibiting some degree of shift consistent with these broad-scale, geophysical changes. The semantic shifts include novel alignments of the demonstratives onto the geophysical environment, producing new directional and cardinal associations, as well as shifts away from cardinal meanings onto purely landscape-based and/or more abstract spatial meanings.

### **Geophysical shifts for *pav-/sam-***

The ‘traditional’ cardinal usage of *pav-/sam-* as east/west, based on the coastal orientation of West Greenland, shows signs of shifting. Overall, the variation in meanings given for *pav-/sam-* fall into several categories, with some differences between the two. Traditionally distal, down/seaward/west demonstrative *sam-* displays a more advanced degree of shift/reduction in comparison with *pav-*. For both, speakers may be differentiated based on their describing *pav-/sam-* with 1) cardinal meanings, 2) verticality or landscape based meanings, or 3) only in terms of proximity/distance. The latter, associated with the most reduced and shifted demonstrative usage (in the youngest speakers), is discussed in Section 4.5.3.

Almost all speakers preserve the meanings of ‘up’ for *pav-* and ‘down’/‘near the sea’ meanings for *sam-*, except for those with the most shifted system. Across speakers who describe *sam-* in terms of geophysical axes, younger speakers were more likely to describe its usage in terms of the sea only, rather than as ‘down’. This is one asymmetry between *sam-* and *pav-*, which is almost always identified as having a verticality-based meaning.

**Up/Down as north/south** As for cardinal directional meanings, the traditional *pav-* as ‘east’ and *sam-* as ‘west’ was only reported by speakers over the age of 40 from less/non-urban towns (not from Nuuk). However, newer cardinal meanings are in use by some speakers, reflecting a different conceptual mapping in which the spatial distinctions are anchored to the environment in a novel way. Rather than the traditional ‘up’ as ‘inland/east’ and ‘down’





Figure 4.15: Novel cardinal meanings: ‘up’ (*pav-*) as ‘north’ and ‘down’ (*sam-*) as ‘south’

as ‘seaward/west’, a newer conceptualization represents ‘up’ (*pav-*) as ‘north’ and ‘down’ (*sam-*) as ‘south’, as shown in Figure 4.15. During the demonstrative interviews, several speakers (mid-20’s to late 30’s) described *pav-* as ‘north’. This semantic mapping is also included in Sadock (2003): *pav-* ‘far up, east, or north’ and *sam-* ‘far down, west, or south’. Although a departure from the traditional Kalaallisut conceptualization of ‘up’ as ‘east’ and ‘down’ as ‘west’, this newer mapping has at least been in use since then.

Speakers displaying usage of the most reduced system have lost this directional element entirely. A younger speaker (F/24/Sisimiut) with a more traditional (yet still divergent) demonstrative knowledge explained that *tappavani* is ‘north’ and *taqqavani* is ‘south’, displaying a recombination of the usual pairings. For instance, in the LPT she described point (d) of picture #1 (Figure 4.1) as *pavani*, explaining it as (cardinal) *avannaani* ‘in the north’. Then in LPT #4 (Figure 4.9), point (b) was *taqqava umiarsuaq* (<*qav-*), explaining that it was *kujataanut* ‘towards the south’. This speaker stood in contrast to others in the same interview (ages 23-30), who have mostly lost the angular specification (directional) component to the meanings of *pav-* and *sam-* describing both as ‘far away’ (see Section 4.5.3). For these speakers (and others with a similarly reduced system), *sam-* in particular is not a demonstrative they use or are very familiar with (though everyone except one speaker knew of it, unlike demonstratives like *kig-* and *im-*). The more traditional younger speaker stated,

“I grew up with old people”, to explain her directional usages of the demonstratives, which contrasted with the answers of her peers in the interview.

### Geophysical shifts for *av-*/*qav-*

As mentioned in Section 4.2.2, demonstratives *av-* and *qav-*, with meanings rooted in the Greenlandic coastline, have come to mean ‘that to the north/south’. Particularly when inflected as adverbs (e.g. locative case *avani/qavani*), most speakers identified their meanings as ‘north’ (*avannaani*) and ‘south’ (*kujataani*), respectively. This was not always the case when inflected as pronouns, however (e.g. absolutive singular *anna/qanna*). Both *av-* and *qav-* show evidence of undergoing semantic shift through conflation with other spatial stems.

For *av-*, a range of different meanings given by speakers represents varying degrees of change and shift. The most conservative speaker group gave ‘north’ as the meaning for both adverbial and pronominal forms of the demonstrative. This group includes those speakers mentioned above who reported the full set of traditional directions, plus several speakers in their 30’s who described *anna/avani* as ‘north’ but who did not give the traditional cardinal meanings for *pav-* or *sam-*. However, a distinct difference between the adverbial and pronominal forms of *av-* was noted in the interviews. For most<sup>11</sup> speakers, adverbial form *avani* was at least recognized as being morphologically and semantically related to cardinal term *avannaani* (<*avanna* ‘north’). In contrast, over half the speakers interviewed did not recognize pronominal form *anna* as a demonstrative, or were unable to give its meaning. Many of these speakers responded that *anna* is a name for them, not a demonstrative. Most did recognize adverbial *avani*, which has a more transparent morphology. Meanings given for *av-* other than the traditional ‘north’ fall into two categories, representing different semantic changes. First, some speakers described *av-* as meaning ‘out to sea’. Second, others described the meaning as a far distal (on the same horizontal level); see Section 4.5.3.

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<sup>11</sup>Only one speaker (F/23/Sisimiut) did not know any meanings for *avani*.

