

THE UNIVERSITY OF CHICAGO

TYPES OF RESUMPTIVE \bar{A} -DEPENDENCIES

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE DIVISION OF THE HUMANITIES
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF LINGUISTICS

BY

MATTHEW RUSSELL HEWETT

CHICAGO, ILLINOIS

AUGUST 2023

Copyright © 2023 by Matthew Russell Hewett
All Rights Reserved

For my parents.

TABLE OF CONTENTS

LIST OF TABLES	vii
ACKNOWLEDGMENTS	viii
ABSTRACT	xi
1 INTRODUCTION	1
1.1 Introduction	1
1.2 Diagnosing \bar{A} -movement and base generation	2
1.3 On the pronominal regularity of resumptive pronouns	4
1.4 Contributions to the theory of Merge/Move	6
1.5 Background on Arabic \bar{A} -dependencies	7
1.5.1 Restrictive relative clauses	7
1.5.2 <i>Wh</i> -questions	8
1.6 Summary of chapters	10
2 DIAGNOSING MOVEMENT UNDER RESUMPTION: MORPHOPHONOLOGI- CAL REFLEXES	14
2.1 Introduction	14
2.2 Characterizing morphophonological reflexes of movement	15
2.3 Island-insensitive resumption is incompatible with morphophonological re- flexes of movement	17
2.3.1 Irish complementizers	17
2.3.2 Malay/Indonesian voice marker	19
2.3.3 Selayarese complementizers and absolutive agreement	20
2.3.4 Tyrolean German doubling vs. resumption	22
2.4 Morphophonological reflexes of movement under resumption	25
3 DIAGNOSING MOVEMENT UNDER RESUMPTION: SYNTACTIC TESTS	40
3.1 Introduction	40
3.2 Distinguishing Merge and Move features	45
3.3 Island-sensitivity	48
3.4 Parasitic gap licensing	59
3.4.1 Parasitic gaps are not licensed by island-insensitive resumptives	61
3.4.2 Alternative analyses and parasitic gap licensing under island-sensitive resumption	88
3.5 Parasitic gap licensing in long-distance dependencies and mixed chains	99
3.5.1 Cross-linguistic variation in high parasitic gap licensing by resumptives necessitates distinguishing Merge and Move in intermediate clauses	100
3.5.2 <i>Wh</i> -scope marking in Arabic is not derived by a mixed chain	126
3.5.3 Summary and overview of other kinds of mixed chains	131
3.6 Stranding <i>exactly</i> in intermediate positions	135

3.7	Case-matching	148
3.7.1	Case and resumptive-binding operator generalization	149
3.7.2	Iraqi case-marked <i>wh</i> -questions involve movement	156
3.7.3	Local case assignment explains the <i>Case and resumptive-binding operator generalization</i>	162
3.8	Conclusion	167
4	INSIGHTS FROM RESUMPTION INTO THE FEATURE-DRIVEN MERGE VS. FREE MERGE DEBATE	173
4.1	Introduction	173
4.2	A sketch of a free Merge system	174
4.3	Why free Merge approaches fail to account for cross-linguistic variation in the availability of mixed chains	178
4.4	Conclusion	183
5	ISLAND-SENSITIVE RESUMPTION AS STRANDING	184
5.1	Introduction	184
5.2	A stranding approach to resumption <i>qua</i> clitic doubling	185
5.3	Clitic-doubled operators can be case-marked, resumptive-binding operators cannot be	187
5.4	Clitic-doubled operators can license parasitic gaps, resumptive-binding operators cannot	196
5.5	Operators can be clitic-doubled in situ	198
5.5.1	Excursus: Deflected agreement and clitic doubling in Arabic	203
5.6	Clitics doubling an operator cannot simultaneously double a strong pronoun, resumptive clitics can double a strong pronoun	205
5.7	Clitic doubling can circumvent weak crossover, resumption cannot	207
5.8	Extending the Big-DP analysis of movement-derived resumption to languages without clitic doubling	217
5.8.1	Two types of island-sensitive resumptives	218
5.8.2	Problems for ‘spelled-out trace’ analyses of island-sensitive resumption	220
5.9	Conclusion	242
6	DIAGNOSING RECONSTRUCTION UNDER RESUMPTION: E-TYPE PRONOUNS AND RECONSTRUCTION WITHOUT MOVEMENT	243
6.1	Introduction	243
6.2	NP-ellipsis theory of resumption	249
6.2.1	NP ellipsis and semantic connectivity	250
6.2.2	NP ellipsis and φ -feature connectivity	259
6.3	Reconstruction under resumption in Iraqi, Tunisian, and Syrian Arabic	261
6.3.1	Resumption licenses reconstruction for binding	267
6.3.2	Resumption licenses reconstruction for scope	283
6.4	Reconstruction under resumption does not feed Condition C	297
6.5	In-island resumption permits reconstruction	308

6.6	Reconstruction licensing does not pattern with parasitic gap licensing	314
6.7	Excursus: On interpretive asymmetries between optional and obligatory resumptives and their relation to movement	319
6.8	Conclusion	322
7	DIAGNOSING CROSSOVER UNDER RESUMPTION	325
7.1	Introduction	325
7.2	Background on crossover	327
7.3	The ambiguity problem with testing primary crossover under resumption . .	331
7.4	Secondary crossover effects are present under resumption in Arabic	342
7.4.1	Pied-piping resumption	344
7.4.2	Excursus: PP pied-piping resumption and the theory of selection . . .	349
7.4.3	Secondary crossover effects with gaps and resumptives	358
7.4.4	Secondary crossover effects persist with in-island resumption	370
7.4.5	Appendix: Secondary strong crossover is not reducible to Condition C	375
7.5	Interim summary & desiderata for an account of crossover effects	385
7.6	Accounting for secondary crossover effects with three kinds of binding	387
7.6.1	Three kinds of binding	388
7.6.2	Three kinds of binders	395
7.6.3	The representation of DPs and the distribution of variables	406
7.6.4	Interpreting pied-piping structures	409
7.6.5	Deriving secondary crossover	412
7.7	Primary crossover and Bijection	421
7.7.1	Crossover effects with epithets	423
7.7.2	Primary crossover through restrictions on β -binding and Bijection . .	440
7.7.3	On the viability of Bijection and the absence of co-A-binding	454
7.8	Conclusion	467
8	CONCLUSION	469
8.1	Introduction	469
8.2	Two kinds of structure-building features	469
8.3	Two kinds of resumptive \bar{A} -dependencies	470
8.4	Diagnosing \bar{A} -movement	471
8.5	Empirical contributions	472
8.6	Open questions	473
8.6.1	Base-generation and movement at vP?	473
8.6.2	Extending the Big-DP- <i>cum</i> -stranding analysis to movement-derived resumption in non-clitic doubling languages	474
8.6.3	The status of φ -feature mismatches under resumption	474
8.6.4	Interpretive asymmetries between types of resumptive pronouns . . .	475
8.6.5	The positional A-/ \bar{A} -distinction	476
	REFERENCES	477

LIST OF TABLES

3.1	Summary of syntactic tests for movement under resumption and two types of resumptives	169
7.1	Cross-linguistic summary of crossover effects under resumption with epithets . .	422
7.2	Cross-linguistic summary of primary crossover effects under resumption	426

ACKNOWLEDGMENTS

First and foremost I would like to thank my Arabic language consultants, who patiently and enthusiastically shared their languages with me: Ola Aldulaimy, Farah Harba, and Zeineb Sellami. I'm happy to count you all as friends. This work would not have been possible without you.

Next, my committee members, who I owe an immense debt of gratitude to: my co-chairs, Karlos Arregi and Jason Merchant, as well as Erik Zyman and Chris Kennedy.

To Karlos: I really do apologize for not writing a shorter dissertation like you asked me to—I swear that this will be my last. Karlos has been an endless source of support, advice, and creative insight in all aspects of my life at UChicago. He has an incredible way of making any data set fascinating, no matter how dull it may seem at first, and of making any day an enjoyable and rewarding one, no matter what else may be transpiring. And when he wasn't helping me on the particulars of my research projects, he was mentoring me on professionalism or pedagogy. He has devoted an inordinate amount of time to working with me over the years, and I hope to have paid him back through karaoke duets. If not, there's always more singing to be had.

Jason is the reason that I took up syntactic research during grad school and the reason I started investigating resumption in the first place (beginning with Biblical Hebrew)—I can't thank him enough for that. He is an inspiring mentor whose feedback continues to motivate me to delve deeper into even the thorniest of linguistic problems. Jason has taught me to pair empirical rigor with a passion for analysis and explanation, something which I have attempted to reproduce in the coming pages. And on top of all that, Jason has always motivated me to think beyond the bounds of a given problem. His ability to see to the heart of an issue, contextualizing it within its broader analytical context, is without comparison and my work has benefited greatly from it. Thank you for all you have taught me.

Erik is a force of nature. In addition to being a wellspring of novel data and holding

a catalogue of the linguistic literature in his head, Erik is an enthusiastic supporter of my independent research. Erik has never shied away from asking the tough questions, and it is because of him that I feel so confident in asking the same questions (quite often with him over a pitcher of beer). Thanks also to Erik for his many excellent seminars which taught me to really enjoy understanding complex argumentation (and to find the devil in the details).

And to Chris: despite my asking you to join the party as late as I did, I can say that this work would not have achieved so much without your many contributions. Chris' intellectual acuity and healthy skepticism have sharpened my thinking on a number of topics and his ability to see the big picture consequences of any hypothesis presented to him have helped keep me and my work on course. Thank you also, Chris, for supporting my transition into the Linguistics Department—you made it feel truly welcoming, and I can't imagine a better community in which to have spent the last few years.

Thanks also to the many other professors in the Department of Linguistics at UChicago who instructed me and made this such a fun place to learn, including especially Diane Brentari, Amy Dahlstrom, Itamar Francez, John Goldsmith, Andy Murphy, and Ming Xiang.

Thanks to my friends and fellow graduate students at UChicago: Akshay Aitha, Ömer Eren, Ksenia Ershova, Mina Giannoula, Sam Gray, Sami Jiries, Jessica Kantarovich, Corinne Kasper, Sanghee Kim, Naomi Kurtz, Jackie Lai, Daniel Lam, Zach Lebowski, Aurora Martinez del Rio, Eszter Ronai, Kutay Serova, Adam Singerman, Laura Stigliano, Yenan Sun, Mike Tabatowski, Mattie Wechsler, Brianna Wilson, and many others. A special shoutout to Zeineb Sellami (again), who was my pronoun partner in crime. I learned so much from you in our joint journey.

Thanks to the numerous other individuals who I have discussed various aspects of this work with, including Hagit Borer, Dan Brodtkin, Claire Halpert, Emily Hanink, Ruth Kramer, Idan Landau, Jim McCloskey, Martin Salzmann, Ur Shlonsky, Ivy Sichel, Coppe van Urk; attendees at PLC 46, GLOW 45, LSA 98, WCCFL 41; and audiences of the Morphology &

Syntax Reading Group at UChicago, the Penn Syntax Lab, and the Yale Syntax Reading Group.

Outside of linguistics, I must mention Nicholas Beinor, Morgan Hamill, Krishna Kulkarni, Eli Lambert, Michael Rudden, Charles Wilson, and Christopher Wright, without whom I would never have made it this far.

My family members have remained stalwart supporters of me throughout my writing this dissertation. Thanks to my parents for taking in me and Joni (and Pepper) for so long during the pandemic and for imparting wisdom to us both. Thanks to my grandparents for always pushing me to follow my dreams. Thanks to Hilary and Chad for your continual love and encouragement, for the excellent vacations and visits, and for being the role models that you are. And of course, thanks to Lindsey for inspiring me to study linguistics in the first place via the ol' garden path.

Lastly, thank you Joni for believing in me at all times, for making me laugh when I needed it most, and for reminding me at all times to take a deep breath and just live. You are the best life partner I could have asked for.

ABSTRACT

This dissertation explores the cross-linguistic nature of resumptive \bar{A} -dependencies with a particular emphasis on resumption in spoken Arabic varieties. Two primary questions guiding this investigation are: (1) what properties do resumptive \bar{A} -dependencies share with gapped \bar{A} -dependencies and/or with base-generated binding dependencies; and (2) what properties do resumptive pronouns share with non-resumptive pronouns? The answers I provide to these questions are based on the most systematic investigation of connectivity and cyclicity effects under resumption to date, drawing both on novel data and on a broad survey of the previous literature.

Regarding (1), I argue that two kinds of resumptive \bar{A} -dependencies can be distinguished—those which behave like movement-derived dependencies, patterning with gaps (e.g. in Spanish), and those which behave like base-generated binding dependencies (e.g. in Arabic). The diagnostics which reliably distinguish the two types of resumptives and which march in lockstep cross-linguistically are morphophonological reflexes of movement, island-sensitivity, parasitic gap licensing, *exactly* stranding, and case-connectivity. A key corollary of my analysis is that natural language syntax must be able to differentiate between (External) Merge and Move (*qua* Internal Merge). To account for this distinction, I argue for a *feature-driven* approach to structure-building operations, as opposed to *free* (or *untriggered*) approaches. I adduce additional support in favor of the feature-driven approach coming from variation in the construction of long-distance dependencies, specifically with mixed chains.

Regarding (2), I provide a battery of novel tests showing that resumptive pronouns behave morphologically, semantically, and syntactically like regular pronouns (Doron, 1982; Engdahl, 1982; McCloskey, 2002; Asudeh, 2004), regardless of whether or not the operator that binds them moves. Crucially, certain properties which have previously been taken to motivate a movement analysis of resumption are shown to not march in lockstep with the aforementioned movement diagnostics: these are reconstruction effects and crossover effects.

I contend that neither reconstruction nor crossover strictly correlates with movement, contra much previous literature, and I show that both are robustly attested with base-generated resumptive dependencies. Instead, independent structural properties of pronouns and general constraints on variable binding, respectively, predict the presence of both reconstruction and crossover under resumption. Additionally, I argue that the pronominal regularity of movement-derived resumptives (e.g. in Spanish) supports a stranding approach to such resumption, wherein resumptive pronouns double \bar{A} -moved operators which bind them, over and against ‘spelled-out trace’ approaches which face significant hurdles in explaining all the relevant facts.

This dissertation thus defends a pluralistic view of resumptive \bar{A} -dependencies couched within a feature-driven approach to structure-building while nevertheless accounting for cross-linguistically stable properties of (resumptive) pronouns.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This dissertation revisits old questions about \bar{A} -movement and about resumptive pronouns. From one perspective, this dissertation is a revival of many quite old ideas about the syntax of resumption. From another perspective, however, this dissertation is a fresh investigation of the syntax of resumptive \bar{A} -dependencies, most prominently in spoken Arabic varieties. By resumptive \bar{A} -dependencies, I refer to \bar{A} -dependencies in which an \bar{A} -bound pronominal element occurs in the variable site instead of a gap. The significance of resumption for linguistics and for cognitive science in general lies in the fact that resumptive elements, like gaps, are used as variables in forming potentially unbounded long-distance dependencies, which uniquely characterize human language, and thereby distinguish it from animal communication systems (see Hauser et al., 2002, 1577). Thus, by probing the nature of resumption, we can deepen our understanding of one of the hallmark properties of the language faculty.

Consider the classical analysis of gapped \bar{A} -dependencies. Since Chomsky (1977), they have been taken to involve (successive-cyclic) movement of a phrase from its base-generated position inside a clause to its surface, peripheral position. The existence of resumptive \bar{A} -dependencies raises (at least) the following three questions:

- (1) a. What properties, if any, do resumptive \bar{A} -dependencies share with gapped \bar{A} -dependencies and what properties, if any, do they share with base-generated binding dependencies?
- b. What properties, if any, do resumptive pronouns share with non-resumptive pronouns?
- c. What can resumptive \bar{A} -dependencies tell us about the theory of structure building—in particular of Merge and Move?

In the following sections, I detail how this dissertation answers these questions and how it contributes to the broader literature on \bar{A} -syntax and on pronouns.

Throughout this dissertation, I adopt the following standard terminology to describe (resumptive) \bar{A} -dependencies. A *resumptive element* is an element (typically a pronoun, though not always) which is obligatorily bound by a coindexed element in an \bar{A} -position; in other words, a resumptive element is obligatorily \bar{A} -bound. When abbreviated, I will use ‘R(ESUMPTIVE) P(ROUN).’ The *variable site* is the lowest position in the \bar{A} -dependency, which may be occupied by a gap, as in (2a), or by a resumptive element, as in (2b). Furthermore, in resumptive \bar{A} -dependencies, I will often refer to the *wh*-phrase which binds the resumptive element as the *resumptive-binding operator*, following a convention in Merchant (2004). Unless otherwise indicated, intended covariation (or ‘coconstrual’) is henceforth indicated by means of coindexation.

- (2) a. $[\text{CP } wh\text{-XP}_i [\text{C}' \dots \text{---}_i \dots]]$
 b. $[\text{CP } wh\text{-XP}_i [\text{C}' \dots \text{RP}_i \dots]]$

1.2 Diagnosing \bar{A} -movement and base generation

Previous investigations into resumption have reached different (and often contradictory) conclusions regarding the nature of resumption both within and across languages: some contend that resumptive \bar{A} -dependencies share with gapped \bar{A} -dependencies the relevant properties motivating an analysis in terms of movement, while others argue that they do not. This dissertation contributes to the ongoing debate and resolves the apparent paradox by arguing—both from novel data and from a broad survey of the prior literature—that two distinct types of resumptive \bar{A} -dependencies must be differentiated cross-linguistically, building on earlier proposals (see especially Borer, 1981; Sportiche, 1983, 117ff., esp. 126; Koopman, 1984, esp. 179–180; Engdahl, 1985; Tellier, 1991; Aoun et al., 2001; Asudeh, 2004; McCloskey, 2006, 2017; Alexandre, 2009; Sichel, 2014; Scott, 2021b; Georgi and Amaechi, 2022; Yip and Ahenkorah, To appear). The basis for this distinction is a reassessment of what diagnoses \bar{A} -movement, following the model of Cinque (1990) (the inspiration for the

title of this dissertation).

On the one hand, I contend that four syntactic tests for movement march in lockstep for a given \bar{A} -dependency in a given language; these are island-sensitivity, (local) parasitic gap licensing, stranding of material adjoined to the *wh*-phrase, and case-connectivity. It is this set of diagnostics, summarized in (3), which distinguishes two kinds of resumptive dependencies cross-linguistically: those which behave like gapped dependencies, and those which behave like non-movement, anaphoric binding dependencies. Concerning Arabic in particular, I argue from these diagnostics that (clitic) resumption in *wh*-questions and relative clauses is uniformly derived by base-generation and never by \bar{A} -movement, contra many previous claims (e.g. Aoun and Benmamoun, 1998; Aoun, 2000; Aoun and Choueiri, 2000; Aoun et al., 2001; Choueiri, 2002; Aoun and Li, 2003; Aoun et al., 2010).

- (3) *Syntactic tests for movement distinguish two types of resumptive pronouns (results from a sample of over 20 languages)*

	Island-sensitive?	License (local) PGs?	License stranding?	Case-marked operators?	Exemplar languages
Base-generated resumptives	No	No	No	No	Iraqi Arabic, Syrian Arabic, Tunisian Arabic, ...
Movement-derived resumptives (and gaps)	Yes	Yes	Yes	Yes	Spanish, Swedish, Vata, Igbo, Romani, ...

Note that, although some of the diagnostics in (3) have been argued to pattern together in previous literature (especially island-sensitivity and parasitic gap licensing, see for instance Engdahl, 1985; Alexandre, 2009; and Georgi and Amaechi, 2022), this is the first time that the results of all four diagnostics have been shown to crucially converge for both types of resumption.

In support of this bipartite taxonomy of resumptive \bar{A} -dependencies, I additionally show that island-sensitivity correlates with the presence or absence of overt morphophonological

reflexes on the heads triggering displacement in languages that attest such reflexes, as shown in (4).