**Blending of *av-* with *avat-*** The use of *anna* in Figure 4.14 illustrates a novel usage of *av-* for referents that are on the sea, similar to more traditional usages of *sam-*. More examples of this usage can be found in the results of the Landscape Photo Task, for instance in Figure 4.10. Two speakers (M/53/Nuuk and F/30's/Sisimiut), who also explained *avani* as meaning *avataa* ‘outside/out-to-sea’, described referent (c) as *avani*. The LPT photo shown in Figure 4.9, with referents (b)-(d) all out to sea, elicited some usages of *avani* from these two speakers as well. The younger speaker (F/30's/Sisimiut) gave *avani* for all three points, whereas the other (M/53/Nuuk) switched between *avani* and *samani*. These speakers represent two different groups of speakers tending to have reduced systems: young speakers (also mostly urban, multilingual, etc.) and people from Nuuk; see Section 4.5.3.

The mixing of *avani* and *samani* by this speaker illustrates the convergence in meanings between *sam-* and the newer usage of *av-*. This created tension for some speakers; in the case of LPT #2 point (c) (Figure 4.12), this speaker could not initially decide between the two. As shown in example (103), he describes the location as *avataani* ‘out to sea’ (‘outside’, ‘away from land’), first suggesting *samani* before settling on *avani*. For point (d), however, no such hesitation occurs; the referent is on land, thus giving *samani* for this speaker (who explained *sanna/samani* as something/somewhere ‘down’). Tension around the meaning of *av-* can also be seen in an LPT response from another speaker (F/50/Nuuk), who mixes both this newer ‘out to sea’ meaning and the traditional ‘north’ meaning, as seen in example (104) describing point (d) in LPT #4 (Figure 4.9).

(103) *Avataaniimmat, eeh... Qanormaa? Samani....Avani, avani.*

avata-ani=ik-mat	qanormaa sam-ani
out.to.sea-3SG/SG.LOC=be-3SG.PSUB	what DEM.DOWN.DIST-LOC
av-ani	av-ani
DEM.RIGHT.COAST-LOC	DEM.RIGHT.COAST-LOC

‘When it is out to sea, uh what is it again? ‘Samani’...‘Avani’, ‘avani’”



used in referring to South Greenland, as in *taqqavanermiut* ‘people from south (Greenland)’, whereas North Greenland is more commonly referred to using the cardinal term (*avannaq*) instead of the demonstrative. Only several speakers, all under the age of 25, did not describe *qavani* as ‘south’; two of them did not know the term at all (or *avani*).

However, several of these speakers (under 25) exhibited a semantic shift by describing *qavani* as ‘inland’/‘inside the fjord’. As shown in Section 4.3.3, it is *qam-* ‘in/out there’, in the traditional system, which is used with this meaning of the interior of the fjord/land. This suggests an emerging conflation of *qav-* and *qam-*, which have already demonstrated phonetic convergence in some morphological inflections. As discussed in Chapter 3, stems that are phonetically identical except for their stem-final consonant have tended to collapse in the trajectory from PYI into Kalaallisut due to a sound change resulting in assimilation in consonant clusters which has progressively affected the Inuit languages. Such pairs of stems are identical when inflected as pronouns, as these inflections create a consonant cluster in which the stem-final consonant assimilates to that of the suffix. *Qam-* and *qav-*, though semantically distinct in the traditional Kalaallisut system, shared the PYI ‘inside/outside’ category; all other such demonstrative pairs from PYI—phonetically identical save the stem-final consonant and sharing a semantic category—have converged or disappeared in Kalaallisut. Demonstratives *qam-* and *qav-* are the last such pair, and they are exhibiting the same process of convergence. In their absolutive singular pronominal forms, for instance, they are both *qanna*, though their locative adverbial forms are *qamani* and *qavani*, respectively. When asked in the interviews for the meaning of *qanna*, most speakers (especially the younger ones) described that of *qam-*.

Inside/outside *qam-* remains a robustly used demonstrative, particularly in its ‘in there’ or ‘inside’ meaning (in a building or in another room). All speakers interviewed reported this meaning. However, speakers exhibiting a reduced system tended not to also have the ‘outside’ usage. It is in the geophysical usage of ‘inside fjord’/‘inland’ where the semantic convergence with *qav-* is occurring, with *qam-*’s geophysical meaning extending onto *qav-*

as the pair becomes blurred for some speakers. This ‘interior of the land’ meaning shows more robustness than many of the other geophysical demonstrative meanings, having been cited by speakers who were unsure about directional usages for *av-/qav-* and *pav-/sam-*, for instance. Thus, speakers with less competence in the traditional demonstrative system tend to be aware of this meaning, yet do not necessarily have the traditional distinction between *qam-* and *qav-*, allowing for the reassignment of the ‘inland’ meaning onto *qav-*, which is more clearly a geophysical demonstrative in contrast with *qam-*, with its common ‘in there’ meaning.

The four speakers who described *qavani* as meaning ‘inland’ were all in their early 20’s, from Nuuk and Sisimiut. Two other similar speakers, the ones who did not know *avani/anna* or *qavani*, did not mention any geophysical meanings for *qanna/qam-*. Finally, similarly to *av-*, a couple speakers described *qavani* as simply ‘far away’; this generic far distal usage of *qav-*, *av-*, *pav-*, and *sam-* is discussed in Section 4.5.3.