(4)

	Island-sensitive?	Morphophonological reflexes of movement?	Exemplar languages
Base-generated resumptives	No	No	Irish, Malay/Indonesian, Selayarese, Tyrolean German
Movement-derived resumptives (and gaps)	Yes	Yes	Igbo, Hausa, Colloquial Welsh, Palauan

We can make sense of this finding if both islands and overt morphophonological reflexes along the dependency path diagnose movement (see especially Georgi, 2014a, 2017).

On the other hand, certain other properties which are shared between resumptive and gapped \bar{A} -dependencies do not march in lockstep with the above syntactic tests for movement and hence fail to justify a movement analysis of resumption, contra much previous literature; these are reconstruction effects and crossover effects. For instance, neither reconstruction nor crossover under resumption obeys constraints on locality. Consequently, I argue that both kinds of effects are shared by all \bar{A} -binding dependencies and that they should not be exclusively attributed to \bar{A} -movement. The result is a deeper understanding of what diagnoses \bar{A} -movement, and why.

1.3 On the pronominal regularity of resumptive pronouns

One of the core desiderata of this dissertation is to account for the morphological/lexical regularity of resumptive pronouns. As much previous literature has noted (see especially Doron, 1982; Engdahl, 1982, 172, n. 5; and McCloskey, 2002, 192), resumptive pronouns are always drawn from the series of regular pronominal elements of the language in question.

Following Asudeh (2015, 10, (36)), I state this generalization as follows:

(5) **The Doron–Engdahl–McCloskey Generalization**

Resumptive pronouns are ordinary pronouns.

This generalization crucially extends to both base-generated and movement-derived resumptives cross-linguistically. To account for (5), I argue that *all* resumptive pronouns are merged from the lexicon as pronouns. Base-generated resumptives are regular pronouns merged from the lexicon which are bound by operators in \bar{A} -positions (Chomsky, 1977; McCloskey, 1990). Movement-derived resumptives are similarly merged from the lexicon as pronouns, though I argue that they are base-generated together with the operators that they double in a Big-DP structure and that ‘resumption’ results from \bar{A} -movement of the operator, stranding the doubling pronoun in situ. My analysis of movement-derived resumptives builds on earlier proposals in Rouveret (1994), Aoun et al. (2001), and Boeckx (2003), among others, and makes several (previously unrecognized) predictions which I argue are empirically borne out. Furthermore, I argue that, while the stranding approach to resumption straightforwardly explains the syntactically, morphologically, and semantically regular nature of resumptive pronouns, consonant with the generalization in (5), spelled-out trace analyses of (movement-derived) resumption face significant hurdles in explaining the same facts. This leads me to propose the strong conjecture in (6), to be tested in future research.

(6) **A strong conjecture about movement-derived resumption**

Resumptives in movement dependencies are always either (i) agreement elements (see Borer, 1981), or (ii) elements doubling the moved operator. There is no such thing as a ‘spelled-out trace resumptive’.

Furthermore, I argue that the presence of reconstruction and crossover effects with base-generated resumption (noted at the end of the previous section) is straightforwardly accounted for if all pronouns, including resumptive pronouns, are internally complex. Following proposals made by Elbourne (2001, 2005, 2013) for non-resumptive, E-type pronouns (and extended to resumption in other languages by Guillot and Malkawi, 2006 and Salzmann,

2017b), I argue that resumptive pronouns are hidden definite descriptions. Specifically, a resumptive pronoun is a determiner whose NP complement has been elided under identity with the resumptive’s antecedent. I adduce novel arguments in favor of this E-type approach to resumption, demonstrating that the kinds of readings available to resumptive pronouns under reconstruction are also available to pronouns in the same positions in the absence of an \bar{A} -dependency in Arabic. In other words, all pronouns can exhibit at least some semantic connectivity with their antecedents, even in the absence of movement. I also argue that crossover effects are predicted by the E-type analysis of resumptive pronouns if (i) the constraints responsible for crossover effects—namely, the Bijection Principle (Koopman and Sportiche, 1982) and a ban on indirect \bar{A} -binding (see also Büring, 2004)—are representational constraints on the distribution of operators and bound variables and if (ii) the elided component of resumptive pronouns contains structurally represented indices *qua* variables. The result is a uniform cross-linguistic analysis of resumptive pronouns as regular pronouns, whose apparent trace-like behavior in triggering reconstruction and crossover can be derived from independently justified properties of pronouns.

1.4 Contributions to the theory of Merge/Move

A key corollary of my proposed bipartite taxonomy of resumptives is that natural language syntax must be able to distinguish movement from base-generation. Such a distinction accounts for the fact that certain languages permit resumptive-binding operators to be base-generated in [Spec, CP], while others do not. Additionally, however, I document novel cross-linguistic variation in the availability of *mixed chains*—long-distance dependencies which combine base-generation and movement in different parts of the chain (see especially Finer, 1997 and McCloskey, 2002). To account for this variation, I propose that the grammar of a given language must be able to distinguish between external and internal Merge at intermediate CP edges in long-distance dependencies. To that end, I argue that structure-building

operations must be *feature-driven* (as in Adger, 2003; Müller, 2010, 2017; Abels, 2012; Merchant, 2014, 2019; Collins and Stabler, 2016; Georgi, 2017; and Zyman, 2018, Accepted), rather than free or untriggered (as in Boeckx, 2010; Ott, 2010; Safir, 2010, 2019; Chomsky, 2013, 2015, 2020; and Epstein et al., 2014, 2015), and that the featural triggers for base-generation and for movement must be both distinguishable and lexically specified. I develop an explicit and constrained theory of the featural distinction between Merge and Move and demonstrate how it accounts for attested cross-linguistic variation in \bar{A} -dependencies.

1.5 Background on Arabic \bar{A} -dependencies

A significant portion of the data reported in this dissertation come from my own fieldwork on varieties of Iraqi, Tunisian, and Syrian Arabic. The varieties spoken by my consultants are Muslim Baghdadi Arabic (on which see Erwin, 1963, 2004), Tunis Arabic (on which see Gibson, 2009), and Coastal Syrian Arabic (specifically, the dialect spoken in the city of Baniyas, south of Latakia; on Syrian Arabic in general, see Cowell, 1964). In this section, I will provide some necessary background on the morphosyntax of Arabic \bar{A} -dependencies which is relevant to the study of resumptive restrictive relative clauses and resumptive *wh*-questions in these varieties.¹ More detailed overviews of Arabic morphosyntax can be found in Aoun et al. (2010); Benmamoun and Choueiri (2013); Ryding (2014, chs. 9–11); and Soltan (2021), among others.

1.5.1 Restrictive relative clauses

In Iraqi, Tunisian, and Syrian Arabic, restrictive relative clauses modifying an NP selected by the definite determiner *l-* ‘the’ are introduced by an invariant relative complementizer whose

1. I set aside resumption in other \bar{A} -dependencies, including in non-restrictive relatives, in clefted *wh*-questions (also called ‘Class II’ interrogatives in Shlonsky, 2002 and Aoun et al., 2010), in clitic left dislocation (on which see especially Lalami, 1996; Demirdache, 1997; Aoun and Benmamoun, 1998; Aoun et al., 2001; Malkawi, 2009; and Aoun et al., 2010, chs. 8–9), and in comparatives (McNabb and Kennedy, 2011).

precise form differs subtly across varieties (see Retsö, 2004; Ángeles, 2011; and Stokes, 2018 for overview). The most commonly attested form is (a form of) *(i)lli*.² I am concerned chiefly with relativization of arguments in this dissertation, and in such cases, a resumptive pronoun is virtually always required in the variable site.³ The following is a representative example of direct object relativization in Iraqi Arabic:⁴

- (7) *ʃawwʃiːni* *l-s^ʃuːra_i* *lli* *tħibbiː*(ħa_i)*.
 show.F.SG.IMP-me the-picture.F.SG_i that like.2.F.SG-*(**it.F.SG_i**)
 (lit.) ‘Show me the picture_i that you like it_i.’ (Iraqi)

None of the varieties investigated in this dissertation employ relative pronouns in restrictive relatives.⁵

1.5.2 Wh-questions

This dissertation investigates two kinds of *wh*-questions in Iraqi, Tunisian, and Syrian Arabic: gapped *wh*-questions and resumptive *wh*-questions. The data in (8), from Iraqi Arabic, illustrate.⁶

2. In Iraqi and Syrian, the relative complementizer *(i)lli* is distinct from the complementizer which heads finite embedded complement clauses, viz. *innu/innu*. In Tunisian, on the other hand, the complementizer *elli*—historically, the relative complementizer—is used in both contexts.

3. Relativization of certain adjuncts, in particular bare NP temporal adverbs, permits (nominal) gaps. See Choueiri (2002, ch. 2) and Aoun et al. (2010, 167ff.) on such facts in Lebanese Arabic.

4. When the NP head of the relative is selected by the indefinite determiner (which is obligatorily null in Arabic) or by an indefinite quantifier like free choice *any*, the relative complementizer is null:

- (i) *ʃawwʃiːni* *ajj s^ʃuːra_i* *tħibbiːħa_i*.
 show.F.SG.IMP-me any picture.F.SG_i like.2.F.SG-**it.F.SG_i**
 (lit.) ‘Show me any picture_i that you like it_i.’ (Iraqi)

5. Indeed, most spoken varieties of Arabic lack relative pronouns, with the notable exception of Moroccan Arabic (Harrell, 1962, 164–166; Fassi Fehri, 1978; Nouhi, 1996, 11, (5b); Brustad, 2000, 106–109), where a restricted series of relative pronouns based on *wh*-elements are permitted in relative clauses. Maltese has also innovated a series of relative pronouns based on *wh*-pronouns (Camilleri and Sadler, 2011a,b, 2016; Camilleri, 2012, 2014).

6. Two other types of *wh*-questions commonly found across Arabic varieties are: clefted *wh*-questions (called ‘Class II interrogatives’ in Shlonsky, 1992 and Aoun et al., 2010), in which the clause initial *wh*-phrase binds a resumptive pronoun and is immediately followed by the relative complementizer *(i)lli*, and

- (8) a. *Gapped wh-question*
 ja: liʕba_i kisrat Mona ____i b-l-ħadi:qa?
 which toy.F.SG_i broke.3.F.SG Mona in-the-park
 ‘Which toy_i did Mona break ____i in the park?’ (Iraqi)
- b. *Resumptive wh-question*
 ja: liʕba_i kisrat-**ha**_i Mona b-l-ħadi:qa?
 which toy.F.SG_i broke.3.F.SG-**it.F.SG**_i Mona in-the-park
 (lit.) ‘Which toy_i did Mona break it_i in the park?’ (Iraqi)

In both examples, the *wh*-phrase *ja: liʕba* ‘which toy (F.SG)’ appears in the left periphery of the clause. However, the two differ in the realization of the variable site: in (8a), a gap appears in the variable site, whereas in (8b), the variable site is occupied by a resumptive pronoun. The optionality holds only for *wh*-questions formed on (some) subjects⁷ and direct objects. When the variable site corresponds to any other nominal argument (e.g. indirect objects, possessors, and complements of prepositions), resumption is obligatory.

As many previous authors have noted, the two kinds of *wh*-questions are not equally available in all contexts; in particular, resumptive *wh*-questions have a more restricted distribution. For instance, although non-nominal *wh*-phrases—including adverbial *wh*-phrases (e.g. Iraqi *we:n* ‘where’, *lwe:f* ‘why’, *flo:n* ‘how’, and *fwakit* ‘when’) and pied-piped prepositional phrases (see section §7.4.2 on the lack of resumption with pied-piped PPs in Arabic)—are freely used with gapped *wh*-questions, they cannot be resumed. Furthermore, certain nominal *wh*-phrases, in particular ‘what’ (e.g. Iraqi *f(inu)*), can never be resumed. By contrast, no (lexical) property of a *wh*-phrase ever renders resumption obligatory (though D-linked nominal *wh*-phrases are often preferably resumed, especially with increased distance between the *wh*-phrase and the variable site).

in situ *wh*-questions (see Aoun et al., 2010 and Choueiri, 2017 for overview and discussion).

7. See Aoun (2000) and Choueiri (2017, 159–160) for arguments that null subject positions at the tails of \bar{A} -dependencies in (Lebanese) Arabic actually contain null *pro* resumptives rather than *wh*-traces. On the other hand, Eid (1975, 23–24) convincingly argues that null relativized subject positions in clauses lacking a finite verb in Egyptian Arabic must contain gaps, since pro-drop is not possible in present tense null copular sentences in that language.

1.6 Summary of chapters

The remainder of the dissertation is structured as follows.

Chapter 2 introduces perhaps the strongest evidence for two types of resumptive pronouns cross-linguistically. Drawing on empirical observations from the prior literature, I show that resumptive dependencies systematically vary in whether or not they cooccur with overt morphophonological reflexes of movement. In languages like Irish and Tyrolean German, resumptive \bar{A} -dependencies only morphologically register the dependency in the head which introduces the resumptive-binding operator; this contrasts with gapped \bar{A} -dependencies, where the length of the dependency path is punctuated by reflexes of movement. On the other hand, in languages like Igbo and Hausa, resumptive \bar{A} -dependencies trigger cyclic reflexes of movement just like gapped \bar{A} -dependencies. Crucially, I demonstrate that whether an \bar{A} -dependency does or does not trigger reflexes of movement also correlates with the island-sensitivity of that dependency: resumptive dependencies in Irish and Tyrolean German are island-insensitive, while those in Igbo and Hausa are island-sensitive. I argue that this correlation is explained if island-insensitive resumption is formed via separate base-generation of resumptives and the operators that bind them and if island-sensitive resumption is formed via movement.

Chapter 3 adduces several additional arguments in favor of the bipartite taxonomy of resumptives established in chapter 2. Taking island-sensitivity as my baseline, I argue at length that three additional tests correlate with island-sensitivity cross-linguistically, distinguishing between base-generated and movement-derived resumptives—these are parasitic gap licensing, *exactly* stranding, and case-matching. Both kinds of resumptive dependencies are exemplified with novel data—base-generated resumptives from Iraqi, Tunisian, and Syrian Arabic and movement-derived resumptives from Spanish—as well as with data from the previous literature. To account for the bipartite taxonomy of resumptives, I develop a feature-driven account of the distinction between external and internal Merge: external

Merge is driven by ‘•’ features (e.g. [\bullet wh]) and internal Merge, by ‘◁’ features (e.g. [\triangleleft wh]). Evidence in support of my account comes from cross-linguistic variation in the availability of mixed chains: whereas languages like Irish allow base-generation of resumptive-binding operators in intermediate CP edges (with subsequent movement of those operators to higher CP edges), Arabic crucially does not allow such mixed chains. This difference is accounted for if external and internal Merge have different featural triggers and if languages can vary in the (lexically specified) featural composition of intermediate complementizers.

Chapter 4 argues that cross-linguistic variation in the availability of mixed chains supports feature-driven approaches to Merge and militates against free Merge approaches, on which external and internal Merge are at most “indirectly triggered”—more specifically, they apply freely in the narrow syntax, and the licitness or otherwise of the resulting syntactic objects is determined by interface legibility requirements. In a nutshell, if Merge applies freely, and if external and internal Merge are distinguished only by the pre-Merge loci of the mergees (see Chomsky, 2004), then there will be no straightforward way to differentiate external and internal Merge at intermediate CP edges at the interfaces. As a consequence, free Merge approaches predict that *all* languages with resumption ought to allow base-generation of resumptive-binding operators at intermediate chain positions. But this prediction is counter-exemplified by the Arabic data presented in chapter 3. Thus, chapter 4 presents a novel argument for feature-driven approaches to Merge.

Chapter 5 argues for a stranding approach to movement-derived resumptives, building on earlier ideas in Rouveret (1994), Aoun et al. (2001), Boeckx (2003), and Klein (2016), among others: operators are base-generated together with the pronouns that double them in a ‘Big-DP’ structure, following proposals in the clitic doubling literature, and ‘resumption’ results from \bar{A} -extraction of the doubled operator. In addition to presenting a battery of novel arguments for the stranding analysis for Spanish and Greek ‘resumptive pronouns,’ this chapter pursues the hypothesis that movement-derived resumptives in languages without

productive clitic doubling (e.g. Swedish and Romani) can also be accounted for under the ‘Big-DP-*cum*-stranding’ approach. I argue that hitherto unrecognized differences between two classes of movement-derived resumptives largely correlate with the (non-)cliticness of the doubling pronoun and that these differences can be accounted for by positing differences in the Big-DP out of which the operator is extracted. Finally, I lay out several general challenges to analyses of movement-derived resumptives as ‘spelled-out traces’ and argue that the stranding approach faces no difficulties in accounting for the facts.

Chapter 6 argues that reconstruction effects in base-generated resumptive *wh*-questions and restrictive relatives in Iraqi, Tunisian, and Syrian Arabic are accounted for with the NP-ellipsis approach to (resumptive) pronouns (see especially Elbourne, 2001, 2005, 2013; Guillot and Malkawi, 2006; Salzmänn, 2017b). Crucially, the presence of reconstruction under resumption in Arabic does not require positing otherwise unmotivated, and indeed empirically problematic, \bar{A} -movement. In the first part of the chapter, I contrast the predictions of the NP-ellipsis approach to reconstruction and the strict movement approach to reconstruction. I then show that resumptive pronouns in Arabic license some but not all reconstruction effects: while reconstruction for scope and for variable binding is available, there is no reconstruction for Condition C. This asymmetry is accounted for under the NP-ellipsis account of reconstruction due to the fact that vehicle change is generally available in ellipsis contexts, bleeding Condition C. In the final part of the chapter, I show that reconstruction under resumption does not pattern with other diagnostics for movement: (i) reconstruction for scope/variable binding does not feed Condition C violations (cf. Lebeaux, 1991; Heycock, 1995; Romero, 1998b; Sauerland, 1998; Fox, 2000); (ii) reconstruction under resumption is possible into islands; and (iii) resumptive pronouns displaying reconstruction cannot simultaneously license parasitic gaps. These facts undermine analyses which take reconstruction under resumption to unambiguously diagnose \bar{A} -movement (e.g. Aoun, 2000; Aoun et al., 2001; Choueiri, 2002; Aoun and Li, 2003; Sichel, 2014, 2021, 2022; Sportiche,

2018, 2020) and support an approach which takes reconstruction under resumption to reflect the general availability of E-type interpretations of pronouns.

Chapter 7 demonstrates from a wide array of novel evidence that, contrary to many previous claims, base-generated resumption is subject to crossover effects. I first show that previous literature largely overlooked a confounding ambiguity inherent in testing primary (weak) crossover with resumptive pronouns. This leads me to consider secondary crossover effects in Iraqi, Tunisian, and Syrian Arabic. Crucially, secondary crossover persists with in-island resumption and must therefore be decoupled from the mechanics of \bar{A} -movement and from restrictions on the binding of traces/lower copies of movement. Developing arguments from Büring (2004), I propose that secondary crossover effects under movement and base-generation are accounted for if indirect binding from an \bar{A} -position is not possible. I then turn to primary crossover effects. Primary crossover under resumption can be detected by replacing the crossed pronoun with an epithet (McCloskey, 1990), in which case crossover also persists with in-island resumption. Furthermore, I argue that primary crossover effects with gaps require the Bijection Principle of Koopman and Sportiche (1982) and I present novel evidence for Bijection and against the existence of co- \bar{A} -binding (e.g. Safir, 1984, 1996).

Chapter 8 concludes the dissertation by summarizing its main theoretical and empirical contributions and noting some open questions meriting further investigation.

CHAPTER 2

DIAGNOSING MOVEMENT UNDER RESUMPTION: MORPHOPHONOLOGICAL REFLEXES

2.1 Introduction

In this chapter, I argue for a bipartite taxonomy of resumptive dependencies based on a cross-linguistic survey of the presence in some languages, and absence in others, of morphophonological reflexes of movement under resumption. I show that the majority of the available evidence points to a strong correlation between (i) the island-sensitivity of resumptive \bar{A} -dependencies and (ii) whether those dependencies exhibit reflexes of movement. Island-insensitive resumptive dependencies in languages like Irish, Malay/Indonesian, Selayarese, and Tyrolean German are never accompanied by reflexes of movement otherwise present in gapped \bar{A} -dependencies in those same languages. On the other hand, island-sensitive resumptive pronouns in languages like Igbo, Hausa, Colloquial Welsh, Wolof, and Palauan, like gaps, *do* cooccur with reflexes of movement. We can make sense of this correlation if islands prohibit \bar{A} -extraction out of them (see section §3.3). Consequently, I conclude with much prior work that morphophonological reflexes diagnose \bar{A} -movement and that their absence strongly suggests that the dependency was formed via base-generation. I postpone presenting my account of the difference between movement and base-generation in the grammar until chapter 3.

The structure of this chapter is as follows. Section §2.2 introduces the core properties of morphophonological reflexes as diagnostics for movement in gapped \bar{A} -dependencies. Section §2.3 then summarizes four case studies from the literature illustrating that island-insensitive resumptive dependencies do not display reflexes of movement. Finally, section §2.4 argues that, in nearly every reported instance in which resumptive dependencies *are* accompanied by morphophonological reflexes of movement, those same dependencies are sensitive to islands.

2.2 Characterizing morphophonological reflexes of movement

\bar{A} -dependencies in many languages are known to exhibit *morphophonological reflexes of movement*. These reflexes typically manifest at PF as morpheme or tonal changes that accompany overt \bar{A} -movement, and they are realized along the dependency path. Georgi (2017, 587) defines reflexes of movement as follows:

- (9) “Morphophonological or syntactic changes in an A-bar dependency are said to be reflexes of movement (a) if the dependency exhibits the characteristic properties of movement (island sensitivity, weak crossover effects, reconstruction effects), and (b) if the reflex cannot occur if there is no A-bar movement in the first place (viz., in declaratives).”

For detailed overviews of reported reflexes of movement, see Boeckx (2008b), Lahne (2008), Abels (2012), den Dikken (2017), and van Urk (2020), and for an attempt at a unified account of these reflexes, see Georgi (2014a, 2017).

Irish finite complementizers illustrate morphological reflexes of movement particularly clearly. Finite declarative complement clauses in Irish are introduced by the complementizer *go*.

- (10) Creidim **gu-r** inis sé bréag.
 I.believe **go**-PAST tell he lie
 ‘I believe that he told a lie.’ (McCloskey, 2002, 185, (3))

\bar{A} -extraction out of a finite clause which terminates in a gap, however, triggers the appearance of a distinct complementizer—glossed *aL*—which induces a process of lenition mutation on a following verb. The substitution of *aL* for *go* accords with clause (b) of Georgi’s definition in (9).

- (11) XP_i [CP **aL** ... $__i$...]
 an fhilíocht **a** chum sí $__$
 the poetry **aL** composed she
 ‘the poetry that she composed’ (McCloskey, 2002, 186, (6))

Crucially, in long-distance gapped dependencies, the complementizer *aL* appears in every

clause through which the extracted element moves.

- (12) $XP_i [CP \mathbf{aL} \dots [CP \mathbf{aL} \dots _i \dots]]$
 an t-ainm_{*i*} **a** hinnseadh dúinn **a** bhí $_i$ ar an áit
 the name_{*i*} **aL** was.told to.us **aL** was on the place
 ‘the name that we were told was on the place’ (McCloskey, 2002, 190, (13a))

What’s more, *aL* chains obey islands, bearing out clause (a) of the definition in (9):

- (13) * $XP_i [CP \mathbf{aL} \dots [Island \dots _i \dots]]$
 *an fear_{*i*} **a** phóg mé an bhean_{*k*} **a** phós $_k _i$
 the man_{*i*} **aL** kissed I the woman_{*k*} **aL** married
 ‘the man_{*i*} who I kissed the woman_{*k*} who $_k$ married $_i$ ’ (McCloskey, 1979, 30, (78))

McCloskey has analyzed the chaining of *aL* complementizers as crucially tied to (successive-cyclic) movement: all complementizers along the path of movement bear a feature driving movement into their specifier. Complementizers bearing this movement-triggering feature are realized as *aL* at PF.

The existence of such reflexes of movement with gaps immediately raises the following question: are morphophonological reflexes of movement in the sense defined in (9) equally extant in gapped and resumptive \bar{A} -dependencies? If the non-local dependency between resumptives and their binders is established via movement, then that movement is predicted to behave in all relevant respects like movement terminating in a gap, *ceteris paribus*; this includes triggering morphophonological reflexes of movement like the appearance of the Irish *aL* complementizer. By contrast, if resumptive pronouns are not the residue of movement, we predict no such reflexes to be present. In the remainder of this chapter, I will summarize some of the most convincing evidence both for and against the presence of morphophonological reflexes of movement under resumption reported in the literature. I will conclude with earlier literature that resumptive pronouns do not form a uniform class cross-linguistically (see especially Borer, 1981; Sportiche, 1983, 117ff., esp. 126; Koopman, 1984, esp. 179–180; Engdahl, 1985; Tellier, 1991; Aoun et al., 2001; Asudeh, 2004; McCloskey, 2006, 2017;

Alexandre, 2009; Sichel, 2014; Scott, 2021b; Georgi and Amaechi, 2022; Yip and Ahenkorah, To appear): (certain kinds of) resumptives in Igbo, Hausa, Colloquial Welsh, Wolof, Palauan, and potentially Asante Twi inhabit dependencies exhibiting morphophonological reflexes of movement, whereas resumptives in Irish, Malay/Indonesian, Selayarese, and Tyrolean German do not.

2.3 Island-insensitive resumption is incompatible with morphophonological reflexes of movement

In this section, I summarize four case studies illustrating that island-insensitive resumptive \bar{A} -dependencies consistently fail to exhibit morphophonological reflexes of successive-cyclic movement. Interestingly, in all cases, reflexes of movement are wholly lacking in resumptive dependencies, regardless of whether or not the resumptives are separated from their binders by an island. This suggests that all four languages lack movement-derived resumption in general.¹

2.3.1 Irish complementizers

Probably the most well known instance of a lack of morphophonological reflexes of movement under resumption is found in Irish. In contrast to gapped dependencies which require *aL* at every finite clause boundary (see (12)), resumptive dependencies are accompanied by a nasalizing complementizer *aN* at the top of the chain, and *go*—the regular declarative complementizer—appears in all lower CPs. This pattern holds for both non-island ((14)) and island ((15)) contexts.

$$(14) \quad \text{DP}_i \text{ [}_{\text{CP}} \text{ aN } \dots \text{ [}_{\text{CP}} \text{ go } \dots \text{ PRON}_i \dots \text{]}]$$

1. A language with both base-generated and movement-derived resumptives would be predicted (i) to require reflexes of movement with some resumptives—namely, those derived by movement—and (ii) to ban reflexes of movement inside islands.

fir_i **ar** shíl Aturnae an Stáit **go** rabh siad_{*i*} díleas do'n Rí
 men_{*i*} **aN** thought Attorney the State **go** were they_{*i*} loyal to.the King
 ‘men that the Attorney General thought were loyal to the King’ (McCloskey, 2002, 190, (16))

- (15) DP_{*i*} [CP **aN** ... [DP (D) [NP N [CP **go** [TP ... PRON_{*i*} ...]]]]]
 achan rud_{*i*} **a** rabh dóchas aca **go** dtiocfadh sé_{*i*}
 every thing_{*i*} **aN** was hope at.them **go** come.COND it_{*i*}
 ‘everything_{*i*} that they hoped (that it_{*i*}) would come’ (McCloskey, 2002, 196, (26a))

The only complementizer in the dependency to morphologically register the presence of the \bar{A} -dependency is the topmost one in (14)–(15), suggesting that the relation linking the resumptive to its binder—here taken to be *binding*—can span an unbounded distance without integrating intermediate Cs, as shown in (16).

- (16) DP_{*i*} [CP Op_{*i*} **aN** ... [CP **go** ... PRON_{*i*} ...]]
- BIND -----
 (A dashed line with an upward arrowhead connects the *Op* in the first CP to the PRON in the second CP.)

Furthermore, as McCloskey cogently argues, apparent cyclicity effects in resumptive dependencies, wherein *aN* appears in intermediate CPs as in (17a), are probably not indicative of a movement dependency, but rather reflect multiple base-generated operator–bound-variable chains: as shown in (17b), *Op* binds *Op*, which binds a resumptive pronoun.

- (17) a. DP_{*i*} [CP **aN** ... [CP **aN** ... PRON_{*i*} ...]]
 an méid den dán **ar** mheas sé **a** raibh feidhm leis
 the much of.the poem **aN** thought he **aN** was need with.it
 ‘as much of the poem as he thought was needed’ (McCloskey, 2002, 199, (42))
- b. [CP Op_{*i*} **aN** ... [CP Op_{*i*} **aN** ... PRON_{*i*} ...]]
- BIND ----- BIND -----
 (Two dashed lines with upward arrowheads connect the *Op* in the first CP to the *Op* in the second CP, and the *Op* in the second CP to the PRON in the second CP.)

Because resumptive dependencies headed by *aN* in Irish are island-insensitive, in contrast to *aL* chains as in (13), the appearance of *aN* (though restricted to \bar{A} -dependencies) cannot be considered a morphophonological reflex of movement per clause (a) of Georgi’s definition in (9). See Georgi (2014a, 85–87) for discussion. Consequently, there appears to be strong evidence from the absence of morphophonological reflexes of movement that resumptive dependencies in Irish involve base-generation rather than movement.

2.3.2 Malay/Indonesian voice marker

Malay and Indonesian have a prefix that I gloss *meng-* which (optionally) appears on active voice transitive verbs.

- (18) Ali (**mem-**)beri Fatimah hadiah untuk hari lahirnya.
 Ali (**meng-**)give Fatimah present for day birth
 ‘Ali gave Fatimah a present for her birthday.’ (Malay; Cole and Hermon, 1998, 231, (23b))


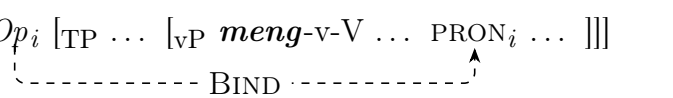
However, *wh*-movement of a nominal over the verb triggers obligatory deletion of this prefix in relative clauses and in *wh*-questions, as in (19).

- (19) Apa_{*i*} Ali (***mem-**)beri ____{*i*} pada Fatimah?
 what_{*i*} Ali (***meng-**)give to Fatimah
 ‘What did Ali give to Fatimah?’ (Malay; Cole and Hermon, 1998, 231, (25a–b))

*meng-*deletion can be understood as a morphophonological reflex of movement if long-distance movement in Malay/Indonesian proceeds through [Spec, vP], potentially due to vP being a phase (see Chomsky, 1995b, 2000, Rackowski and Richards, 2005, and van Urk and Richards, 2015; however, see Keine, 2017, 2020; Keine and Zeijlstra, 2022; Bošković, 2022, 10; and Poole, 2022b, §7.2 for a critical assessment of vP-phasehood). Crucially, *meng-* is retained in \bar{A} -dependencies terminating in a resumptive, both in non-island ((20)) and in island ((21)) contexts (see also Chung, 2008, 1574–1578 and McKinnon et al., 2011, §4).

- (20) sebuah lagu_{*i*} yang barangkali saudara akan **meny-**ukai-nya_{*i*}
 one song_{*i*} C perhaps 2SG will **meng-**like.I-it_{*i*}
 ‘a song which perhaps you will like’ (Jakarta Indonesian; Cole et al., 2003, 3, (4b), citing Sneddon, 1996)
- (21) Buku_{*i*} [CP yang orang [CP yang {*tulis ____{*i*} / *tulis-nya_{*i*} / **men-**ulis-nya_{*i*}}
 book_{*i*} that person that {*write / *write-it_{*i*} / **meng-**write-it_{*i*}}
 tekerna]] ada di atas meja.
 famous exist on top table
 ‘The book_{*i*} that the man that wrote it_{*i*} is famous is on the table.’ (Jakarta Indonesian; Cole and Hermon, 2005, 70–71, (41))

This follows if object resumption in Malay/Indonesian does not involve \bar{A} -movement parallel to (19). The two types of dependencies are represented schematically in (22): (22a) is the movement dependency terminating in a gap and triggering *meng*-deletion, and (22b) is the resumptive dependency retaining *meng*-.

- (22) a. [CP Op_i [TP ... [vP $_i$ (**meng*-)v-V ... $_i$...]]]

- b. [CP Op_i [TP ... [vP *meng*-v-V ... PRON $_i$...]]]


2.3.3 Selayarese complementizers and absolutive agreement

Finer (1997) documents two kinds of \bar{A} -dependencies in Selayarese. Overt *wh*-movement is accompanied by the suppression of all intervening complementizers (glossed ‘COMP’) and, if an absolutive argument has been extracted, then no absolutive agreement suffix appears on the verb. Compare (23) without extraction to the *wh*-questions in (24).²

- (23) Ku-isse?-i **kuko** la-jañjang-i i Ali i Baso?.
 1SG.ERG-know-3.ABS **COMP** 3.ERG-saw-**3.ABS** H Ali H Baso?
 ‘I know that Baso? saw Ali.’ (Finer, 1997, 687, (6a))
- (24) a. Apa mu-isse? la-?alle i Baso??
 what 2.FAM.ERG-know 3.ERG-took H Baso?
 ‘What do you know Baso? took?’ (Finer, 1997, 696, (18a))
- b. * Apa mu-isse? **muko** la-?alle i Baso??
 what 2.FAM.ERG-know **COMP** 3.ERG-took H Baso?
 (int.) ‘What do you know Baso? took?’ (Finer, 1997, 696, (18c))
- c. * Apa mu-isse? la-?alle-i i Baso??
 what 2.FAM.ERG-know 3.ERG-took-**3.ABS** H Baso?
 (int.) ‘What do you know Baso? took?’ (Finer, 1997, 696, (19a))

Complementizer deletion is arguably a morphophonological reflex of movement at the edge of CP, while the loss of absolutive marking may be attributable to an anti-agreement effect of

2. ‘H’ in Selayarese glosses a particle *i* that precedes [+human] DPs. I have added ‘ERG(ATIVE)’ and ‘ABS(OLUTIVE)’ to the glosses for maximal clarity, following proposals in Béjar (1999) and Finer (1999).

the extracted XP agreeing with T (see Baier, 2018a, 200–203 for discussion). Furthermore, in *wh*-movement dependencies, subjects in intermediate clauses must be post-verbal (contrast (25a) with (25b)), despite the fact that preverbal subjects are licit without extraction ((25c)).

- (25) a. Apa mu-kua la-isse? i Ali la-ʔalle i Baso??
 what 2.FAM.ERG-say 3.ERG-know H Ali 3.ERG-take H Baso?
 ‘What did you say Ali knows Baso? took?’
- b. *Apa mu-kua i Ali la-isse? la-ʔalle i Baso??
 what 2.FAM.ERG-say H Ali 3.ERG-know 3.ERG-take H Baso?
 (int.) ‘What did you say Ali knows Baso? took?’
- c. Mu-kua muko i Ali la-isseʔ-i la-ʔalle-i doe?
 2.FAM.ERG-say COMP H Ali 3.ERG-know-3.ABS 3.ERG-take-3.ABS money
 iñjo i Baso?
 the H Baso?
 ‘You said that Ali knows that Baso? took the money.’ (Finer, 1997, 703,
 (29a–c))

Finer (1997) proposes that preverbal subjects are in the specifier of a functional projection below the complementizer associated with focus ([Spec, FP]) and that successive-cyclic *wh*-movement obligatorily passes through [Spec, FP] on the way to [Spec, CP]. Preverbal subjects thus fill an escape hatch for *wh*-phrases and block successive-cyclic \bar{A} -extraction.

Crucial for our purposes is that Selayarese has another way of forming *wh*-questions, exemplified in (26), which does not exhibit any of these reflexes of movement: the intervening complementizers *muko* and *lako* are overt, there is overt absolutive marking on the embedded intervening verbs ‘know’ and ‘took’ despite the absolutive argument being questioned,³ and the intermediate subject *Ali* is preverbal. Finer hypothesizes that this type of question is formed with a null resumptive pronoun at the extraction site, represented in (26) as ‘*pro*.’⁴

3. There is, however, no absolutive marking on the matrix verb ‘say’, suggesting that there is local operator movement in the highest clause only. This observation, among others, leads Finer (1997) to propose that all long-distance resumptive dependencies in Selayarese are formed via a *mixed chain*: the *wh*-operator is base-generated at the edge of an embedded CP, binding a resumptive pronoun, from which position it moves successive-cyclically to the matrix [Spec, CP] position, triggering reflexes of movement in higher links in the chain. See section §3.5 below for additional discussion of mixed chains, and footnote 10 in chapter 7 for a discussion of strong crossover effects in mixed chains in Selayarese.

4. Finer (1997) claims that the presence versus absence of weak crossover effects in the two types of

- (26) *apa_i* *mu-kua* **muko i Ali** *la-isse?-i* **lako** *la-ʔalle-i*
 what_i 2.FAM.ERG-say **COMP H Ali** 3.ERG-know-**3.ABS** **COMP** 3.ERG-take-**3.ABS**
 pro_i *i* Basoʔ?
 H Basoʔ
 ‘What did you say that Ali knows that Basoʔ took?’ (Finer, 1997, 715, (46b))

Thus, resumptive dependencies in Selayarese systematically fail to exhibit the morphophonological reflexes of movement attested with gaps. As with Irish and Malay/Indonesian, this fact is straightforwardly accounted for if resumption involves base-generation rather than movement.

2.3.4 Tyrolean German doubling vs. resumption

Alber (2008) documents two strategies for long-distance \bar{A} -extraction of relative pronouns in the Tyrolean dialect of German, spoken in the city of Meran and its environs. First, observe that bridge verbs such as *glaabn* ‘believe, think’ select either for embedded V2 clauses, as in (27a), or verb final clauses headed by *dass* ‘that’, as in (27b).

- (27) a. I *glaap*, er *kimp* bold.
 I think he comes soon
 b. I *glaap*, **dass** er bold *kimp*.
 I think **that** he soon comes
 Both: ‘I think that he will come soon.’ (Alber, 2008, 145, (5a–b))

When a relative pronoun is extracted across such a bridge verb and leaves behind a gap, copies of the extractee may appear at all intermediate [Spec, CP] positions, punctuating the dependency, as in (28). Alber calls this the ‘doubling’ strategy for relativization. Note too that complementizers pronounced along this dependency must be realized as the relative complementizer *wos* and not as *dass*.⁵

dependency in Selayarese also supports a distinction between movement and base-generation via resumption, respectively. However, Finer does not demonstrate that the putatively crossed pronoun cannot function as the resumptive variable, and thus we cannot conclude that weak crossover effects are absent under resumption in Selayarese. See chapter 7 for further discussion of crossover effects in resumptive dependencies.

5. According to Alber (2008, 144–145, 149), it is possible to omit either the relative pronoun *des* or the

- (28) NP_i [CP *des_i wos* ... [CP *des_i wos* ... ____i ...]]
 I kenn es Haus_i, *des_i wos* du glapsch, *des_i wos* die Maria ____i
 I know the house_i **which_i C-REL** you think **which_i C-REL** the Maria
 gekauft hot.
 bought has
 ‘I know the house which you think Maria bought.’ (Alber, 2008, 142, (1a))

This complementizer chain effect is highly reminiscent of the Irish facts reviewed above, though Tyrolean adds the interesting twist of multiple-copy spell-out of the relative pronoun (see Fanselow and Ćavar (2001) and Fanselow and Mahajan (2000) on multiple copy pronunciation in Standard German *wh*-questions).