### 4.5.3 Patterns of greatest divergence in young and urban speakers

Though not a homogeneous group, the speakers who displayed the most significant changes with respect to the traditional system were consistent in the patterns of change exhibited and the approximate, reduced system in use. First, showing a continued trajectory away from the traditional geophysical anchorings, we find a shift away from the encoding of directional information in the distal demonstratives. Additionally, we find an increased usage of medial demonstrative *ik-* in place of others, a phenomenon remarked upon by speakers and associated with speakers in/from Nuuk. Linkage between these patterns is clear: speakers increasingly use *ik-* in contexts wherein the spatially-specific distal demonstratives would traditionally be used, leading to collapse and loss of the distal forms. Two main demographic categories are associated with these linguistic patterns in the present data—age and hometown—though other factors such as family background and participation in traditional activities likely play a role as well. The patterns of greatest divergence are found predomi-

nantly in the youngest speakers, though the other factors have an effect on this. In addition, speakers from Nuuk tend to exemplify more reduced systems as compared to those from other places, particularly Sisimiut.

### Loss of spatial distinctions within distal demonstratives

The speakers who exhibited the greatest divergence from the traditional demonstrative system display a pattern of loss that differs from the geophysical shifts described above: the overarching loss of spatial distinctions between distal demonstratives. This shift goes hand in hand with these demonstratives falling out of use for younger/urban speakers. This marks a distinct contrast between speakers with the traditional system, who always described the particular spatial vector or direction of each distal demonstrative, and speakers who described some demonstratives as simply ‘far away’.

An example of this usage comes from LPT #3 (Figure 4.10): going back to point (c), the majority of speakers gave *sam-*, but several of the youngest speakers displaying the most reduced paradigms answered *pavani*. One (M/25/Sisimiut) gave both *panna* and *sanna* as options for (c). These speakers tended to conflate *pav-* and *sam-*, describing both as ‘far away’. However, *pav-* was more robust than *sam-* for this type of speaker; many expressed uncertainty about *sam-* and said they do not use it, but likened it to *pav-*. Similarly, during an older version of the LPT, two younger speakers were asked how they would point out a caribou in the closer hills from the perspective of the kayaks in Figure 4.16. Again, they discussed whether *samani* or *pavani* would be used to reference a location in the hills, with each initially choosing one of the two. The one who chose *samani* argued that *pavani* is for up in the air, and they agreed that *samani* would be correct.<sup>12</sup> These instances exemplify divergence from the traditional paradigm in which *pav-* and *sam-* denote opposing directions. Most younger speakers did identify *pav-* as vertically ‘up’ as well (especially ‘up in the sky’), but were less likely to associate *sam-* with ‘down/sea’.

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<sup>12</sup>Other speakers with more traditional usages of *pav-/sam-* instead chose *pik-* to reference caribou up in the hill in the photo.



Figure 4.16: Landscape Photo Task #6

Similarly to *pav-/sam-*, some speakers described *av-* and/or *qav-* as a far distal, without a specific direction. Speakers who did this included several in their 50's and 60's, mostly from Nuuk (which is also associated with language change). As mentioned above, the most heavily shifted (young) speakers did not know *av-/qav-* at all.

### **A reduced paradigm**

Thus, reconstructing the paradigm of demonstratives used by the speakers displaying the most divergence and reduction gives that shown in Table 4.7, reflecting those demonstratives which are actually in use by these speakers. With the loss of spatial distinctions in the distal category associated with these forms not being in active usage by younger speakers, distance (particularly the medial-distal distinction) disappears as a cross-paradigmatic category. The demonstratives in Table 4.7 are those which speakers were comfortable describing and giving examples for and which they reported using. This reduced system approximately retains one demonstrative for each spatial zone, lacking further distinctions within them beyond *ma-* versus *uv-* and some remnant of *pik-* versus *pav-*.



Deictic distinction	Demonstrative stem
Near speaker	<i>ma-/uv-</i>
Away from speaker	<i>ik-</i>
Down from speaker	<i>kan-</i>
Up from speaker	<i>pik-</i>
Inside/next room	<i>qam-</i>
(Far away, up	<i>pav-</i> )

Table 4.7: Most reduced system

However, several younger speakers stand out from this pattern. Notably, two younger speakers (M and F, mid/late-20's, both from Sisimiut) who fall into this category stated that they know *pav-* and *sam-* have directional/cardinal meanings, though they did not know them. This contrasts with the other younger speakers, who appeared unaware of this. The two speakers who were aware also had a commonality which distinguished them from the other younger speakers discussed: both reported that they spend time hunting with their families, a context in which more traditional demonstrative usage is likely to occur. The interviews with these speakers show how traditional activities like hunting as well as being and speaking Greenlandic are important to them and their own identities, in contrast with other young speakers interviewed. One other young speaker of similar demographic background (F/24/Sisimiut) also described her background of spending extensive time in nature with grandparents, and likewise described directional meanings for the demonstratives (although with shifted meanings).

Finally, speakers from Nuuk interviewed here in their 50's and 60's tended to display more semantic shifts and less directional information than speakers of the same age group from less urban areas.

### Increased usage of *ik-* (and *uv-*)

Several younger speakers and speakers from Nuuk (of varying ages) reported using *ik-* for “everything”, and this pattern was described by numerous speakers as being associated with language usage in Nuuk. Of note are two speakers approximately 30-40 years old from Nuuk

who knew much of the traditional system, yet stated that they usually use *ik-* in place of more spatially descriptive forms. In LPT photo #1 (Figure 4.1), these two speakers were the only ones to answer *iku* (plural form of *innga*) for point (d). One of these speakers, in response to a third speaker (of similar demographic but from Sisimiut) giving *sakku* (*sam-*) for (d), said “I understand when she says that, but I just give *innga* or *iku* for everything. I think in Nuuk they don’t really go outside of Nuuk, they stay inside the town all the time where everything just becomes *innga*.”

Similarly, other young/urban speakers described using *una/uani* (<*uv-*) for close things and places, but *taanna* (*ta-una*) and *taakani* (*ta-ikani*) for things that are further away. For example, in Figure 4.9 these speakers described one of the islands as *taanna qeqertaq* ‘that island’. For these speakers, the *ta-* prefix seems to be used to denote distance to some degree, at least in distinguishing *una* and *taanna*.

## 4.6 Discussion: overall trends and possible explanations

The traditional Kalaallisut demonstrative paradigm encodes a complex system of spatial deixis, which is highly geophysical and anchored to the environment of Greenland’s west coast. In their spatial deictic functions, the demonstratives invoke spatial coordinate systems through which they index specific directions within the environment. The proficient usage of this system of spatial deixis is linked to traditional Greenlandic activities such as hunting and traveling over the land. Significant variation in the systems and demonstrative meanings is found across different speakers, particularly reflecting demographic categories of age and hometown, but also varying engagement with the land. This variation can be seen to represent an overall trajectory of change and shift away from the traditional system, with the greatest divergence from the traditional system found in young and urban speakers.

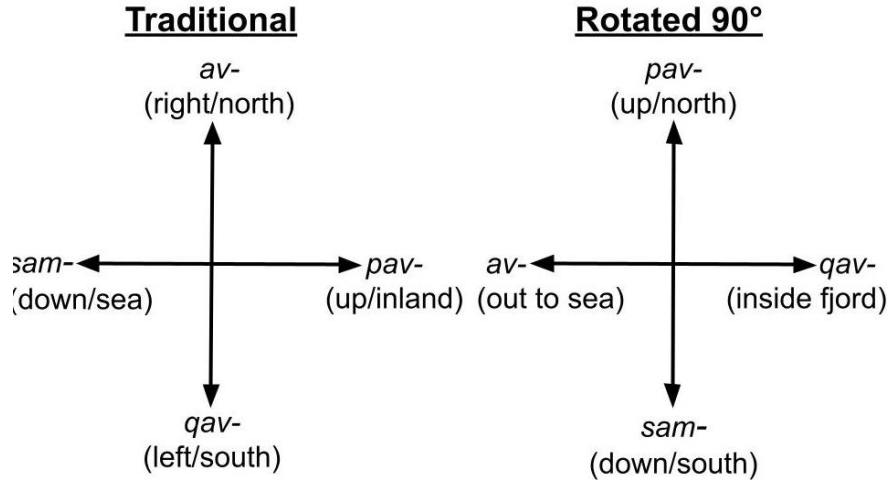


Figure 4.17: Rotated axes

#### 4.6.1 Change and loss within geophysical meanings

Overall, the demonstrative changes can be summarized as shifts both within and away from geophysical/environmental layers meaning. In particular, we find change in the mappings of the basic spatial semantics of the deictic system onto the external environment. The semantic shifts described in Section 4.5.2 represent novel conceptualizations of the local geography displaying a significant departure from traditional Greenlandic representations of the surrounding environment. Together, the geophysical shifts of both *av-/qav-* and *pav-/sam-* display a consistent shift in the spatial conceptualization that they represent as a 90° rotation of the traditional system’s axes. As shown in Figure 4.17, the demonstrative axes have rotated counterclockwise, such that each axis becomes perpendicular to its prior configuration. Up/down demonstratives *pav-/sam-* rotate 90° from their east-west orientation, based upon the contour of the coastal landscape of West Greenland, into a north-south orientation driven by the spatial metaphor of ‘up’ as ‘north’ and ‘down’ as ‘south’. However, *av-* and *qav-* likewise exhibit a 90° counterclockwise rotation, but for other (and separate) reasons: *av-* through its confluence with *avat-* and *qav-* through conflation with *qam-*.

This is not to say that the rotated configuration as a whole is necessarily in the minds of speakers, as would be the case for the traditional system. No speakers interviewed in this

study expressed all of the shifted meanings shown by the rotated axes in Figure 4.17. However, this represents an overarching systematicity behind the semantic shifts described here, as the demonstratives have undergone a process of uncoupling with the traditional environmental grounding. All of the geophysical shifts are interrelated; as one geophysical/cardinal axis shifts, it allows for other deictic categories to take its place.

Furthermore, it is the geophysical components of a demonstrative's meaning which are most susceptible to change, and overall it is the demonstratives with the most geophysical meanings that are tending to be lost. For *pav-* and *sam-*, the way in which their up/down directional meaning is transposed upon the local geophysical environment at a macro scale (i.e. pointing up-coast/down-coast or landward/seaward), resulting in cardinal meanings, has been susceptible to change and loss. Additionally, the presence of this cardinal component to their meanings has also been susceptible to loss. Then, comparing *pav-* and *sam-* to each other, it is *pav-* with the more abstract spatial usage of 'way up there' that has exhibited more robustness than *sam-*, which tends to be used more specifically for the sea. Contrasting these two with their counterparts *pik-* and *kan-*, which are less geophysical/environmental in their usages, the medial pair has shown no signs of shift in the present data. Finally, demonstratives like *av-* and *qav-* which only have cardinal/geophysical usages appear highly susceptible to shift and loss.