The other strategy for forming long-distance relative clauses involves (i) the relative pronoun and relative complementizer at the very top of the dependency, next to the relative head, (ii) a resumptive pronoun at the foot of the dependency, and (iii) the regular complementizer *dass* in all intermediate C positions:

- (29) NP_i [CP *des_i wos* ... [CP *dass* ... PRON_i ...]]
 I kenn es Haus_i, *des_i wos* du glapsch, *dass* die Maria 's_i gekauft hot.
 I know the house_i **which_i C-REL** you think **C** the Maria it_i bought has
 ‘I know the house which you think Maria bought.’ (Alber, 2008, 142, (2))

The two relativization strategies are further distinguished by their sensitivity to islands: the doubling dependency terminating in a gap, but not the resumptive dependency, is island-sensitive. The examples in (30) and (31) illustrate the contrast (Alber does not provide free English translations for these examples).⁶

relative complementizer *wos* in various positions but crucially never both at the same clause edge:

- (i) a. I kenn es Haus_i, *(*wos*) du glapsch, ____i *(*wos*) die Maria ____i gekauft hot.
 I know the house_i *(C-REL) you think *(C-REL) the Maria bought has
 b. I kenn es Haus_i, *(*des_i*) du glapsch, *(*des_i*) die Maria ____i gekauft hot.
 I know the house_i *(REL.PRON_i) you think *(REL.PRON_i) the Maria bought has
 c. I kenn es Haus_i, *(*des_i*) du glapsch, ____i *(*wos*) die Maria ____i gekauft hot.
 I know the house_i *(REL.PRON_i) you think *(C-REL) the Maria bought has
 All: ‘I know the house which you think Maria bought.’ (Alber, 2008, 145, (4a–c))

6. Alber (2008, 153, (23a)) also provides an example with an adjunct island, but there the resumptive

- (30) *Doubling dependencies are sensitive to noun complement clause islands*
 *es Haus_i, **des_i** **wos** a Totsoch isch, **des_i** **wos** die Maria ____i gsechn
 the house_i **which_i** C-REL a fact is **which_i** C-REL the Maria seen
 hot.
 has
 (Alber, 2008, 152, (21b))
- (31) *Resumptive dependencies are insensitive to noun complement clause islands*
 es Haus_i, **des_i** **wos** a Totsoch isch, **dass** die Maria 's_i gsechn hot.
 the house_i **which_i** C-REL a fact is C the Maria it_i seen has
 (Alber, 2008, 153, (23b))

Thus, doubling dependencies terminating in gaps in Tyrolean German exhibit the hallmarks of successive-cyclic movement through the specifiers of intermediate complementizers, whereas resumptive dependencies do not. The appearance of doubled relative complementizers and pronouns constitutes a morphophonological reflex of movement, which is crucially absent under resumption. Resumption, then, is best accounted for in terms of base-generation.⁷

The four preceding case studies thus demonstrate that (island-insensitive) resumptive \bar{A} -dependencies in at least some languages do not exhibit morphophonological reflexes of successive-cyclic movement.⁸ The discussion will now turn to attested morphophonological reflexes of movement under resumption. These data demand that we countenance a class of resumptives that cooccur with movement dependencies as diagnosed by reflexes of movement in addition to the base-generated resumptives just described.

dependency somewhat unexpectedly contains the doubled relative pronoun and relative complementizer *des wos* in an intermediate landing site *above* the island, but resumption (and no doubling or relative complementizer) inside the island. Alber does not mention this complication explicitly. This might point to Tyrolean German having mixed chains involving base-generation of a resumptive-binding operator at the left edge of the adjunct island, followed by movement of that null operator to its final landing site. See the discussion of mixed chains in section §3.5 below.

7. Alber ultimately analyzes both doubling and resumptive dependencies as involving movement because reconstruction can be found in both cases. However, in light of the fact that reconstruction is also possible into islands with resumptive pronouns (Alber, 2008, 155, (26)), it may be possible to motivate an E-type anaphora account of reconstruction in Tyrolean resumption, similar to what I propose for Arabic in chapter 6.

8. van Urk (2017a) also claims that two reflexes of movement in Dinka Bor which are obligatory with gaps—V2 at the left edges of vP and CP and *ké*-copying (*wh*-extraction leaving a trail of plural pronouns of the form *ké* in [Spec, vP] positions)—can be absent under resumption. Unfortunately, the data have several complications which have led me to exclude them from the discussion here.

2.4 Morphophonological reflexes of movement under resumption

In this section, I will show that resumptive pronouns which accompany reflexes of movement typically cannot relate to operators across island boundaries, in stark contrast to the resumptive pronouns reviewed in section §2.3 which never appear with reflexes of movement and which are immune from standard locality constraints. The table in (32) summarizes the findings of this section. I discuss the potentially problematic nature of resumption in Asante Twi at the end of this section, arguing that there are at least two ways to reanalyze the reported data which do not force us to abandon the tight correlation between island-sensitivity and reflexes of movement.

(32)

	Irish, Malay/Indonesian, Selayarese, Tyrolean German	Igbo, Hausa, Colloquial Welsh, Palauan, Wolof(?)	Asante Twi
Are reflexes of movement present under resumption?	No	Yes	No(?)/Yes(?)
Do resumptives obey islands?	No	Yes	No(?)/Yes(?)

I will begin with Igbo, which presents a particularly clear case. Georgi and Amaechi (2020, 2022) describe a class of resumptive dependencies in Igbo which trigger morphophonological reflexes of movement otherwise found in gapped dependencies in the language. Igbo declarative clauses exhibit a basic SVO word order ((33a)). Deviations from this basic order can arise, *inter alia*, under focus fronting with overt leftward displacement of the focused XP to a clause-initial position. As (33b) illustrates, focus fronting of direct objects obligatorily leaves a gap.⁹ I follow Georgi and Amaechi in setting focused XPs in small caps in the free English translation.

9. The suffix *-rV*, whose precise meaning and function is debated (see Amaechi, 2020, ch. 4.3), contains a vowel *V* which undergoes assimilation to the vowel of the verb stem (Georgi and Amaechi, 2022, 3, fn. 1).

- (33) a. **Ézè** hù-rù Àdá.
 Eze see-rV Ada
 ‘Eze saw Ada.’
- b. Àdá_i kà **Ézé** hù-rù { _i / *yá_i}.
 Ada_i FOC Eze see-rV { / *3SG.ACC_i}
 ‘Eze saw ADA.’ (Georgi and Amaechi, 2022, 6, (6a–b))

Georgi and Amaechi also show that focus fronting exhibits several morphophonological reflexes of movement, one of which is a process of high tone overwriting. According to Georgi and Amaechi, \bar{A} -movement of an XP over the subject causes a low tone on the final tone bearing unit of the subject to become high. Thus, whereas the subject *Ézè* in the finite declarative sentence in (33a) bears a final low tone, when the object is focus fronted over the subject as in (33b), the final tone of the subject *Ézé* is high (see Amaechi, 2020, ch. 4 for additional discussion).

Not all focus fronting terminates in a gap, however. For instance, focus fronting of the complement of a preposition is incompatible with a gap in the base position and instead requires an overt resumptive pronoun (see Goldsmith (1981) for a related observation from *wh*-questions). Nevertheless, we still find high tone overwriting on the subject.

- (34) Àdá_i kà **Ézé** kwè-rè [PP nà {yá_i / * _i}].
 Ada_i FOC Eze believe-rV P {3SG.ACC_i / }
 ‘Eze believes [PP in ADA].’ (Georgi and Amaechi, 2022, 13, (15b))

Other positions which require the use of a resumptive pronoun at the tail of the chain under focus fronting are possessors, conjuncts, and the associate of a focus-sensitive particle (Georgi and Amaechi, 2022, 12–14). The embedded subject position following an overt complementizer also requires resumption in *wh*-questions (Goldsmith, 1981, 380–381, 389–391, Amaechi and Georgi, 2019, 17), but according to Georgi and Amaechi (2022, 12, fn. 14), embedded subject resumptives do not cooccur with reflexes of movement.

Taking high tone overwriting to be a reflex of movement, Georgi and Amaechi conclude that resumptive focus fronting involves movement. Converging evidence for this conclusion

comes from island extraction. Focus fronting that spans an adjunct island boundary—whether that dependency terminates in a direct object gap ((35)) or in an obligatory resumptive as the complement of a preposition ((36))—is ungrammatical.¹⁰

- (35) * $\dot{A}d\acute{a}_i$ kà $\acute{U}ch\acute{e}$ pù-rù túpú $\acute{E}z\acute{e}$ à-hú — $_i$.
 Ada_i FOC Uche leave-rV before Eze NMLZ-see
 ‘Uche left before Eze saw ADA.’ (Georgi and Amaechi, 2020, 3, (3b))
- (36) * $\dot{A}d\acute{a}_i$ kà $\acute{U}ch\acute{e}$ pù-rù túpú $\acute{E}z\acute{e}$ è-kwù màkà yá_i.
 Ada_i FOC Uche leave-rV before Eze NMLZ-talk about 3SG.ACC_i
 ‘Uche left before Eze talked about ADA.’ (Georgi and Amaechi, 2020, 5, (11))

On the basis of high tone overwriting and island-sensitivity facts, then, we can reason that resumptives in Igbo focus fronting, unlike resumptives in Irish, Malay/Indonesian, Selayarese, and Tyrolean German, cooccur with movement dependencies.¹¹

Morphophonological reflexes of movement accompanying resumptives outside of islands have been occasionally reported in other languages. Green and Reintges (2015, 135) report that Hausa relative tense marking—an intermediate reflex of movement according to Georgi (2017, 590)—is attested with resumptive *wh*-questions in non-island contexts. Crucially, Tuller (1986, 159, (210)) shows that resumptive *wh*-questions in Hausa are island-sensitive, supporting the conclusion that (cyclic) relative tense marking is a reflex of \bar{A} -movement, even under resumption. In contrast to *wh*-questions, resumptive relative clauses are island-

10. Georgi and Amaechi (2022, 23, (31)) propose that possessor extraction does not actually violate the Left Branch Condition because possessors occupy the complement position of an associative P whose specifier is the possessum. Thus, possessor extraction simply reduces to extraction of the complement of P. They also propose to separate the two parts of the Coordinate Structure Constraint of Ross (1967)—namely, the first part which prohibits extraction of conjuncts and the second part which prohibits subextraction from conjuncts. Only the second part holds in Igbo (see Georgi and Amaechi, 2020, 270–271). They suggest that the first part of the Coordinate Structure Constraint is not syntactic in nature, but rather reflects a prosodic requirement imposed by the head of the coordinate structure &. Nominal &Ps are argued to involve recursion of prosodic units through selection of prosodic phrases by &. Gap-leaving extraction of a conjunct violates this requirement of &, since unpronounced gaps are not prosodic phrases (2022, 61–62). See Georgi and Amaechi (2022, 62, fn. 51) for additional discussion.

11. Georgi and Amaechi (2020, 2022) also discuss another type of fronting dependency in Igbo: topicalization. In contrast to focus fronting, topic fronting dependencies (i) obligatorily terminate in a resumptive pronoun in all positions, (ii) do not trigger high tone overwriting on crossed subjects, and (iii) are island-insensitive. Georgi and Amaechi treat topicalization as base-generation and argue that Igbo also makes use of non-movement resumptives.

insensitive in Hausa and display a different pattern of *wh*-agreement: Tuller (1986, 128, (170)) notes that intermediate relative tense marking is absent in resumptive relatives spanning a sentential subject island (see also Haïk, 1990, 361–362).¹² We can hypothesize, then, that Hausa makes use of two types of resumptives: those which cooccur with relative tense marking and which are island-sensitive (i.e. in *wh*-questions), and those which do not and are not (i.e. in relative clauses). With other languages, it is not always clear whether resumptives cooccurring with morphophonological reflexes of movement are sensitive to islands or not. For instance, in the dialect of Wolof described in Martinović (2015, 2017), embedded subject resumptives cooccur with the allomorph of the embedded complementizer which obligatorily appears under long-distance *wh*-movement out of non-islands (2017, 232, (54)). Although Torrence (2005, 234, (21)) notes that object resumptives are insensitive to relative clause and *wh*-islands in clefts, I could not find similar data for subject resumption (whether in clefts or *wh*-questions).

Similar questions arise for Colloquial Welsh. Willis (2011) and Borsley (2013) show that Colloquial Welsh deploys resumptive pronouns in *wh*-dependencies in non-island contexts only in possessor position and as the complement of a preposition. All other positions outside of islands terminate in a gap (though Borsley (2013, 3–4) notes that embedding resumptive pronouns one or more clauses down renders them slightly more acceptable). Willis (2011) carefully documents several cyclicity effects present with gaps, one of which I will highlight here (see also Borsley et al., 2007, 148–151). In short and long distance dependencies, extraction across a non-finite verb anywhere along the path of movement triggers the appearance

12. As Tuller (1986, 126–128) observes, resumptive pronouns inside relative clause islands and *wh*-islands cooccur with relative tense marking, but this reflex is not to be associated with the resumptive dependency; rather, it arises due to the island forming operator movement.

Salzmann (2017b) raises an important caution about Tuller’s example (170), however: there is no relative tense marking in the main clause within the relative, despite the fact that such *wh*-agreement at the top of the dependency is otherwise expected in (resumptive) relatives (see, e.g., Tuller, 1986, 127, (169)). Although I have no explanation for this anomaly, a similar example displaying the expected matrix (but not intermediate) relative tense marking in a resumptive relative spanning a sentential subject island can be found in McConvell (1973, 215, (92)).

of a preverbal object clitic which is generally elided in speech but which nonetheless triggers soft mutation on the first segment of the non-finite verb.¹³ Willis analyzes cyclic cliticization (and concomitant cyclic soft mutation on non-finite verbs) as a reflex of *wh*-agreement on *v* triggered by operator movement through [Spec, vP]. Interestingly, when the dependency terminates in a resumptive possessor or complement to a preposition in a non-island context, pronominal object clitics signaling successive-cyclic movement are only permitted one or more clauses above the variable site (Willis, 2011, 215, (77)). Consequently, vP-level pronominal clitics are impossible in short distance resumptive dependencies (Willis, 2011, 211–212, fn. 15, (i)). Willis (2011, 214–219) proposes that long-distance resumptive dependencies in Colloquial Welsh involve mixed chains along the lines of what McCloskey (2002) has proposed for certain Irish \bar{A} -dependencies: the operator is initially merged somewhere above a base-generated resumptive pronoun which it binds and it subsequently moves successive-cyclically to its surface position, triggering reflexes of movement above its first-merged position.¹⁴ See section §3.5 for additional discussion of mixed chains. It is somewhat surprising then that Borsley (2013, 12) reports that resumptive pronouns are sensitive to relative clause islands in Welsh (see also Hirata, 2012, 96–100), since base-generated dependencies are typically island-insensitive (see section §3.3). One way to reconcile these apparently conflicting sets of data would be to hypothesize that resumptive-binding operators must be base-generated

13. The features expounded by this clitic vary according to grammatical and sociolinguistic factors. Whereas higher clitics which are not clausemates of the verb governing the extraction site are invariably the third person masculine singular object clitic *ei* (Willis, 2011, 197), the clitic closest to the extraction site may optionally agree in φ -features with the operator (Willis, 2011, 211, fn. 14, Borsley, 2013, 5).

14. Willis (2011) traces other reflexes of successive-cyclic movement in Colloquial Welsh to the complementizer domain: these are (i) soft mutation of the first segment of a clause-initial embedded finite verb crossed by *wh*-movement, (ii) lifting of a ban on finite verbal forms in certain tenses in complement clauses out of which extraction has taken place, and (iii) the appearance of special relative forms of the verb *bod* ‘be’ under subject extraction. The preservation of these reflexes of movement under resumption (see Willis, 2011, 215, (76)) suggests an upper limit on the first-merged position of resumptive-binding operators in Welsh: they must be base-generated above vP so as not to trigger cliticization/soft mutation on the lowest non-finite verb, but they must be generated no higher than [Spec, CP] in order to trigger reflexes of movement in the complementizer domain. See Willis (2011, 215–217) for the alternative proposal that resumptive-binding operators are base-generated in [Spec, PP] and [Spec, DP].

within the same clause as their bindees in Welsh (see Imanishi, 2019 for a similar proposal for resumptive possessors in Kaqchikel), potentially in a position between [Spec, vP] and [Spec, CP] (see footnote 14). A resumptive pronoun contained inside a relative clause island would consequently need to be bound by an operator base-generated inside that island, and \bar{A} -movement out of the relative clause would be banned (see Rouveret, 2018, 292–293 for a similar proposal for the literary language). Thus, island-sensitivity and cyclic cliticization under resumption in Colloquial Welsh can both be derived by positing operator movement in higher portions of the chain, though clearly more work needs to be done to clarify the empirical picture.

The situation in Kikuyu is also somewhat unclear. According to Clements et al. (1983), the verb in most tenses in Kikuyu declarative affirmative sentences bears a suffix realized as a floating downstep element which affects the tonal pattern of post-verbal words. *Wh*-movement, preverbal focus constructions, and relative clauses all terminate in a gap in non-island contexts, and post-verbal downstep morphemes associated with verbs along the path of movement are obligatorily deleted.¹⁵ See Georgi (2014a, 56–59) for reasons to analyze downstep deletion as a reflex of movement. Although resumptive pronouns are disallowed in non-island contexts (Clements, 1984, 48–49), Clements (1984, 41–45) claims that resumptive pronouns are obligatory inside islands, where they appear to trigger the same process of downstep deletion (see Haïk, 1990, 361, fn. 14). Several of the examples involving resumption inside islands appear to suffer from a confound, however: relative clause and *wh*-islands contain a separate \bar{A} -movement dependency which independently triggers downstep deletion. It remains to be seen whether Kikuyu downstep deletion persists with resumption inside islands without an additional operator-variable chain—for instance, noun complement clause islands, coordinate structure islands, and perhaps certain kinds of subject islands.¹⁶

15. Zaenen (1983, 473–474) adds that there is variability in whether speakers allow downstep deletion in clauses lower than the extraction site or not. Some systematically do not, whereas others permit it but do not require it.

16. The only other example of resumption in Kikuyu involves extraction out of a PP without additional

Evidence for morphophonological reflexes of movement under island-*insensitive* resumption is much harder to come by. Palauan is one potential example. Georgopoulos (1985, 1991) argues that *wh*-agreement in Palauan appears on all complementizers in long-distance dependencies, even with (null or overt) resumption. However, it is not clear from Georgopoulos’ description whether resumptive dependencies are or are not sensitive to islands: relative clauses, *wh*-questions (which Georgopoulos posits contain a relative clause) and post-verbal sentential subjects are not islands for \bar{A} -extraction (see Georgopoulos, 1991, 80–84), whereas adjunct clauses and coordinate structures are (see Georgopoulos, 1991, 107–108, 114–117). Chung and Wagers (2021) have recently offered a reinterpretation of these puzzling data. According to their analysis, overt resumptive pronouns in non-island contexts in Palauan are spelled-out traces of movement, similar to what, e.g., Zaenen et al. (1981) and Engdahl (1985) propose for Swedish. This is why *wh*-agreement—a morphological reflex of successive-cyclic *wh*-movement appearing on verbs along the dependency path—is robustly present with resumptives in non-island contexts. Crucially, they argue that relative clauses (and *wh*-questions, which are formed off of relative clauses) and post-verbal sentential subjects are not real islands in Palauan, hence why we find *wh*-agreement even in these cases: both permit successive-cyclic *wh*-movement out of them. By contrast, adjunct clauses, coordinate structures, and embedded clauses headed by one of the complementizers *e* or *el* *kmo* are taken to be strong islands in Palauan, barring movement out of them. Strikingly, when resumptive pronouns occur inside these strong islands, cyclic *wh*-agreement disappears (see Chung and Wagers, 2021, 796–798). Thus, while cyclic *wh*-agreement does provide a solid argument for resumptives in non-island contexts as inhabiting a movement derivation, its absence suggests that resumptives inside true islands cannot have been formed via \bar{A} -movement. Palauan grammar must therefore have access to two distinct kinds of resumptive elements. Once again, cyclic morphophonological reflexes of movement help us to distinguish

clausal embedding (Clements, 1984, 44, (13d’)). It is therefore unclear whether resumptive pronouns inside PPs trigger intermediate tonal reflexes of movement in either island or non-island contexts.

two classes of resumptives—one which behaves like gaps, and one which does not.

The evidence so far points to a correlation between morphophonological reflexes of movement and sensitivity to constraints on locality, as summarized in (37), partially replicated from (32).

(37)

	Irish, Malay/Indonesian, Selayarese, Tyrolean German	Igbo, Hausa, Colloquial Welsh, Palauan, Wolof(?)
Are reflexes of movement present under resumption?	No	Yes
Do resumptives obey islands?	No	Yes

Those dependencies which permit resumptive pronouns in island contexts consistently fail to show morphophonological reflexes of movement, whereas those dependencies which do not permit resumptive pronouns inside islands may be accompanied by such reflexes. If we assume that islands prohibit \bar{A} -extraction out of them (see section §3.3), then this correlation makes a strong prediction: resumptive dependencies crossing island boundaries which cannot be similarly crossed by gapped dependencies should never exhibit morphophonological reflexes of movement. None of the data surveyed so far counter-exemplify this prediction.

The strongest evidence I am aware of for reflexes of movement under island-insensitive resumption comes from a process of high tone overwriting in the Asante Twi dialect of Akan. Korsah and Murphy (2020) claim that high tones are inserted on all verbs along the path of movement of an \bar{A} -dependency. Contrast the example in (38a) without extraction with the example in (38b) with extraction forming a resumptive relative clause. The tone on all verbs crossed by the extractee shifts from low to high.

- (38) a. **Me-te-e** atetésém bí sé Kofi **fe-e** n' anó
 1SG-hear-PST rumor INDF C Kofi kiss-PST 3SG.POSS mouth
 'I heard a rumor that Kofi kissed her (lit.: her mouth).'

- b. [ɔbáá nó] áa **me-té-e** atetéséín bí sé Kofí **fé-e** n'
 woman DEF REL 1SG-hear-PST rumor INDF C Kofi kiss-PST 3SG.POSS
 anó nó
 mouth CD
 lit.: ‘the woman that I heard a rumor that Kofi kissed her (lit.: her mouth)’
 (adapted from Salzmann, 2017b, 194, (23a–b))

Example (38b) is remarkable in that high tone overwriting extends to the verb ‘kissed’ inside a complex noun phrase island.¹⁷ Although Korsah and Murphy (2020) do not consider this alternative, we can also demonstrate that high tone overwriting in Asante Twi occurs along the structural path of movement and not, for instance, on verbs *linearly* crossed by the dependency by examining examples like (39). Example (39a) provides the baseline and shows that both verbs are low toned in the absence of \bar{A} -extraction: these are the verb *pe* ‘like’ embedded inside the CP complement to the noun ‘rumor’ within the matrix subject, and the matrix verb *ye* ‘make.’ *Wh*-movement of the object of ‘make’ is accompanied by resumption in the extraction site ((39b)). Crucially, this *wh*-movement triggers high tone overwriting on matrix ‘make’ but not on embedded ‘like’.

- (39) a. Atéséín sé Kofí **pe** Ám^lmá **ye-ε** Kwakú yá.
 rumor C Kofi like Ama make-PST Kwaku pain
 ‘The rumor that Kofi likes Ama pained Kwaku.’
 b. Hwáń_i na atéséín sé Kofí **pe** Ám^lmá **yé-ε** no_i yá nó?
 who_i FOC rumor C Kofi like Ama make-PST 3SG_i pain CD
 (lit.) ‘Who_i did the rumor that Kofi likes Ama pain (him_i)?’
 (Sampson Korsah, *pers. comm.*)

This asymmetry is straightforwardly accounted for if high tone overwriting tracks \bar{A} -movement: the matrix verb ‘make’ is situated along the structural path of movement, while the verb ‘like’ embedded within the subject is not, despite being linearly crossed by the dependency.

17. As Salzmann (2017b, 194) points out, many of the examples in Korsah and Murphy (2020) are confounded by the fact that certain islands contain a separate \bar{A} -dependency which could independently trigger high-tone overwriting (e.g. *wh*-islands, relative clause islands, and adjunct islands if the latter involve null operator movement). This is the same problem faced by the Kikuyu data cited in Clements (1984) and discussed above. Example (38b) controls for this complication by using a noun complement clause island which lacks high-tone overwriting in the absence of an \bar{A} -dependency (see (38a)).

It would seem, then, that resumption in Asante Twi is *sui generis*: it is like Irish, *et al.*, in being island-insensitive, but like Igbo, *et al.*, in cooccurring with morphophonological reflexes of movement. This state of affairs seems to present a non-trivial complication to my proposed taxonomy of resumptives in (37) by introducing a third, ‘mixed’ pattern. If the Irish-type pattern is abbreviated *No–No* and the Igbo-type pattern is abbreviated *Yes–Yes*, then the Asante Twi pattern as described by Korsah and Murphy (2020) would be *Yes–No*. In order to show that Asante Twi is not an exception to the rule, we would need to demonstrate that the Asante Twi pattern is actually either *No–No* or *Yes–Yes*. In fact, there is evidence to suggest that either of these alternative analyses could be on the right track, though I will not decide between them here.

Consider the alternative that the Asante Twi pattern is really *No–No*. This analysis maintains that resumption in Asante Twi is island-insensitive, but rejects the claim that resumptive dependencies (into islands) display morphophonological reflexes of movement. This would amount to denying that high tone overwriting is a reflex of successive-cyclic movement. There are at least two reasons to suspect that resumptive dependencies might not be formed via successive-cyclic movement. First, although Korsah and Murphy are careful to show that resumptive pronouns in Asante Twi license reconstruction for binding and scope,¹⁸ reconstruction into an intermediate landing site for anaphor binding is reportedly impossible.¹⁹

- (40) Ne h_o_j/_{*i} na Kofí_i dwéné se Ám¹má_j be-pírá no_j ɔkyena.
 3SG.OBJ REFL_j/_{*i} FOC Kofi_i think that Ama_j FUT-hurt 3SG.OBJ_j tomorrow
 ‘It is herself_j/_{*i} himself_i that Kofi_i thinks that Ama_j will hurt tomorrow.’
 (slightly adapted from Korsah and Murphy, 2020, 849, (58b))

18. But see Titov (2019, 25–27) for discussion of interspeaker variation in the availability of reconstruction under resumption in Akan focus constructions.

19. As Karlos Arregi (*pers. comm.*) points out to me, this example is remarkable in that the non-reflexive resumptive pronoun *no* can be locally bound by the embedded subject *Ám¹má* and not trigger a Condition B violation. This may point to the conclusion that resumptive pronouns in Asante Twi are more akin to spelled-out traces than to regular pronouns, which are subject to anti-locality conditions on pronominal binding.

It is unexpected that *Kofi* should be unable to bind the focused reflexive in (40) if \bar{A} -extraction proceeds successive-cyclically through the specifier of embedded CP and the matrix vP; this is because \bar{A} -movement is known to allow reconstruction to intermediate landing sites for the evaluation of Binding Theory conditions (see Barss, 1986 on anaphor binding and Fox, 1999, 2000 on Condition C).²⁰ Second, Saah (1994, 115–116) claims that resumptive pronouns in Akan do not license parasitic gaps:

- (41) a. Hena_i na Kofi frɛɛ no_i ansa na ɔ-resoma {no_i / *___i} no?
 who_i FOC Kofi called 3SG_i before 3SG.SBJ-sent {3SG_i / } CD
 (lit.) ‘Who_i did Kofi call him_i/her_i before he sent *(him_i/her_i)?’
- b. Oyi ne ɔbaa_i a Kofi anhu no_i ansa na ɔ-reware {no_i / *___i}
 this is woman_i REL Kofi not:see her_i before 3SG.SBJ-married {her_i / }
 no.
 CD
 (lit.) ‘This is the woman_i who Kofi did not see her_i before he married *(her_i).’
 (adapted from Saah, 1994, 116, (36)–(37))

This is likewise puzzling if resumptive pronouns form successive-cyclic movement chains with their operators, as Korsah and Murphy propose. However, we must not be too quick to form conclusions from Saah’s data, as it is not clear whether parasitic gaps are acceptable at all in Asante Twi. If it can be shown that parasitic gaps are sanctioned in at least some environments, then the judgments reported by Saah suggest that resumptive chains do not involve successive-cyclic movement.

In order to reconcile the apparently non-cyclic nature of resumptive chains in Asante Twi (e.g. no intermediate reconstruction for anaphor binding and no parasitic gap licensing) with the cyclic nature of high tone overwriting under \bar{A} -extraction, we might reinterpret high tone overwriting as a reflex of another successive-cyclic operation or of long-distance chain formation itself. For instance, it has been argued by Adger and Ramchand (2001,

20. Intermediate reconstruction for anaphor binding has also been reported to be absent in German and Dutch *wh*-questions (see Salzmann, 2017b, 264ff. and the references cited therein). See Georgi et al. (2020), however, for experimental evidence that intermediate reconstruction for anaphor binding in German *is* acceptable for many speakers.

2005), Rouveret (2002, 2008), and Pan (2016) that the relation between a resumptive and its binder may be established through Agree: successive-cyclic Agree operations link the topmost C—taken to be the resumptive binder—to the resumptive via intermediate phase heads. If it could be shown that Agree can fail to be island-sensitive (building on the idea in Bošković, 2007; Rouveret, 2018; Chomsky et al., 2019; and Chomsky, 2021 that Agree is not subject to the Phase Impenetrability Condition; contra Boeckx, 2003, Adger and Ramchand, 2005, and Rouveret, 2008),²¹ then successive-cyclic high tone overwriting could arise via (potentially long-distance) chains of Agree relations linking v heads along the dependency path. Although I have not worked out all the details of such an analysis here, it seems that a *No–No* reinterpretation of the Asante Twi pattern does receive some preliminary empirical and analytic support. The drawback of such an analysis is that it fundamentally weakens the theory of successive-cyclicality and muddies the distinction between movement and non-movement dependencies.

The other tack would be to pursue a *Yes–Yes* analysis of the Asante Twi pattern, which would require denying that resumption in Asante Twi is island-insensitive, contra Saah (1994) and Korsah and Murphy (2020). Supporting evidence for this approach comes from patterns of extraction discovered by Hein and Georgi (2021). They observe that island constraints in Asante Twi appear to be selectively sensitive to the category of the extractee. To understand why, I will first review some basic facts about extraction and islandhood as described by Korsah and Murphy (2020) (see also Saah, 1994 and Korsah, 2017). Nominal \bar{A} -extraction (under at least relativization, *wh*-movement, and focus fronting) generally must terminate in a resumptive pronoun.²²

21. Or if the relevant islands are phasal and if phase heads themselves can mediate long-distance Agree chains.

22. Inanimate nominal extractees may relate to surface gaps in certain environments. However, as Korsah (2017) and Korsah and Murphy (2020, 845–847) discuss, these null elements are likely pro-dropped resumptive pronouns and not true gaps because their distribution can be predicted by conditions on the realization of null third person inanimate object pronouns elsewhere in the language.

- (42) a. Hwáń_i na Yaw pé {*__i / no_i}?
 who_i FOC Yaw like { / 3SG.OBJ_i}
 ‘Who does Yaw like?’ (Korsah and Murphy, 2020, 845, (46a))
- b. Aduane nó_i na Kofí pé {*__i / no_i} anɔpá.
 food DEF_i FOC Kofi like { / 3SG.OBJ_i} morning
 ‘It’s the food that Kofi likes in the morning.’ (Korsah and Murphy, 2020, 846, (49b))

Extracted PPs and VPs, on the other hand, never relate to resumptive pro-forms:

- (43) a. [PP Akonwá nó mú] na Kofí dá {__PP / *hɔ} anɔpá.
 chair DEF in FOC Kofi lie { / *there} morning
 ‘Kofi is lying IN THE CHAIR in the morning.’ (slightly adapted from Korsah and Murphy, 2020, 847, (52c))
- b. [VP Dán sí]-é na Ámá káa sé Kofí á-yó {__VP / *nó}
 house build-NMLZ FOC Ama say.PST C Kofi PFV-do { / *3SG.OBJ}
 anɔpá.
 morning
 ‘Ama said that Kofi BUILT A HOUSE in the morning (not bought a car).’
 (Hein and Georgi, 2021, 225, (4b))

Crucially, nominal extraction and PP/VP extraction differ in their locality profiles: nominal extraction can violate islands (see (38b)), whereas PP and VP extractions cannot ((44)).²³

- (44) a. *PP extraction from complex noun phrase islands is ungrammatical*
 *[PP Akonwá nó mú] na Ama níń [DP neá ítí [CP áa Kofí dá
 chair DEF in FOC Ama know thing because.of REL Kofi lie
 __PP]·
 (int.) ‘Ama knows the reason why Kofi lies IN THE CHAIR.’ (slightly adapted from Korsah and Murphy, 2020, 848, (54b))
- b. *VP extraction from complex noun phrase islands is ungrammatical*
 ?*[VP Dán sí]-é na mé-ń-té-e [DP atétésém bíará [CP sé
 house build-NMLZ FOC 1SG-NEG-hear-PST rumor.PL any COMP
 Kofí á-yó __VP]·
 Kofi PRF-do
 (int.) ‘I didn’t hear any rumors that Kofi has BUILT A HOUSE.’ (Hein, 2017, 10, (15b))

23. As Erik Zyman (*pers. comm.*) points out to me, (44b) is especially interesting because the extracted VP bears nominalizing morphology, hence might otherwise be expected to pattern like nominal extractions.

Based on these facts alone, we might conclude with Korsah and Murphy (2020) that the crucial factor determining island-(in)sensitivity is the availability of resumption: nominal extraction seems to require resumption and violates islands, whereas PP/VP extraction bans resumption and obeys islands.

Hein and Georgi’s (2021) novel observation is that the extraction of a subset of non- or less referential nominals—including idiom chunks, predicative nouns, and non-specific indefinite bare nouns—obligatorily terminates in a gap like PP/VP extraction ((45)), but nevertheless exhibits island-insensitivity ((46)), patterning with resumptive nominal extraction.

- (45) *Focus fronted predicative nominals are obligatorily linked to gaps*
 Tíkyani_i na Kofi bé-yé {___i / *nó_i} afe yí.
 teacher_i FOC Kofi FUT-be { / *3SG.OBJ_i} year this
 ‘It is a teacher that Kofi will become this year.’ (slightly adapted from Hein and Georgi, 2021, 227, (8b))

- (46) *Focus fronted predicative nominals are island-insensitive*
 Tíkyā_i na m-á-té [DP atésém nó [CP sé Kofi bé-yé
 teacher_i FOC 1SG-PERF-hear rumor DEF that Kofi FUT-be
 {___i / *nó_i} afe yí]].
 { / *3SG.OBJ_i} year this
 ‘It is a teacher that I have heard the rumor that Kofi will become this year.’
 (slightly adapted from Hein and Georgi, 2021, 233, (23b)) g

Based on data such as these, Hein and Georgi (2021, 233) conclude that island-sensitivity in Asante Twi is determined not by the form of the tail of the dependency (i.e. gap versus resumptive), but rather by the category of the lexical head of the extractee: nominal extractees can escape islands, whereas non-nominal extractees cannot.²⁴ Accordingly, the fact that high tone overwriting extends into erstwhile opaque domains under resumption in Asante Twi can be accounted for by assuming that the relevant domains do not constitute islands for nominal fillers. The precise mechanisms giving rise to category-dependent island-sensitivity are yet to be determined. Nevertheless, we may tentatively hypothesize that the Asante Twi data can be assimilated to the Igbo-style pattern of resumption (i.e.

24. See Hein (2020) for a similar conclusion for an ex situ focus construction in Limbum, a Grassfields Bantu language spoken in Cameroon.

Yes–Yes): resumption is accompanied by reflexes of movement only in non-island contexts. Since gapped dependencies must be formed by movement in Asante Twi, and since (nominal) gaps are acceptable inside islands, then there is no barrier to analyzing resumptive dependencies as involving movement as well. Whether there are any environments which block nominal extraction (terminating in either a gap or a (c)overt resumptive) is an open question. Thus, there are at least two ways to reanalyze the Asante Twi data which do not require that we abandon the correlation between island-sensitivity and presence vs. absence of morphophonological reflexes of movement.

In summary, the majority of cross-linguistic evidence suggests that island-insensitive resumptive \bar{A} -dependencies routinely fail to exhibit the reflexes of successive-cyclic movement. Instead, when resumptive pronouns in certain languages *do* cooccur with reflexes of movement, as in Igbo, Hausa, Colloquial Welsh, Palauan, and perhaps Wolof, those resumptives are excluded from islands, with one possible exception in Asante Twi. The data from morphophonological reflexes of movement summarized in (47) (repeated from (32)) demand that we countenance at least two types of resumptive pronouns across languages. Given the unclear status of the Asante Twi facts, I have included a third column to be cautious.

(47)

	Irish, Malay/Indonesian, Selayarese, Tyrolean German	Igbo, Hausa, Colloquial Welsh, Palauan, Wolof(?)	Asante Twi
Are reflexes of movement present under resumption?	No	Yes	No(?)/Yes(?)
Do resumptives obey islands?	No	Yes	No(?)/Yes(?)

In the next chapter, I turn to consider syntactic tests for movement and their interaction with resumption in Iraqi, Tunisian, and Syrian Arabic and show that, like reflexes of movement, syntactic tests for movement diagnose two basic classes of resumptive pronouns cross-linguistically.

CHAPTER 3

DIAGNOSING MOVEMENT UNDER RESUMPTION: SYNTACTIC TESTS

3.1 Introduction

In this chapter, I argue that four syntactic diagnostics for \bar{A} -movement systematically differentiate between two classes of resumptive pronouns cross-linguistically: base-generated resumptives and movement-derived resumptives. Base-generated resumptives exhibit none of the hallmarks of \bar{A} -movement and behave instead like pronominal elements merged in A-positions and bound by operators base-generated in \bar{A} -positions. Movement-derived resumptives, on the other hand, are demonstrably accompanied by \bar{A} -movement, patterning in all relevant respects with gaps. This finding reinforces the typology of resumptives identified in chapter 2 based on correlations between the island-sensitivity of a resumptive dependency and the availability of morphophonological reflexes of movement in that dependency—reflexes which are lacking in many of the languages discussed in the present chapter. I propose a novel, feature-driven account of the distinction between base-generation (i.e. external Merge) and movement (i.e. internal Merge). I argue that we can account for the empirical differences between the two classes of resumptives (and between base-generated resumptives and gaps) by positing cross-linguistic variation in the lexically specified featural composition of complementizers. On the one hand, languages with base-generated resumptives have in their lexicons a C bearing a feature driving (external) Merge into its specifier. On the other hand, languages with movement-derived resumptives (and all languages with gaps) only have in their lexicons a C bearing a feature driving Move (*qua* internal Merge) into its specifier.

I argue from a wide array of novel data that resumptive *wh*-questions and (definite¹)

1. I restrict my attention to restrictive relatives modifying an NP selected by a definite determiner (*definite*

licenses *exactly* stranding, and requires case-connectivity. I postpone presenting my analysis of movement-derived resumption until chapter 5, where I will propose that island-sensitive resumptives are pronominal elements generated in a Big-DP or clitic doubling structure which are stranded by \bar{A} -movement of the operators they double.