## 4.6.2 Spatial coordinate systems

These patterns of change are thus manifested within the spatial coordinate functions of the demonstratives through which they encode an absolute frame of reference. The overall trend is a shift away from projecting specific, environmentally-based search domains toward a system of spatial deixis based more generally on proximity/distance and abstract spatial semantics, such as 'up' versus 'down', like the paradigm given in Table 4.7.

The semantic shifts captured by the axes rotation shown in Figure 4.17, which involve the absolute FoR spatial coordinate demonstratives, indicate changes to the underlying co-

ordinate systems themselves such that they become differently aligned with the spatial deictic system. For instance, the traditional usage of *pav-* and *sam-* emerges from an environmental coordinate system based upon the physical asymmetry of ‘uphill/inland’ versus ‘downhill/seaward’. This coordinate system is further anchored to the specific landscape of Greenland through its alignment with the east-west cardinal axis. Thus, in the traditional deictic system the spatial coordinate systems utilized for demonstrative reference are multidimensional in nature, with several layers of absolute overlapping axes. Usage of *panna* projects a search domain toward the direction up/uphill/inland/east of the deictic origo, with the location of the referent further relativized through other contextual factors.

With the changes detailed in Section 4.5.2, the spatial coordinate system anchoring the usage of *panna*, for instance, becomes disengaged from the local environment and the traditional conceptualization of the landscape. Though *pav-* remains linked to a more abstract up/uphill versus down/downhill axis for most speakers, this becomes re-aligned with an entirely different environmental coordinate system for speakers who use *pav-* for ‘north’ (i.e. a coastally-aligned ‘up’ as ‘north’ and ‘down’ as ‘south’ FoR). Thus, an act of deictic reference in which the referent is located to the north of the origo would invoke usage of an entirely different demonstrative, e.g. *anna* versus *panna*, depending upon which spatial coordinate system is in use by the speaker. In contrast, a non-deictic spatial description of the same referent using the cardinal term for north (*avannaa*) does not encode any of these differential coordinate systems beyond the cardinal axis itself. However, for speakers utilizing a more reduced demonstrative system, usage of *pav-* may only encode the more abstract up/down spatial coordinate system without any further anchorings to environmental axes (especially those specific to the Greenlandic landscape).

In this most reduced system, we thus still have the invoking of spatial coordinate systems, yet they lack the multidimensional anchoring to the geophysical environment of the traditional demonstrative system. As the demonstratives undergo change and shift, it is within these geophysical coordinate systems that much of the change is occurring. Overall,

the trajectory of change is away from a highly environmentally-specific system of spatial deixis rooted in the landscape of Greenland toward a deictic system which is more abstract with less spatial specificity.

### 4.6.3 Potential motivations for change

The move away from a geophysically specific and complex demonstrative system which is highly (West-)Greenlandic in its environmental conceptualization (via spatial coordinate deixis) goes along with the shift away from traditional engagement with the land, especially for younger, urban Greenlanders. As mentioned by many speakers interviewed here, usage of the more geophysical demonstratives such as *pav*, *sam-*, *av-*, *qav-*, *qam-* (for inside a fjord), and *kig-* is associated with traditional subsistence activities like hunting and traveling on the land, as well as with older people and people from smaller settlements (who, in turn, are more likely to traditionally engage with the land). For instance, several speakers talked about how the distal demonstratives are not needed or used within the urban environment of Nuuk. As mentioned above, younger speakers who are particularly into hunting with their families reported more directional meanings for the demonstratives. Without such traditional activities out on the land, there comes to be a lack of contexts of usage of the distal/geophysical demonstratives. In contrast, the demonstratives in Table 4.7 have more contexts of use within an urban/non-traditional setting, for instance with respect to lived spaces/buildings (e.g. referencing ‘downstairs’, ‘upstairs’, ‘in the next room’).

Related to shifting engagement with the environment are shifts in the conceptualization of that environment, leading to changes in the anchoring of the demonstratives to the landscape and the spatial coordinate systems encoded in their meaning. A major conceptual shift found in the patterns of change described in this chapter is that of *pav-/sam-* coming to represent north/south rather than east/west. The mapping of the up/down axis onto the east/west axis emerges from the topography of West Greenland, wherein the landscape moves upward in space in the inland direction, perpendicular to the coastline, which is eastward (and vice



*pav-* for ‘north’ and *sam-* for ‘south’ may derive from a conceptual borrowing or calque of the Danish spatial metaphor of ‘north as up’ and ‘down as south’.

Other ways in which Danish may have influenced recent changes in the Kalaallisut demonstratives on a semantic or conceptual level include shifted usages of *ik-* and *qam-*. Danish, like English, has a two-way demonstrative distinction based roughly on proximity, which could help motivate the increased usage of *ik-* in place of the more spatially-specific medial or distal demonstratives. Finally, usage of *qam-* for ‘inside’ only, in exclusion of the ‘outside’ (from an inside origo) meaning, matches more closely to the Danish adverbial equivalent *derinde* ‘in there’. Although the effects of contact on the Kalaallisut demonstrative system must be further investigated in future work, several of the semantic shifts described above are suggestive of the influence of Danish conceptualizations of space and of the Danish demonstrative paradigm.

Along with the language internal effects on the demonstrative paradigm described above and in Chapter 3 (i.e. sound change), external factors like sociocultural shift and language contact work together to re-shape the Kalaallisut demonstrative system, at least in its usage by young and urban Greenlanders.



## Chapter 5

### Conclusion

#### 5.1 Summary and implications

In the context of comparative research on demonstratives and spatial deixis, the Kalaallisut system occupies the far end of the spectrum in its degree of spatial specificity and directional semantics. The ‘traditional’ paradigm consists of 12 different demonstrative stems which together give the following deictic distinctions:

- Distance: *uv-* versus *ik-*, *kan-* versus *sam-*, *pik-* versus *pav-*
- Inclusion of origo: *ma-*
- Direction
  - Verticality/elevation: *kan-* versus *pik-*, *sam-* versus *pav-*
  - Topography: *av-* versus *qav-*, *sam-* versus *pav-*
  - Inside/outside: *gam-* (versus *kig-*)
- Visibility: *im-*

These distinctions characterize the indexical relation between the deictic origo and the referent. The directional demonstratives, which make up a majority of the paradigm, encode meanings that are anchored to the local environment, and as such the deictic distinctions are aligned with a particular conceptualization of space and landscape, rooted in the coastal topography of West Greenland and the engagement with that environment. These dimensions whereby a referent is localized with respect to the origo constitute the ‘deictic field’ within which Kalaallisut spatial deixis occurs, a structured deictic space embedded within the Greenlandic environment.

The directional distinctions narrow down the search domain through the use of spatial coordinate systems and therefore participate in frames of reference. As detailed in Chapter 2, allocentric frames of reference—intrinsic and absolute—are predominant in spatial reference, and furthermore the local environment plays an important role across the spatial domain (including as the basis for the absolute FoR). The Kalaallisut demonstratives are thus integrated with the rest of the spatial domain in this way, enacting intrinsic and absolute FoRs and being tightly anchored to the geophysical environment of Greenland. Particularly the absolute directional forms participate in a conceptual frame of reference consisting of opposing axes—up versus down, landward versus seaward, inside versus outside, up-coast versus down-coast—which are aligned with respect to each other and to the local geography to give the following conceptual alignments:

1. UP = INLAND/LANDWARD = EAST = BACK

- INLAND = INSIDE

2. DOWN = SEAWARD = WEST = FRONT

- SEAWARD = OUTSIDE

3. RIGHT ALONG COAST = NORTH

4. LEFT ALONG COAST = SOUTH

These axes make up the spatial and environmental coordinate systems which underlie deictic reference as well as much other spatial description more broadly. The conceptual system is rooted in a particular function, that of orientation and navigation within the coastal Arctic environment of the language locus.

Beyond these cross-linguistically uncommon environmentally-based directional demonstrative semantics but also exhibiting demonstrative features which are less commonly found are the deictic distinctions that involve notions of enclosure with respect to the deictic origo. Following Burenhult (2008)'s articulation of 'array-internal' or intrinsic spatial coordinate

demonstratives, these Kalaallisut demonstratives localize a referent with respect to topological aspects of the origo itself. The meanings of *ma-* and *qam-* (and likely *kig-*) may be articulated in this way:

- Referent *must* contain/enclose the origo: *ma-*
- Referent *cannot* contain/enclose the origo: *qam-* (and possibly *kig-*)<sup>1</sup>

Although *ma-* is not directional per se, as it does not provide an angular specification or vector ‘pointing’ to its object, it nonetheless provides a very narrow search domain such that it very specifically locates its referent. For instance, the object of *illu manna* ‘this house’ is immediately locatable as the house where the speaker is. In contrast, *illu una* ‘this/that house’ would likely require either a gesture or contextual information to interpret the intended referent. Similarly, *illu innga* ‘that house over there’ does not encode much information to narrow the search domain for the referent, whereas directional *illu pinnga* ‘that house up there’ does narrow the search domain to include houses that are above the speaker’s location. Both *ma-* and *qam-* locate a referent in physical space through the interpretation of the deictic origo as a ‘ground’ with intrinsic facets of containment/enclosure. For *ma-*, the referent is necessarily an object which contains the origo such that the origo is located ‘inside’. For *qam-*, the speech setting likewise is interpreted with regard to an enclosure referencing an object located ‘outside’ the space containing the origo. Thus, the Kalaallisut system encodes both intrinsic<sup>2</sup> and absolute directional specifications within its deictic semantics, both of which are rarely found cross-linguistically.

As shown in the Levinson et al. (2018) studies, multi-opposition systems tend to be built upon a core or base system, for instance one that is person- or distance-oriented. In terms

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<sup>1</sup>As discussed in Chapter 4, the demonstrative *kig-* is not used or understood enough today, at least by the speakers who participated in the study, to have allowed for in-depth study of its semantics and conditions of usage.

<sup>2</sup>As mentioned in Chapter 3, Central Alaskan Yup’ik and Malimiut (North Alaskan Inuit) are potentially more noteworthy in this regard, having ‘back there’ demonstratives which seem to encode an intrinsic FoR deictic specification, calculated with respect to intrinsic facets of the speaker (i.e. the speaker’s back).

of its basic structure, the Kalaallisut paradigm has distance as a primary organizational factor, but, as in the rest of Yupik-Inuit, the spatial zones distinguishing ‘up from speaker’, ‘down from speaker’, and ‘inside/outside from speaker’ from both ‘near speaker’ and ‘away from speaker’ all appear to form the foundational semantic structure of the paradigm. The deictic categories come together to form more distance-based distinctions than just proximal versus distal, as described in Chapter 4. Comparing the extensions of the different categories introduces proximal, medial, and distal regions with respect to the speaker. However, the categories do not reflect a pure three-way distance contrast since they incorporate other distinctions. For instance, the distal categories all have a directional and/or topographic meaning, such that there is no general distal form which does not specify a direction (although the older usage of *av-* discussed in Chapter 4, which appears to be one still preserved in Inuktun, may represent this). In this sense, the claim coming out of this study is not that Kalaallisut has true medial demonstratives, purely indexing three spatial zones defined only by distance. This is in accord with the findings of Levinson et al. (2018) who argue against the existence of simple ‘medial’ distance demonstratives.