The convergent behavior of the four diagnostics under discussion reinforces their reliability as syntactic tests for movement and highlights the reality of two distinct classes of resumptives cross-linguistically, as recognized in previous work (see especially Borer, 1981; Sportiche, 1983, 117ff., esp. 126; Koopman, 1984, esp. 179–180; Engdahl, 1985; Tellier, 1991; Aoun et al., 2001; Asudeh, 2004; McCloskey, 2006, 2017; Alexandre, 2009; Sichel, 2014; Scott, 2021b; Georgi and Amaechi, 2022; Yip and Ahenkorah, To appear)), without crucially relying on interpretive connectivity effects (i.e. reconstruction), which will be discussed in chapter 6. This is a vitally important finding, because there has been significant disagreement in the prior literature on resumption as to which tests actually diagnose movement. The results of my large-scale cross-linguistic survey are summarized in the following table (see section §3.8 for a more detailed summary):

- (48) *Syntactic tests for movement distinguish two types of resumptive pronouns (results from a sample of over 20 languages)*

	Island-sensitive?	License (local) PGs?	License stranding?	Case-marked operators?	Exemplar languages
Base-generated resumptives	No	No	No	No	Iraqi, Syrian, Tunisian, Maltese, ...
Movement-derived resumptives (and gaps)	Yes	Yes	Yes	Yes	Spanish, Swedish, Vata, Igbo, Romani, ...

Before detailing the various syntactic differences between base-generated and movement-derived resumption, however, I first develop a feature-driven account of base-generation and

of movement in section §3.2. This account is inspired by McCloskey (2002) and work in the Minimalist Grammars framework and it posits a distinction between the featural triggers for (External) Merge and Move (*qua* Internal Merge). Drawing this distinction allows us to capture previously unrecognized differences in the cross-linguistic availability of long-distance chains which mix base-generation and movement—differences which are revealed via tests which diagnose intermediate movement, namely parasitic gap licensing (section §3.5) and *exactly* stranding (section §3.6). Specifically, I argue that variation in long-distance chain formation arises from lexical properties of complementizers. I delay consideration of free (or untriggered) approaches to Merge until chapter 4, where I will argue that such approaches fail to explain differences between movement through and base generation at intermediate positions in long-distance dependencies.

Finally, I should note that I will set aside three fairly standard diagnostics for movement for the remainder of this chapter because they can all be shown not to correlate with locality: these are (i) the occurrence of resumptives alongside gaps in ATB-extraction, (ii) superiority, and (iii) (weak and strong) crossover. Regarding resumptive pronouns as variables in ATB-contexts, Salzmann (2017b, 191–192) shows that both island-sensitive and island-insensitive resumptives can occur parallel to gaps. Example (49) illustrates with a Colloquial Welsh restrictive relative, where resumptives are island-sensitive (Borsley, 2013, 12), and example (50) illustrates with a Swiss German restrictive relative in which the resumptive variable occurs inside a CNPC island.

(49) *Colloquial Welsh resumptives in relative clauses occur alongside gaps in ATB-contexts*

y dyn_i welais i ____i a soniais amdano fo_i
 the man_i see.PAST.1SG I and talk.PAST.1SG about.3SGM him_i
 ‘the man that I saw and talked about’ (Borsley, 2013, 10, (53))

(50) *Swiss German resumptives in relative clauses occur alongside gaps in ATB-contexts*

de Autor_i, wo de Hans ____i vereert und d Susi jedes Buech list won
 the author_i C the John adore.3SG and the Susi every book read.3SG C

er_i schriibt
he_i write.3SG
 (lit.) ‘the author that John adores and Susi reads every book that he writes’
 (Salzmann, 2017b, 192, (21))

Because the availability of using resumptives in ATB-contexts does not correlate with locality, I follow Salzmann in rejecting compatibility with ATB-extraction as a reliable diagnostic for movement. Superiority effects under resumption in multiple *wh*-questions also do not appear to correlate with locality for Lebanese Arabic according to Aoun and Li (2003) and Boeckx and Hornstein (2008), nor do we find such a correlation in Syrian Arabic: superiority effects arise even when the base-generated operator in [Spec, CP] binds a resumptive pronoun inside a strong adjunct island, as shown by the contrast between (51) and (52).³

- (51) min_i {ixtarti ____i / ?ixtartir-∅_i} baʔd ma istafarti min?
 who_i {chose.2.F.SG / ?chose.2.F.SG-**him_i**} after C consulted.2.F.SG who
 ‘Who_i did you choose (him_i) after you consulted who?’ (Syrian)
- (52) *min_i ixtarti min baʔd ma {istafarti ____i / istafartir-∅_i}?
 who_i chose.2.F.SG who after C {consulted.2.F.SG / consulted.2.F.SG-**him_i**}
 (int.) ‘Who_i did you choose who after you consulted (him_i)?’ (Syrian)

Thus, superiority too may not be a reliable diagnostic for movement. See Kotek (2019) for the proposal that superiority effects arise due to the principle *Agree With Closest*—inspired by Pesetsky’s (2000) *Attract Closest*—which forces an Agreeing probe to target the closest potential goal, where closeness is defined in terms of asymmetric c-command. Finally, I set aside crossover until chapter 7, where I will argue that the ability to induce crossover effects is not strictly a property of movement dependencies (see also McCloskey, 1990 and Salzmann, 2017b, 195–197).

3. In both Syrian and Iraqi Arabic, third masculine singular pronominal enclitics are null (represented as ‘-∅’ in (51)–(52)) following a vowel-final stem (see Cowell, 1964, 540 on Syrian and Erwin, 1963, 272ff. on Iraqi). Importantly, the presence of a null pronoun (as opposed to a gap) is recoverable from the form of the preceding stem, which is sensitive to whether or not it hosts a pronominal enclitic. Vowel-final stems without pronominal enclitics always end in a short vowel in both varieties. However, the presence of a pronominal enclitic (regardless of its φ -features) triggers lengthening of the preceding stem vowel and attracts the primary stress of its host (e.g. Syrian *ʕafa* ‘dinner’ vs. *ʕaʔa:-∅* ‘his dinner (lit. ‘dinner-his’)). Final vowel lengthening and stress shift are two of a variety of stem changes under pronominal encliticization which diagnose the presence of a null (resumptive) pronoun in examples like (51)–(52).

3.2 Distinguishing Merge and Move features

I pursue an approach under which the syntactic operations Merge and Move are feature-driven, following, among many others, Adger (2003), Müller (2010), Abels (2012), Merchant (2014), Collins and Stabler (2016), Georgi (2017), and Zyman (2018) (see chapter 4 for arguments against approaches in which Merge is free). In particular, I will adopt the proposal from work in the Minimalist Grammars framework (e.g., Stabler, 1997, 2011, Ermolaeva, 2021) that Merge and Move are triggered by different (types of) features (see also Kobele, 2012). (External) Merge is driven by selectional features like [\bullet D] in the case of c-selection of a DP (adopting the ‘ \bullet ’ notation from Heck and Müller, 2007; Müller, 2011, but the prefix-only convention from Stabler, 1997; see also Merchant, 2019), while Move is driven by movement-specific features, for which I propose the diacritic ‘ \triangleleft ’ as a mnemonic for the head of movement arrows.⁴ *Wh*-movement, then, is triggered by the feature [\triangleleft wh] on C. This system is potentially compatible with Chomsky’s (2001a) unificationist proposal that Merge and Move are not distinct operations but rather are two species of the same operation *Merge*—External Merge and Internal Merge, respectively—if we hypothesize that the featural diacritics ‘ \bullet ’ and ‘ \triangleleft ’ both trigger Merge, but designate its search space differently: ‘ \bullet ’ instructs Merge to find the relevant second operand in the lexicon (or ‘workspace’ or ‘numeration’), whereas ‘ \triangleleft ’ instructs Merge to search for the second operand in the sister of the bearer of the ‘ \triangleleft ’ feature.⁵ Going forward, I will continue to refer to the operations triggered by these features as ‘Merge’ and ‘Move’, keeping in mind that this is merely a terminological choice; the formalization does not require the existence of an autonomous ‘Move’ operation

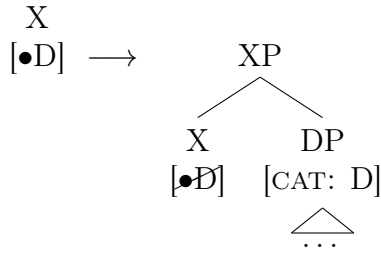
4. This should not be confused with the use of ‘ \triangleleft ’ in Minimalist Grammars such as Stabler (1997, 68) where ‘ \triangleleft ’ is a predicate expressing the tree-geometric relation ‘parent-of’.

5. See Abels (2012, 124–126) for a potentially similar proposal, couched within a different feature system. Abels (2012, ch. 4) designates probes which must mutually c-command their goals (i.e. probes which initially look downward and then trigger movement of the goal into their specifiers) as bearing [$\text{uF}_{\downarrow\uparrow}$], and probes which never c-command their goals (presumably those which trigger External Merge of their goals into their specifiers) as bearing [uF_{\uparrow}]. Finally, probes which bear a [uF_{\downarrow}] must only c-command their goals; this might correspond to base-generation of a complement via a ‘ \bullet ’ feature.

in the grammar.

Let us consider two illustrative examples to see how these features work. In (53), a head X lexically specified as bearing the feature [\bullet D] is taken from the lexicon (or numeration or workspace). The [\bullet D] feature triggers external merger of a constituent bearing [CAT: D] with X, forming XP. This is (External) Merge. I represent a feature which has been satisfied (or ‘checked’) via a diagonal strikethrough: [\bullet ~~F~~].

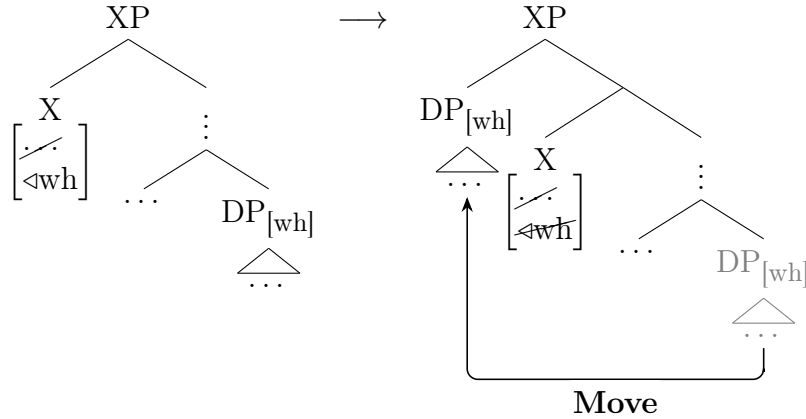
(53) *Merge is triggered by ‘•’ features*



Now consider the case of Move/Internal Merge. In (54), the derivation has reached the head X (whose external merger was presumably driven by a ‘•’ feature it bears, now satisfied) which bears an unsatisfied [\langle wh] feature. This feature will initiate a search in the c-command domain of X for the closest⁶ accessible goal bearing [wh]. In (54), assume that the closest accessible goal is DP_[wh]; then, the [\langle wh] feature on X will trigger internal merger of DP_[wh] in [Spec, XP], checking X’s Move-triggering feature. I will mostly set lower copies of movement in grey text in trees and examples in what follows.

(54) *Move is triggered by ‘<’ features*

6. I assume for explicitness that closeness is defined in terms of asymmetric c-command and is subject to a minimality principle like Relativized Minimality (Rizzi, 1990), the Minimal Link Condition (Chomsky, 1995b, 296), or Attract Closest (Pesetsky, 2000, 15).



To reiterate, I assume that it is a lexically specified property of heads whether they bear a particular ‘•’ feature or ‘◁’ feature. In this way, we can account for cross-linguistic variation in the ways that different languages construct long-distance chains (see sections §3.5 and §3.6).

For simplicity, I do not distinguish between intermediate and final movement steps (for arguments that the two have distinct triggers, see Heck and Müller, 2000, 2003 and Georgi, 2014a,b, 2017, and see Deal, 2016, 437–438, esp. fn. 6 for related discussion). Furthermore, as much of this chapter is concerned with the featural makeup of complementizers, I propose that non-final Cs bear a [-wh] feature (i.e. $C_{[-wh]}$), whereas those at the tops of *wh*-questions and restrictive relatives bear a [+wh] feature (i.e. $C_{[+wh]}$). I assume that intermediate movement minimally targets [Spec, $C_{[-wh]}$]P in long-distance dependencies and I will focus on these landing sites going forward. It is not entirely clear to me how one might empirically distinguish base-generation at versus movement to the left edge of a clause-internal phase like vP, so I set aside formalizing the typology of v heads in this chapter.⁷

The remainder of the sections in this chapter turn to consider the four syntactic diagnostics for movement mentioned in the introduction: island-sensitivity, parasitic gap licensing, *exactly* stranding, and case-matching. In each case, I will show how my proposed system

7. One potential source of evidence for base-generating a resumptive-binding operator at or above [Spec, vP] but below [Spec, CP] might come from reflexes of movement under resumption in Colloquial Welsh. See footnote 14 in chapter 2 for discussion.

of features accounts for the divergent properties of two classes of resumptive-dependencies: those which are formed by base-generation (e.g. in Arabic), and those which are formed by movement (e.g. in Spanish).

3.3 Island-sensitivity

I argue with a long line of previous work that two types of resumptives can be distinguished cross-linguistically on the basis of their sensitivity to constraints on locality. Novel data from Iraqi, Tunisian, and Syrian illustrates that resumptive \bar{A} -dependencies in these languages are insensitive to islands. The results for Arabic are summarized in (55). I indicate below the test which varieties the evidence comes from.

- (55) *Results from Iraqi (IA), Tunisian (TA), and Syrian Arabic (SA)* (RP = ‘resumptive pronoun’) (1/4 tests)

	Resumptive dependencies		Gapped dependencies
	<i>Optional RP</i>	<i>Obligatory RP</i>	
Are islands obeyed? (IA, TA, SA)	N/A	No	Yes

By contrast, resumptive \bar{A} -dependencies in languages like Spanish, Vata, Igbo, and Romani—like gapped \bar{A} -dependencies—are island-sensitive. My cross-linguistic findings are summarized in (56).

- (56) *Syntactic tests for movement distinguish two types of resumptive pronouns* (1/4 tests)

	Island-sensitive?	Exemplar languages
Base-generated resumptives	No	Iraqi, Syrian, Tunisian, Maltese, ...
Movement-derived resumptives (and gaps)	Yes	Spanish, Swedish, Vata, Igbo, Romani, ...

I argue that the best account of this contrast posits base-generation of \bar{A} -operators in [Spec, CP] (triggered by [\bullet wh] features on C) in the case of island-insensitive resumption and \bar{A} -movement of operators to [Spec, CP] (triggered by [\langle wh] features on C) in the case of island-sensitive resumption.

Ross (1967) observed that resumptive \bar{A} -dependencies do not respect islands. He gives the following examples from English restrictive relatives from “a dialect of English” (the acceptability of such sentences varies widely across English idiolects):

- (57) a. I just saw that girl_{*i*} who Long John’s claim that **she**_{*i*} was a Venusian made all the headlines.
b. All the students_{*i*} who the papers which **they**_{*i*} submitted were lousy I’m not going to allow to register next term.
c. Didn’t that guy_{*i*} who the Game Warden and **him**_{*i*} had seen a flying saucer crack up?
d. Palmer is a guy_{*i*} who for **him**_{*i*} to stay in school would be stupid.
e. The only kind of car_{*i*} which I can never seem to get **its**_{*i*} carburetor adjusted right is them Stanley Steamers.
f. King Kong is a movie_{*i*} which you’ll laugh yourself sick if you see **it**_{*i*}.

(Ross, 1967, 432–433, (6.154))

All of these examples are rendered unacceptable if the coindexed pronoun is replaced by a gap. The same basic contrast holds for Iraqi, Tunisian, and Syrian Arabic *wh*-questions and restrictive relatives: resumptive pronouns are not sensitive to (weak or strong) islands,

whereas traces are.⁸ Examples (58)–(60) illustrate for *wh*-questions, and examples (61)–(63) for relative clauses.⁹ Note, however, that gaps are independently ruled out for relative clauses in all three Arabic varieties in the relevant positions *outside* of islands.

(58) Resumptive *wh*-questions are island-insensitive in Iraqi¹⁰

- a. *Wh-island*
 ja: la:ʕibin_i ma-tuʕurfin [ja: fari:q qibal-*(**hum**_i)]?
 which players_i NEG-know.2.F.SG which team accepted.3.M.SG-*(**them**_i)
 (lit.) ‘Which players_i do you not know which team accepted them_i?’
- b. *Relative clause island*
 ja: la:ʕibin_i ʔhibbin [ajj aħħad jħibb-*(**hum**_i)]?
 which players_i like.2.F.SG any one likes.3.M.SG-*(**them**_i)
 (lit.) ‘Which players_i do you like anyone who likes them_i?’
- c. *Adjunct island*
 ja: la:ʕibin_i s^ʕa:r na:di l-UAE maʕhur [wara: ma
 which players_i became.3.M.SG club the-UAE famous after C
 qibal-*(**hum**_i)]?
 accepted.3.M.SG-*(**them**_i)
 (lit.) ‘Which players_i did Club UAE become famous after it accepted them_i?’
- d. *Noun complement clause island*
 ja: la:ʕibin_i aku axbar [innu na:di l-UAE raħ jit^ʕrud-*(**hum**_i)]?
 which players_i there.is news that club the-UAE FUT fire-*(**them**_i)
 (lit.) ‘Which players_i is there news that Club UAE will fire them_i?’

(59) Resumptive *wh*-questions are island-insensitive in Tunisian

8. Note that the noun complement clauses in (58d), (59d), (61d), and (62d) constitute strong islands for extraction despite occurring in existential contexts with indefinite nouns, an environment known to facilitate extraction out of relative clause islands, for which see Sichel (2018) for discussion and references.

9. The parenthesized pronouns in the main clause are pronominal copulas optionally appearing in the present tense of equational sentences with definite nominal predicates. See Eid (1983, 1991), Ouhalla (2013), and Choueiri (2016) for discussion.

10. Regarding Iraqi, Sterian (2015, 93) claims that “[resumptive] pronouns do not rescue strong islands,” despite being “grammatical in weak islands.” This claim is confounded by at least two uncontrolled for factors: (i) the supporting data are indiscriminately taken from several types of \bar{A} -dependencies (e.g. definite restrictive relatives, *wh*-questions, and clitic left dislocation), and (ii) several of the examples add a bound variable to the dislocated constituent which must be reconstructed below a lower quantifier, thereby adding considerable additional complexity and conflating the island-sensitivity of gapped vs. resumptive dependencies with the island-sensitivity of reconstruction. Sterian (2015, 105, fn. 21) also asserts that subjects are always sentence-initial in matrix interrogatives in Iraqi, a peculiar claim given the existence of resumptive questions violating weak islands with *wh*-S order in Iraqi (e.g. Sterian, 2015, 92, (4.19a), and 98, (4.24b), (4.25b)). My consultant does not share the preference for sentence-initial subjects (but in fact strongly prefers *wh*-V-S order in the clause immediately containing the *wh*-word; see examples (182)–(185) below). Due to the many issues surrounding Sterian’s Iraqi data, I will not consider her proposals any further.