As described in Chapter 3, the Proto-Yupik-Inuit demonstrative system and that of other Yupik-Inuit languages display a constellation of many of the deictic and non-deictic semantic distinctions found across different languages, even more so than Kalaallisut: distance, person, visibility, accessibility, properties of the referent, movement, and direction. It would be challenging to find another demonstrative system with the same complexity of semantic features. The same fundamental PYI system is found today in Central Alaskan Yup’ik, Seward Peninsula Inuit and the Malimiut dialect of North Alaskan Inuit. Like Kalaallisut, this system includes cross-linguistically rare deictic distinctions, particularly its directional demonstratives which project a search domain anchored to a spatial coordinate system. In fact, this directional semantics has been preserved across the languages of the family, whereas the less spatial categories have shown less robustness over time. However, the

spatial specificity provided by the accessibility distinction has displayed susceptibility to change and loss.

Other Yupik-Inuit demonstrative systems have displayed the gradual loss of some of these deictic and other semantic distinctions as the systems have reduced. On the western end of the geographical span of Yupik-Inuit, the Yupik-Sirenik languages display divergence and reduction going hand in hand with language loss, as these varieties (not including CAY) are all severely endangered or extinct. Their demonstrative paradigms display the same overarching structure as PYI, but with incomplete paradigms due to sporadic missing forms. In the same vein, many of the demonstrative meanings have become highly specific and conventionalized, moving away from the abstract and paradigmatic organization of systems like that of Central Alaskan Yup'ik and Malimiut.

Looking toward the eastern part of the family, the Inuit varieties that are closest to the PYI center (such as North Slope NAI and Siglit) exhibit similar trends to the Yupik varieties to the west with a reproduction of the same overall semantic structure as PYI but with some missing forms which contribute to a breakdown of the accessibility distinction. Starting with Copper/Kangiryuarmit and moving eastward, the demonstrative paradigms begin to be distinctly smaller (e.g. with Kangiryuarmit having roughly half the number of stems as Central Alaskan Yup'ik). With this significant reduction in stems, both accessibility and visibility disappear as fully cross-paradigmatic oppositions. The systems continue to reduce in Eastern Canadian Inuit and Greenlandic Inuit, the varieties of which exemplify distinctive possibilities as reduced versions of the larger Yupik-Inuit paradigms. For instance, Aivilik Inuktitut preserves the extended-restricted contrast, whereas the Greenlandic varieties (and some of easternmost ECI) have replaced this with a distance contrast, as we have seen for Kalaallisut.

However, it is noteworthy that all of today's Yupik-Inuit varieties have preserved the basic spatial zones and all have also preserved some distinction within the main zones, based on perceptual qualities of the referent (i.e. ERO in some form) or based on distance. In

this way, all of the languages have maintained their basic directional semantics, including some elements of intrinsic and absolute spatial deixis. And although the demonstrative descriptions available in the literature do not always go into detail here, it appears that each Yupik-Inuit system is embedded within the local environment of use and thusly incorporates and anchors to various topographic features.

The significant reduction in the paradigms of eastern Inuit varieties as compared with PYI (e.g. going from 27-28 demonstrative distinctions in PYI to only 12 in Kalaallisut) is motivated by language-internal sound change which goes hand in hand with the associated semantic changes. Consonant cluster assimilation (CCA) has progressively affected the Inuit varieties from west to east, with the easternmost varieties who have undergone the most CCA also having the most reduced demonstrative paradigms. CCA has led to partial convergence of semantically related demonstrative stems resulting in conflation of the deictic categories. This convergence/conflation of demonstratives based on already closely linked semantic distinctions (i.e. accessibility pairs), along with a similar trajectory of change resulting in the loss of all bisyllabic (obscured) stems, show that the large-scale changes found in the eastern Inuit demonstrative paradigms were importantly motivated by language internal sound change.

A vestige of this same internal change is found to be affecting the Kalaallisut system today with the convergence of *qam-* and *qav-*, discussed in Chapter 4. However, the changes underway recently and today within the Kalaallisut demonstratives are numerous and illustrate other motivations, including ones that are language external. The following summarizes the main recent/ongoing changes described in Chapter 4:

- Loss of *kig-*, *im-*
- Semantic shifts
  - *pav-* as ‘north’, *sam-* as ‘south’
  - Reanalysis of *av-* as *avat-*

– Conflation of *qam-* and *qav-* (resulting in loss of *qav-*)

- Loss of distal directional distinctions
- Increased usage of *ik-*

The majority of these changes have to do with the environmentally-based directional demonstrative meanings, and particularly those which derive their meaning through anchoring to the specific geophysiology of Greenland’s west coast. Except for *im-*, all of the demonstratives undergoing significant semantic shift and/or loss are those which encode this environmentally-situated directional meaning (*av-*, *qav-*, *pav-*, *sam-*, and *kig-*). Beyond the conflation of *qam-* and *qav-*, there does not appear to be a language internal motivation for this overall trend. Instead, these changes are connected to a shift in how the environment is conceptualized and the role that it plays in daily life of speakers, including the functional need for this level of deictic specificity with respect to changing ways of life. It was already suggested in Chapter 4 that contact with Danish has motivated the semantic/conceptual calque of ‘up’ as ‘north’ and ‘down’ as ‘south’, diverging from the environmental conceptualization that arises from the Greenlandic landscape. Contact with Danish could explain other patterns of change and shift within the Kalaallisut demonstratives, potentially including particular deictic categories as well as on the broader level of semantic and conceptual organization.