- a. *Wh-island*
amma zuwə:re:t_i ma-jaʕraf-ʃ Ian [amma fari:q ʕajjan-*(**hom_i**)]?
which players_i NEG-know.3.M.SG-NEG Ian which team hired.3.M.SG-*(**them_i**)
(lit.) ‘Which players_i does Ian not know which team hired them_i?’
- b. *Relative clause island*
amma zuwə:re:t_i [l-fari:q elli ʕajjan-*(**hom_i**)] walla
which players_i the-team that hired.3.M.SG-*(**them_i**) became.3.M.SG
maʕhur s-sne:ʔ
famous the-year
(lit.) ‘Which players_i did the team that hired them_i become famous this year?’
- c. *Adjunct island*
amma zuwə:re:t_i Nusur Qartʕa:ʒ ke:nu xa:jbim [qbal ma
which players_i Eagles Carthage were.3.PL bad before C
ʕajjnu:-(**hom_i**)]?
hired.3.PL-*(**them_i**)
(lit.) ‘Which players_i were the Carthage Eagles bad before they hired them_i?’
- d. *Noun complement clause island*
amma zuwə:re:t_i famma [xbar elli Nusur Qartʕa:ʒ ʕajjnu:-(**hom_i**)]?
which players_i there.is news that Eagles Carthage hired.3.PL-*(**them_i**)
(lit.) ‘Which players_i is there news that the Carthage Eagles hired them_i?’

(60) Resumptive *wh*-questions are island-insensitive in Syrian

- a. *Wh-island*
ajja la:ʕibim_i ma-b-taʕrifi [ajja fari:ʔ naʔʔa:-(**hon_i**)]?
which players_i NEG-IND-know.2.F.SG which team picked.3.M.SG-*(**them_i**)
(lit.) ‘Which players_i do you not know which team picked them_i?’
- b. *Relative clause island*
ajja la:ʕibim_i nʕahar min fatra [l-fari:ʔ lli
which players_i became.famous.3.M.SG recently the-team that
naʔʔa:-(**hon_i**)]?
picked.3.M.SG-*(**them_i**)
(lit.) ‘Which players_i has the team that picked them_i become famous re-
cently?’
- c. *Adjunct island*
ajja la:ʕibim_i nʕahar ha:da l-fari:ʔ [baʕd ma
which players_i became.famous.3.M.SG this the-team after C
naʔʔa:-(**hon_i**)]?
picked.3.M.SG-*(**them_i**)
(lit.) ‘Which players_i did this team become famous after it picked them_i?’

(61) Resumptive restrictive relatives are island-insensitive in Iraqi¹¹

11. See also Jassim (2011, 32–35).

- a. *Wh-island*
 haðo:la (humma) l-la:ʕibi:n_i lli ma tuʕurfi:n [ja: fari:q
 these (3.PL) the-players_i that NEG know.2.F.SG which team
 qibal-*(**hum**_i)].
 accepted.3.M.SG-*(**them**_i)
 (lit.) ‘These are the players_i that you don’t know which team hired them_i.’
- b. *Relative clause island*
 haðo:la (humma) l-la:ʕibi:n_i lli tħibbi:n [ajj aħħad jħibb-*(**hum**_i)].
 these (3.PL) the-players_i that like.2.F.SG any one likes.3.M.SG-*(**them**_i)
 (lit.) ‘These are the players_i that you like anybody that likes them_i.’
- c. *Adjunct island*
 haðo:la (humma) l-la:ʕibi:n_i lli na:di l-UAE s^ʕa:r maʕhu:r
 these (3.PL) the-players_i that club the-UAE became.3.M.SG famous
 [wara: ma qibal-*(**hum**_i)].
 after C accepted.3.M.SG-*(**them**_i)
 (lit.) ‘These are the players_i that Club UAE became popular after it hired
 them_i.’
- d. *Noun complement clause island*
 haðo:la (humma) l-la:ʕibi:n_i lli aku [axbar innu na:di l-UAE raħ
 these (3.PL) the-players_i that exists news that club the-UAE FUT
 jit^ʕrud-*(**hum**_i)].
 fire.3.M.SG-*(**them**_i)
 (lit.) ‘These are the players_i that there’s news that Club UAE will fire them_i.’

(62) Resumptive restrictive relatives are island-insensitive in Tunisian

- a. *Wh-island*
 heðu:kom hu:ma l-zuwə:re:t_i elli Ian ma-jaʕraf-ʃ [amma fari:q
 these 3.PL the-players_i that Ian NEG-know.3.M.SG-NEG which team
 ʕajjan-*(**hom**_i)].
 hired.3.M.SG-*(**them**_i)
 (lit.) ‘These are the players_i that Ian doesn’t know which team hired them_i.’
- b. *Relative clause island*
 heðu:kom hu:ma l-zuwə:re:t_i elli [l-fari:q elli ʕajjan-*(**hom**_i)]
 these 3.PL the-players_i that the-team that hired.3.M.SG-*(**them**_i)
 walla maʕhu:r s-sne:.
 became.3.M.SG famous the-year
 (lit.) ‘These are the players_i that the team that hired them_i became famous
 this year.’
- c. *Adjunct island*
 heðu:kom hu:ma l-zuwə:re:t_i elli Nusur Qart^ʕa:z ke:nu xa:jb:i:n [qbal
 these 3.PL the-players_i that Eagles Carthage were.3.PL bad before

ma ʕajjnu:-*(**hom_i**)].

C hired.3.PL-*(**them_i**)

(lit.) ‘These are the players_i that the Carthage Eagles were bad before they hired them_i.’

- d. *Noun complement clause island*

heðu:kom hu:ma l-ʒuwæ:ret_i elli famma [xba:r elli Nusu:r Qart^ʕa:ʒ
these 3.PL the-players_i that there.is news that Eagles Carthage
ʕajjnu:-*(**hom_i**)].

hired.3.PL-*(**them_i**)

(lit.) ‘These are the players_i that there is news that the Carthage Eagles hired them_i.’

(63) Resumptive restrictive relatives are island-insensitive in Syrian

- a. *Whether island*

hado:l hinnen l-la:ʕibi:n_i lli bidd-ak taʕrif [iza na:di Syria
these 3.PL the-players_i that want-2.M.SG know.2.M.SG if club Syria
naʔʔa:-*(**hon_i**)].

picked-*(**them_i**)

(lit.) ‘These are the players_i that you want to know if Club Syria picked them_i.’

- b. *Relative clause island*

hado:l hinnen l-la:ʕibi:n_i lli nʕahar min fatra [l-fari:ʔ
these 3.PL the-players_i that became.famous.3.M.SG recently the-team
lli naʔʔa:-*(**hon_i**)].

that picked-*(**them_i**)

(lit.) ‘These are the players_i that the team that picked them_i recently became famous.’

- c. *Adjunct island*

hado:l hinnen l-la:ʕibi:n_i lli [baʕd ma naʔʔa:-*(**hon_i**) l-mdarrib],
these 3.PL the-players_i that after C picked-*(**them_i**) the-coach
nʕahar nardi Syria.
became.famous club Syria

became.famous club Syria

(lit.) ‘These are the players_i that, after the coach hired them_i, Club Syria became famous.’

See Ross (1967, 487, n. 21) for the earliest observation in the generative literature, attributed to Michael Brame (personal communication), that resumption in Arabic restrictive relatives is insensitive to island constraints. Island-insensitive resumption has since been documented in Algerian Arabic restrictive relatives (Souag, 2006, 58, (181)–(183)), Egyptian Arabic restrictive relatives (Eid, 1975, Farghaly, 1981, ch. 5, Wahba, 1984, 46,

(64)–(65)) and clefted *wh*-questions (Soltan, 2012, 104–105)¹², Emirati Arabic (non-)clefted *wh*-questions (Leung and Al-Eisaei, 2013, 225–228, Leung and Shemeili, 2014, 437, Leung, 2014, 169, (5)), Jordanian Arabic restrictive relatives and *wh*-questions (Malkawi, 2009, Demirdache and Percus, 2011, 2012, Al-Daher, 2016, 102–104), Lebanese Arabic restrictive relatives and *wh*-questions (Aoun and Choueiri, 1996, 1999, Aoun and Benmamoun, 1998, and much subsequent work), Modern Standard Arabic restrictive relatives and *wh*-questions using the *wh*-phrase *ajju NP* ‘which NP’¹³ (Perlmutter, 1972, 91–93, Awwad, 1973, Bakir, 1979, 252–254, Suaieh, 1980, Ayoub, 1981, Fassi Fehri, 1982, Choueiri, 2002, 363, Alotaibi and Borsley, 2013, 12), Moroccan Arabic restrictive relatives (Elomari, 1998, 49–50), Palestinian Arabic restrictive relatives (Awwad, 1973, 121–127, 135), and Saudi Arabic restrictive relatives and *wh*-questions (Alshaalan, 2021, 68), among other Arabic varieties.

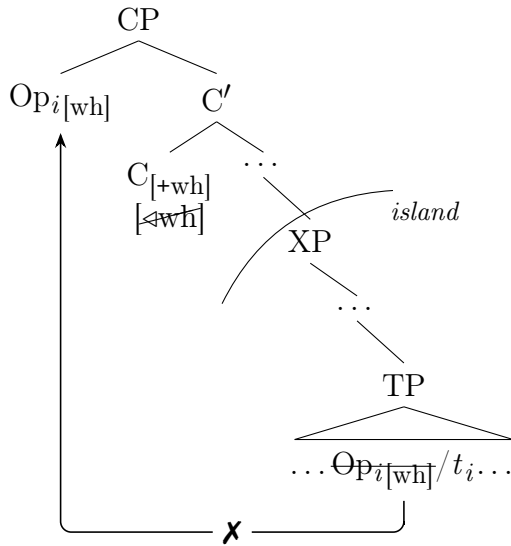
The simplest account of this contrast maintains that gapped dependencies involve movement triggered by a [$\langle wh \rangle$] feature on C, as in (64), whereas resumptive dependencies do not (see especially Chomsky, 1977, Borer, 1984b, and McCloskey, 1990). Resumptive elements are instead base-generated in situ and bound by an operator externally merged in an \bar{A} -position by a ‘●’ feature, as shown in (65):¹⁴

12. Kenstowicz and Wahba (1983) report a more complex situation for Egyptian Arabic resumptive *wh*-questions. According to them, resumptive pronouns in (clefted) *wh*-questions freely violate noun complement clause islands (Kenstowicz and Wahba, 1983, 262, (3b)), but they are apparently ungrammatical inside relative clause islands and *wh*-islands (Kenstowicz and Wahba, 1983, 280, n. 4) (see also Wahba (1984, 44–59)). See Soltan (2012, 105–106) for arguments that resumptive *wh*-questions are in fact island-insensitive in Egyptian Arabic, and that independent confounding factors are what give rise to the reported degradation.

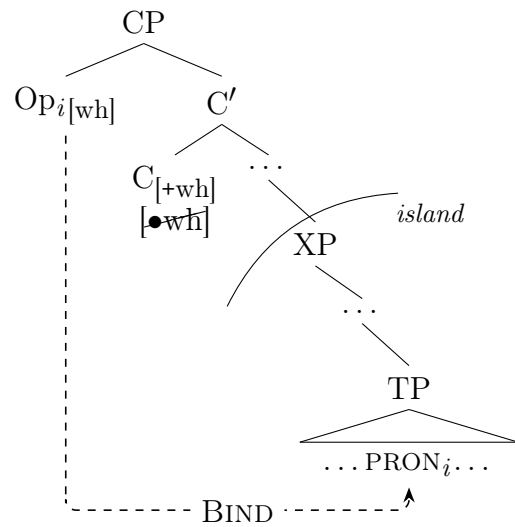
13. According to Mouchaweh (1986, 154, (44)) and Demirdache (1991, 44, (42c)), resumptive questions in Modern Standard Arabic with the *wh*-word *man* ‘who’ are island-sensitive. As might be expected of an idiom which is not the native language of anyone, judgments reported for Modern Standard Arabic *wh*-questions are fairly inconsistent: Wahba (1984, 80) claims that even resumptive *which*-questions in Modern Standard Arabic obey islands.

14. See Safir (1986) and McCloskey (1990) for arguments that the relevant binder is the (null) operator in [Spec, CP], and not, for instance, the relative head in a relative clause.

(64) *Gapped dependencies across islands (65) involve movement and hence are illicit*



Resumptive dependencies across islands involve base-generation plus binding



This is because movement, but not binding, is subject to subjacency. Thus, the pronominal variable ‘her’ in (66) can be bound by ‘every girl’ across an adjunct island boundary, but \bar{A} -movement in the same context is impossible ((67)).

(66) kull bnajja_i ga:mat lamma ga:law isim-ha_i.
 every girl_i stood.up.3.F.SG when said.3.PL name-her_i
 ‘Every girl_i stood up when they said her_i name.’ (Iraqi)

(67) *finu_k ga:mat kull bnajja_i lamma ga:law ____k?
 what_k stood.up.3.F.SG every girl_i when said.3.PL
 (int.) ‘What_k did every girl_i stand up when they said ____k?’ (Iraqi)

Island-insensitive resumptive dependencies in other languages can be accounted for in a similar way; see, for instance, Brazilian Portuguese relative clauses (Klein, 2016, 201, (6)–(9)) and *wh*-questions (Panitz, 2018, ch. 6), Breton restrictive relatives (Guilliot, 2006b, 1891),¹⁵ Bulgarian restrictive relatives headed by the complementizer *deto* (Rudin, 1986; Krapova, 2010), Colloquial Czech relative clauses (Toman, 1998, 306–307, (8)–(10), Klein, 2016, 202, (11)), Dinka *wh*-questions (van Urk, 2017a, 6, (14)), French *wh*-questions and

15. Though see Hendrick (1988, 194–196) for evidence that resumptive dependencies are island-sensitive for at least some Breton speakers.

restrictive relatives (Guilliot, 2006a, 41–42),¹⁶ Ga relative clauses (Klein, 2016, 202–203, (13)–(15)), Haitian Creole relative clauses and *wh*-questions (Degraff, 1992, 113, (21)–(23), Takahashi and Gračanin-Yuksek, 2008, 245, (49)), Hausa relative clauses (McConvell, 1973, ch. 7, Tuller, 1986, 80–90, Crysmann, 2012), Modern Hebrew restrictive relatives (Givón, 1973, 142, 144; Hayon, 1973, 47–49; Borer, 1984b, 221), Biblical Hebrew restrictive relatives (Steiner, 1997, 171–172, Hewett, 2019, 67–68), Hungarian focus raising (Gervain, 2009, 696–697), Igbo topicalization (Georgi and Amaechi, 2020, 2022), the suite of Irish \bar{A} -dependencies discussed in McCloskey (1979, 1985, 1990, 2002, 2017), Kabyle (Berber) *wh*-questions (Mihuc, 2020), Maltese restrictive (Camilleri and Sadler, 2011b, 10–11, Camilleri and Sadler, 2016, 131) and appositive relatives (Camilleri and Sadler, 2011a, 18, (57)–(59)) headed by the complementizer *li*, Polish restrictive relatives headed by the complementizer *što* (Bondaruk, 1995, 40–42, Lavine, 2003, 357–358, (5)–(6)),¹⁷ Swiss German restrictive relatives (Salzmann, 2017b, 2019), Tuki relative clauses (Bilola, 1990, 217–220, Bilola, 2013, 238–239), among many others.

The behavior of Arabic resumptives can be minimally contrasted with resumptives in a number of other languages which cannot appear inside islands. Such resumptives can be found in Bosnian-Croatian-Serbian (BCS, also referred to as Serbo-Croatian) relative clauses headed by *što* (Goodluck and Stojanović, 1996, 291–292, Boeckx, 2003, 114, Bošković, 2009, (2b), (6), Hladnik, 2015, 32–33, (52)–(53)),¹⁸ Bùlì subject *wh*-questions (Sulemana, 2019, 501), Igala *wh*-questions (Martinović, To appear, 9, (40b–c)), Igbo focus fronting (Georgi and Amaechi, 2020, 2022) and relative clauses (Goldsmith, 1981, 380, (34)), Mandarin Chinese relative clauses (Pan, 2016, 33–43), Nchufie (also referred to as ‘Bafanji’) relative clauses

16. Tellier (1991, 50–51) agrees that restrictive relatives with resumptives inside islands are acceptable in colloquial French, but maintains that parallel resumptive *wh*-questions are degraded.

17. See Hladnik (2015, 33–35) for the alternative view that resumptive pronouns in Polish *wh*-questions and relative clauses are sensitive to islands.

18. These judgments are contested; see Gračanin-Yuksek (2013, 32–33, (13)–(14)) and Klein (2016, 210, (40)–(42)) for the claim that resumptive relatives in Croatian and Serbian—in contrast to gapped relatives—are island-insensitive.

(Sano, 1994, 118, (10)), Nupe *wh*-questions and focus fronting (Kandybowicz, 2008, 132, (20d–f)), Persian relative clauses (Taghvaipour, 2004, 285–288), *wh*-questions and relative clauses in the Pristina dialect of Romani (McDaniel, 1986), Romanian *wh*-questions and relative clauses using the declinable relative pronoun *care* ‘which’ (Comorovski, 1986, 173, (6)–(7), Dobrovie-Sorin, 1990, 354, (4)–(5)),¹⁹ Scottish Gaelic *wh*-questions (Boeckx, 2003, 110, (121), Adger, 2011, 349, (28)–(29)), Slovene relative clauses (Hladnik, 2015, 28ff.), Spanish relative clauses (Klein, 2016, 211–212, (45)–(46), Stigliano and Xiang, 2021),²⁰ Vata *wh*-questions (Koopman and Sportiche, 1986, 369–370), and Literary Welsh (Tallerman, 1983, Hendrick, 1988, 189–190, Rouveret, 2002, 2008, and 2018)²¹ and Colloquial Welsh (Hirata, 2012, 96–100, Borsley, 2013, 12) relative clauses. Examples (68)–(72) illustrate with island-sensitive resumption from a subset of these languages.

(68) a. *Spanish resumptives in wh-questions are sensitive to islands*

*A quiénes_i estuvo la jueza [que (**les**_i) entregó la evidencia en un sobre]
 A who.PL_i was the judge that (**them**_i) gave the evidence in an envelope

19. But see Grosu (1994, 212, (3.28b)) for an alternative perspective on restrictive relatives using uninflected *care*, which is analyzed as a complementizer.

20. But see Contreras (1991, 146–153) and Suñer (1998, 335, (1)) for a different judgment for Spanish resumptive *wh*-questions amnestying island violations. Anticipating the discussion in section §3.7, it is noteworthy that none of the island-violating resumptive *wh*-questions reported in Contreras (1991) employ a case-marked *wh*-word, whereas resumptives in non-island contexts *do* sometimes cooccur with *wh*-words bearing the differential object marker *a* (see, e.g. Contreras, 1991, 155, (50)). Relatedly, Karlos Arregi (*pers. comm.*) notes that he finds (68b) grammatical if *a los que* is replaced by *que* ‘that.’ Both sets of judgments are compatible with Merchant’s (2004) *Case and resumptive-binding operator generalization* (to be discussed in section §3.7), and suggests that some Spanish idiolects/dialects make use of both base-generated resumptives (i.e. those inside islands and not licensing parasitic gaps) and movement-derived resumptives (i.e. those cooccurring with a case-marked operator and licensing parasitic gaps).