## 5.2 Future work

**Language contact and externally-motivated change** An intriguing question arising from the current study is whether the *structure* of the Danish demonstrative paradigm, which is roughly a two-opposition system like English, could be influencing that of Kalaallisut. Although the distinction between the borrowing of linguistic material and that of structure (MAT vs. PAT; Matras and Sakel 1997) is well established, exactly what kinds of patterns

may be calqued in situations of language contact? There is little research on contact between demonstrative systems, and indeed their position at the intersection of lexicon and grammar creates an element of uncertainty about what outcomes to predict from contact. Matras (2009: 203) states that instances of deictic elements being borrowed (MAT) are rare, and indeed I have found no evidence of Danish demonstratives being borrowed into Kalaallisut. It would be at the level of pattern replication (the borrowing of linguistic structure) wherein Danish may show an influence on the Kalaallisut demonstratives. There is clearly a significant mismatch between a two-opposition system like Danish and the large multi-opposition system encoding directional meanings found in Kalaallisut. However, a hypothesis which arises from the results of the current study is that the usages of *uv-* and *ik-* are converging with those of the proximal and distal categories in Danish. For instance, one can imagine a Kalaallisut/Danish bilingual speaker using *inna* or *ikani* for a referent that could be more specifically located in space using a directional demonstrative to mirror the usage of the Danish distal for such a referent. This could explain the increased usage of *ik-* by young/urban speakers noted in Chapter 4. As a prerequisite for the investigation of contact effects here, a necessary area for future work is to further probe the traditional distinction between *uv-* and *ik-*, and the array of extensions for both.<sup>3</sup>

The combination of increased frequency of usage and wider extension of *ik-* with receding cultural contexts to which the directional forms are tied, namely hunting and traveling on the land and sea, would help explain the loss and shift within directional meanings that has been found, in demonstratives such as *sam-*, *av-*, *qav-* and *kig-*. Matras (2010) asserts that, for bilinguals, aspects of their entire linguistic repertoire, i.e. specific word forms or constructions, are linked to specific contexts of use. With loss of the particular cultural contexts of use of these demonstratives, such speakers may not receive the input to learn

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<sup>3</sup>For instance, *uv-* could be best conceived as a neutral demonstrative, gaining its spatial meaning only in paradigmatic opposition with the other demonstratives which all carry a more specific spatial semantics.



the ‘traditional’ demonstrative system, which may leave room for the matching up of the extension of Danish distal category with that of *ik-*, creating a calque.

Similarly, the disconnection of the Kalaallisut system from traditional contexts of use in a situated, local environment opens up greater possibilities for contact effects operating on larger scale conceptual structures, as in the ‘up’ is ‘north’ metaphor. This brings up the question of whether the semantic organization of morphological paradigms or other linguistic sub-systems can in fact undergo pattern replication or structural convergence through contact. Ross (1985, 1987, 1996) describes the concept of ‘metatypy’ which could apply here; it refers to contact-induced correspondences between the semantic organizations of morphological paradigms of two languages, as bilinguals bring together different ‘reality construals’ (Ross 1996: 204-205). The demonstrative system of Danish (and potentially the spatial system more broadly) clearly represent a profoundly different ‘reality construal’ than that of Kalaallisut.

**Beyond exophoric, spatial deictic functions** This study has focused upon a particular slice of the Kalaallisut demonstrative system: that of its exophoric and primarily spatial function for the localization of referents in physical space, particularly the geophysical environment of Greenland. It is within this directional semantics that the Kalaallisut system displays intriguing properties within typological perspective on demonstrative and deictic systems. Furthermore, the recent and ongoing changes that were immediately evident upon conducting fieldwork on the demonstratives centers around the directional distinctions and particularly their environmental—topographic and cardinal—meanings. Using the deictics in these ways is linked to the need for specific spatial localization within the environment linked to a traditional Inuit lifestyle and subsistence activities.

However, other semantic factors and deictic functions are evident in the system and its usage. For one, speakers often mentioned visibility and pointing as factors in demonstrative usage. In the case of *uv-*, for example, some speakers explain it as being for referents that

one can point to. The role of other semantic and deictic factors which lie outside the spatial location of the referent, such as gesture, visibility, accessibility, or attention, need to be systematically tested using an elicitation tool such as Wilkins (1999). In this vein, the potential role of participant anchoring is an area requiring further investigation. As seen in Chapter 3, some Yupik-Inuit languages, such as Central Alaskan Yup'ik, employ specific demonstrative forms (derived from *ta-* prefixed stems) in order to switch from speaker-anchoring to addressee-anchoring. Although I have found no evidence of this or other person-based deictic distinctions within the current study, the possibilities with regards to the roles of other speech participants, as well as the specific nature of the deictic origo employed in Kalaallisut, warrants future investigation. The potential role of the *ta-* prefix for transposition of the origo in Kalaallisut, and generally the conditions of its usage, likewise need additional research.

Lastly, the Kalaallisut demonstratives do have other, non-spatial deictic usages, such as temporal and discourse deixis. These functions require systematic investigation in order to gain a complete picture of demonstratives and deixis in Kalaallisut. Deixis, even the highly spatial and directional deixis of the Kalaallisut demonstrative system, is multidimensional and multifunctional, used by speakers in the production of social and cultural meaning.

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