21. In Literary Welsh, there is apparently a morphological distinction between certain kinds of resumptive pronouns inside and outside of islands. According to Rouveret (2002, 129) and Rouveret (2008, 179), weak resumptive pronouns—realized as silent *pro* accompanied by rich agreement or doubled by a clitic—are obligatory in non-island contexts in the possessor position and as the complement of a preposition, whereas the same positions inside islands require independent pronouns (what Rouveret terms ‘auxiliary’ pronouns) in place of *pro* (see also de Freitas and Noonan, 1991, 53, (10b); but see Sadler, 1988, 173–175 for some apparent evidence to the contrary). Colloquial Welsh poses no such restrictions on independent resumptive pronouns (Tallerman, 1990, 306, Willis, 2000, 543–545). Somewhat puzzlingly, non-doubled independent resumptive pronouns are island-sensitive in the literary language (see Tallerman, 1983, 197, (2)–(3) and Klein, 2016, 216, (60)).

ausente del juicio?
absent from.the trial

(int.) ‘Who_i (pl.) was the judge that gave (them_i) the evidence in an envelope absent from the trial?’

b. *Spanish resumptives in relative clauses are sensitive to islands*

*Ana vio a los fiscales_i a los que la jueza [que (**les**_i) entregó la
Ana saw A the prosecutors_i A the that the judge that (**them**_i) gave the
evidencia en un sobre después de la reunión] declaró ayer.
evidence in an envelope after of the meeting testified yesterday
(int.) ‘Ana saw the prosecutors_i that the judge that gave (them_i) the evidence
in an envelope after the meeting testified yesterday.’ (Stigliano and Xiang,
2021, 18, (11c))

(69) *Slovene resumptives in relative clauses are sensitive to islands*

*človek_i, ki je Janez jezen, ker **ga**_i je Peter odpustil
man_i C is J. angry because **he.ACC.CL**_i AUX.3SG P. fired
(int.) ‘the man_i that John is angry because Peter fired him_i’ (Hladnik, 2015, 30,
(46))

(70) *Igbo resumptives in focus fronting are sensitive to islands*

*Àdá_i kà Úché pù-rù túpú Ézé è-kwù màkà **yá**_i
Ada_i FOC Uche leave-rV before Eze NMLZ-talk about **3SG.ACC**_i
‘Uche left before Eze talked about ADA.’ (Georgi and Amaechi, 2020, 265, (11))

(71) a. *Romani (Priština dialect) resumptives in wh-questions are sensitive to islands*

*Kas_i dikhlân e chia ko marja {___i / **le**_i}?
whom_i did.you.see the girl who hit { / **him**_i}
(int.) ‘Whom_i did you see the girl who hit (him_i)?’

b. *Romani (Priština dialect) resumptives in relative clauses formed with relative pronouns are sensitive to islands*

*Ake o chavo_i kas_i dikhlûm e chia ko marja {___i / **le**_i}.
here.is the boy_i whom_i I.saw the girl who hit { / **him**_i}
(int.) ‘Here’s the boy whom_i I saw the girl who hit (him_i).’

(McDaniel, 1986, 55, (27a–b))

(72) *Vata resumptives in wh-questions are sensitive to islands*²²

*àlÓ_i ò nĪ zĒ mĒmĒ` gbÚ Ò_i dĪ` -fÓ t mĒ yì là?
who_i you NEG-A reason it.it for **he**_i cut REL it know WH
‘Who_i don’t you know why he_i cut it?’ (Koopman and Sportiche, 1986, 161, (19a))

Moreover, in a subset of languages with resumption, only resumptives which display φ -feature mismatches with their antecedents—and specifically where the resumptive is featur-

22. In contrast to (72) which involves subject extraction, object *wh*-movement out of a *wh*-island terminating in a gap is apparently well-formed in Vata (Koopman and Sportiche, 1986, 368–369).

rally impoverished—are island-sensitive; these include Akan relativization of subjects (Yip and Ahenkorah, To appear),²³ Cape Verdean Creole *wh*-questions and restrictive relatives (Alexandre, 2009), Cantonese restrictive relatives and focus fronting (Yip and Ahenkorah, To appear), Samoan topicalization/focus fronting (Ershova, 2023a, 25), São Tomense Creole restrictive relatives (Adger, 2011, 350, (30)), and Swahili restrictive relatives headed by the complementizer *amba* (Scott, 2021b). By contrast, fully matching resumptives are reported to be island-insensitive in the same languages. To account for the island-sensitivity of the resumptive pronouns in (68)–(72), I propose that they cooccur with an \bar{A} -movement dependency triggered by a [$\leftarrow wh$] feature on C, unlike resumptives in Iraqi, Tunisian, and Syrian Arabic (see (65)). I will postpone an in-depth discussion of the generation of island-sensitive resumption until chapter 5, where I will argue, following ideas in Boeckx (2003) (see also Rouveret, 1994), that many such resumptives originate in a Big-DP or clitic doubling structure, followed by \bar{A} -movement of the doubled operator.

3.4 Parasitic gap licensing

This section provides additional supporting evidence for a bipartite taxonomy of resumptives based on their capacity to license parasitic gaps. \bar{A} -dependencies which make use of island-insensitive resumptives systematically fail to license parasitic gaps with those same resumptives. Such is the case for *wh*-questions and relative clauses in Iraqi, Tunisian, and Syrian Arabic and, I will show, in several other languages. The results for Arabic are summarized in (73) (I indicate below the test which varieties the evidence comes from).

- (73) *Results from Iraqi (IA), Tunisian (TA), and Syrian Arabic (SA)* (RP = ‘resumptive pronoun’) (2/4 tests)

23. There is idiolectal and/or dialectal variation in this domain, however. While Yip and Ahenkorah (To appear, 4–5) report that long-distance extraction of subjects in restrictive relatives and *wh*-questions permits the use of a mismatching resumptive, Korsah (2017, 119ff.) reports that only fully matching resumptives are permitted in long-distance subject extraction.

	Resumptive dependencies		Gapped dependencies
	<i>Optional RP</i>	<i>Obligatory RP</i>	
Are islands obeyed? (IA, TA, SA)	N/A	No	Yes
Are parasitic gaps licensed? (IA, TA, SA)	No	No	Yes

By contrast, in those languages (and dependencies) where resumptive pronouns obey islands, such as Spanish and Swedish, among many others, resumptives can cooccur with parasitic gaps. Assuming with Engdahl (1983) *et seq.* that the appearance of parasitic gaps diagnoses \bar{A} -movement, this suggests that only the formation of island-sensitive resumptive dependencies (as in Spanish-type languages) can involve \bar{A} -movement triggered by [\langle wh] features, parallel to the formation of gapped dependencies. Resumptive-binding operators in Arabic, on the other hand, are base-generated in [Spec, CP] to satisfy a [\bullet wh] feature on C. My cross-linguistic empirical findings are summarized in (74).

(74) *Syntactic tests for movement distinguish two types of resumptive pronouns (2/4 tests)*

	Island-sensitive?	License (local) PGs?	Exemplar languages
Base-generated resumptives	No	No	Iraqi, Syrian, Tunisian, Maltese, ...
Movement-derived resumptives (and gaps)	Yes	Yes	Spanish, Swedish, Vata, Igbo, Romani, ...

As we will see, it is in principle possible for a language to employ both kinds of resumptive dependencies. In such cases, we expect parasitic gap licensing to march in lockstep with sensitivity to constraints on locality within a given domain. For instance, a resumptive

inside an island is predicted to not be able to simultaneously license a parasitic gap. In other cases, however, it seems that a language only has recourse to a single kind of resumptive dependency. Given that parasitic gaps are *never* licensed in resumptive *wh*-questions or restrictive relative clauses in Arabic, I conclude that these dependencies are never formed via movement (contra the analyses in Aoun, 2000; Aoun et al., 2001; Choueiri, 2002; Aoun and Li, 2003; Demirdache and Percus, 2009, 2011; and Sichel, 2014, 664–665, which were primarily based on reconstruction facts).

3.4.1 Parasitic gaps are not licensed by island-insensitive resumptives

I will begin with Iraqi, Tunisian, and Syrian Arabic: parasitic gaps are not licensed without \bar{A} -movement. The presence of a direct object gap in the clausal adjunct in (75)–(77) therefore renders these sentences ungrammatical, as Iraqi, Tunisian, and Syrian lack null objects in such contexts. The distribution of null arguments will be clarified shortly.

- (75) *No parasitic gaps in Iraqi without \bar{A} -movement*²⁴
 wað^ʕð^ʕafti haðo:la l-mumaθθili:n_i bidu:n ma {*tqa:bili:n pg_i /
 hired.2.F.SG these the-actors_i without C {*meet.2.F.SG /
 tqa:bili:-hum_i}.
 meet.2.F.SG-them_i}
 ‘You hired these actors_i without (you) meeting *(them_i).’
- (76) *No parasitic gaps in Tunisian without \bar{A} -movement*
 waððaft ha-l-mumaθθilin_i mayi:r ma {*tqa:bəl pg_i / tqa:bəl-hom_i}.
 hired.2.SG these-the-actors_i without C {*meet.2.SG / meet.2.SG-them_i}
 ‘You hired these actors_i without (you) meeting *(them_i).’
- (77) *No parasitic gaps in Syrian without \bar{A} -movement*
 wað^ʕz^ʕafti hado:l l-mmasli:n_i mindu:n ma {*tʔe:bli pg_i / tʔe:bli:-hon_i}.
 hired.2.F.SG these the-actors_i without C {*meet.2.F.SG / meet.2.F.SG-them_i}
 ‘You hired these actors_i without (you) meeting *(them_i).’

24. In Iraqi Arabic, both the second person feminine singular and second and third person plural verbal suffixes indexing agreement with the subject exhibit allomorphy sensitive to the presence or absence of a following pronominal enclitic: without an enclitic, the subject agreement suffix ends in *-n* (e.g. 2.F.SG *-i:n* in (75)) and with an enclitic the suffix loses its final *-n* (e.g. 2.F.SG *-i:* in (75)). See footnote 3 for additional discussion of stem allomorphy before pronominal enclitics in Syrian and Iraqi Arabic.

When there is a licensing step of \bar{A} -movement as in (78b), (79b), and (80b) however, the parasitic gap becomes relatively acceptable. Similar to what has been noted in previous work on parasitic gaps in other languages, though, parasitic gap constructions in these Arabic varieties have a noticeably colloquial flavor and are often not as fully acceptable as their non-gapped counterparts; cf. (78a), (79a), and (80a). However, there is a clear contrast between the acceptable, if slightly degraded examples in (78b), (79b), and (80b) with main clause gaps and the totally unacceptable examples in (78c), (79c), and (80c) which attempt to construe resumptive pronouns as parasitic gap licensors.

(78) Iraqi: parasitic gaps in clausal adjuncts

a. *No parasitic gap baseline*

ja: mumaθθili:n_i wað^ʕð^ʕafti {___i / **-hum**_i} bidu:n ma tqa:bili:-hum_i?
 which actors_i hired.2.F.SG { / **-them**_i} without C meet.2.F.SG-them_i?
 ‘Which actors_i did you hire {___i / them_i} without meeting them_i?’

b. *Gapped wh-questions license parasitic gaps in clausal adjuncts*

?ja: mumaθθili:n_i wað^ʕð^ʕafti ___i bidu:n ma tqa:bili:n pg_i?
 which actors_i hired.2.F.SG without C meet.2.F.SG
 ‘Which actors_i did you hire ___i without meeting pg_i?’

c. *Resumptive wh-questions do not license parasitic gaps in clausal adjuncts*

*ja: mumaθθili:n_i wað^ʕð^ʕafti:**hum**_i bidu:n ma tqa:bili:n pg_i?
 which actors_i hired.2.F.SG-**them**_i without C meet.2.F.SG
 (int.) ‘Which actors_i did you hire them_i without meeting pg_i?’

(79) Tunisian: parasitic gaps in clausal adjuncts

a. *No parasitic gap baseline*

ʃku:n_i waððaft {___i / ?-u_i} mayi:r ma tqa:bl-u_i?
 who_i hired.2.SG { / ?-him_i} without C meet.2.SG-him_i?
 ‘Who_i did you hire {___i / ?him_i} without meeting him_i?’

b. *Gapped wh-questions moderately license parasitic gaps in clausal adjuncts*

(?)ʃku:n_i waððaft ___i mayi:r ma tqa:bəl pg_i?
 who_i hired.2.SG without C meet.2.SG
 ‘Who_i did you hire ___i without meeting pg_i?’

c. *Resumptive wh-questions do not license parasitic gaps in clausal adjuncts*

*ʃku:n_i waððaft-**u**_i mayi:r ma tqa:bəl pg_i?
 who_i hired.2.SG-**him**_i without C meet.2.SG
 (int.) ‘Who_i did you hire him_i without meeting pg_i?’

(80) Syrian: parasitic gaps in clausal adjuncts

a. *No parasitic gap baseline*

- ajja mmasli:n_i waz^zz^zafti {___i / **-hon_i**} mindu:n ma tʔe:bli-hon_i?
 which actors_i hired.2.F.SG { / **-them_i**} without C meet.2.F.SG-them_i?
 ‘Which actors_i did you hire {___i / them_i} without meeting them_i?’
- b. *Gapped wh-questions license parasitic gaps in clausal adjuncts*
 ?ajja mmasli:n_i waz^zz^zafti ___i mindu:n ma tʔe:bli pg_i?
 which actors_i hired.2.F.SG without C meet.2.F.SG
 ‘Which actors_i did you hire ___i without meeting pg_i?’
- c. *Resumptive wh-questions do not license parasitic gaps in clausal adjuncts*
 *ajja mmasli:n_i waz^zz^zafti-**hon_i** mindu:n ma tʔe:bli pg_i?
 which actors_i hired.2.F.SG-**them_i** without C meet.2.F.SG
 (int.) ‘Which actors_i did you hire them_i without meeting pg_i?’

Null arguments in non- \bar{A} -extraction contexts have been identified in a number of other Arabic varieties, however, raising the question whether what I analyze as parasitic gaps in (78)–(80) might actually constitute a species of argument ellipsis. Representative examples of null indefinite arguments are given in (81)–(83) with data from Egyptian, Omani, and Libyan Arabic, respectively; I follow Soltan (2020) in representing elided arguments with the ‘ Δ ’ symbol.

- (81) Mona laʔit kitāb wi Huda kamān laʔit Δ .
 Mona found.3.F.SG book and Huda also found.3.F.SG
 ‘Mona found a book, and Huda found (a book) too.’ (Egyptian; adapted from Soltan, 2020, 206, (2))
- (82) Nādyā qarit ktāb, w ḥatta Mḥammad qara Δ .
 Nadia read.3.F.SG book and also Muhammad read.3.M.SG
 ‘Nadia read a book, and Muhammad did, too.’ (Omani; adapted from Hallman and Al-Balushi, 2022a, 7, (8a))
- (83) Nadia grēt riwaya, w ḥatta Samir grē Δ .
 Nadia read.3.F.SG novel and too Samir read.3.M.SG
 ‘Nadia read a novel, and Samir did too.’ (Libyan; adapted from Algryani, 2012, 121, (306))

There are at least five reasons to suspect that the parasitic gaps I have identified in Iraqi, Tunisian, and Syrian are not to be so analyzed. First, Soltan (2020) notes that, in addition to being indefinite, the antecedent of a null nominal object in Egyptian Arabic must be *non-human*: contrast (81) with the unacceptable example in (84).

- (84) * Ahmad ʔābil [mumassil mašhūr] wi Ali kamān ʔābil Δ .
 Ahmad met.3.M.SG actor famous and Ali also met.3.M.SG
 (int.) ‘Ahmad met a famous actor and Ali met (a famous actor) too.’ (Egyptian;
 Soltan, 2020, 207, (5b))

All of the parasitic gaps in (78)–(80) (and indeed all of the parasitic gaps from Iraqi, Tunisian, and Syrian Arabic cited in this chapter) have [+human] antecedents, ruling out an argument ellipsis parse under the assumption that the animacy restriction on null objects in Egyptian Arabic carries over to these three varieties.

Second, Hallman and Al-Balushi (2022a) point out that when the antecedent of a null object is quantificational or indefinite, the null object is not interpreted referentially, but rather as involving existential quantification over a set of individuals compatible with the denotation of the antecedent’s description. Thus, in (85), the dropped object ‘sheep’ cannot covary with its antecedent, as indicated in the free English translation.

- (85) Mhammad yrabbi yanam w ʔali yiḏbaḥ Δ .
 Muhammad raises.3.M.SG sheep and Ali slaughters.3.M.SG
 ‘Muhammad raises sheep and Ali slaughters sheep.’ (Omani; adapted from
 Hallman and Al-Balushi, 2022a, 16, (21a))

In parasitic gap constructions, by contrast, the parasitic gap covaries with the main clause operator, indicated via coindexation. Hence, the empty category in parasitic gap constructions must not be derived via argument ellipsis.

The third reason to doubt an argument ellipsis analysis of Arabic parasitic gap constructions is that in situ *wh*-words in multiple *wh*-questions fail to license parasitic gaps, as illustrated in (86) for Tunisian.

- (86) *In situ wh-words don’t license parasitic gaps*
- a. ʃkurn waḏḏəf amma zuwə:ret_i mayir ma jqa:bəl-hom_i?
 who hired.3.M.SG which actors_i without C meet.3.M.SG-them_i
 ‘Who hired which actors_i without meeting them_i?’
- b. *ʃkurn waḏḏəf amma zuwə:ret_i mayir ma jqa:bəl pg_i?
 who hired.3.M.SG which actors_i without C meet.3.M.SG
 (int.) ‘Who hired which actors_i without meeting pg_i?’ (Tunisian)

This corresponds to the observation from earlier literature that parasitic gaps must be licensed at S-Structure, rather than at LF (see, e.g., Engdahl, 1983, 14 and Culicover, 2001, 5). If the gap in the adjunct clause were actually an elided argument taking the *wh*-phrase as its antecedent, we would have no explanation as to why only overt \bar{A} -displacement of the *wh*-operator licenses the gap; by contrast, this is precisely what is required to license parasitic gaps.

Fourth, subject gaps do not license parasitic gaps in clausemate adjuncts.²⁵ Example (87) illustrates with a *wh*-moved passive subject in Syrian (note additionally that A-movement fails to license parasitic gaps, Engdahl, 1983; van Urk, 2017b).

- (87) *Parasitic gaps obey the anti-c-command condition*
- a. ajja mmaslin_i ____i twaz^ʕz^ʕafu mindun ma tʔe:bli;-hon_i?
 which actors_i were.hired.3.PL without C meet.2.F.SG-them_i
 ‘Which actors_i ____i were hired without you meeting them_i?’
- b. *ajja mmaslin_i ____i twaz^ʕz^ʕafu mindun ma tʔe:bli pg_i?
 which actors_i were.hired.3.PL without C meet.2.F.SG
 ‘Which actors_i ____i were hired without you meeting pg_i?’ (Syrian)

This corresponds to the anti-c-command condition on parasitic gap licensing. There is to my knowledge no parallel condition in the domain of object drop/argument ellipsis. Without additional evidence to the contrary, then, I propose that the examples in (78)–(80) plausibly should not be analyzed as null or elided arguments.

Finally, example (88) illustrates that parasitic gaps in Syrian Arabic are illicit inside strong islands.²⁶

25. See Mouchaweh (1986, 332–334) for similar data from Damascene Arabic.

26. This contrasts with a judgment reported for Damascene Arabic by Mouchaweh (1986):

- (i) šu_i štareit ____i laʔinnak wtiʔit biš-šaxiṣ illi ka:n ʔam
 what_i bought.2.M.SG because trusted.2.M.SG in.the-person that was.3.M.SG PROG
 ybi:ʔ pg_i?
 sell.3.M.SG
 ‘What_i did you buy ____i because you trusted the person that was selling pg_i?’ (Damascene;
 adapted from Mouchaweh, 1986, 317, (126d))

Note, however, that the antecedent of the gap inside the relative clause island is non-human, hence such

- (90) a. *No parasitic gaps in purpose clauses without \bar{A} -movement*
 da-nɕi:b Joni_i li-markaz ʃ-furt^ʃa ħatta nistaɕwib-*(ha_i).
 PROG-bring.1.PL Joni_i to-station the-police in.order interrogate.1.PL-*(her_i)
 ‘We are bringing Joni_i to the police station in order to interrogate *(her_i).’
- b. *No parasitic gap baseline*
 minu_i da- {tzi:bu:n ____i / tzi:bu:-∅_i} li-markaz ʃ-furt^ʃa ħatta
 who_i PROG- {bring.2.PL / bring.2.PL-**him**_i} to-station the-police in.order
 tistaɕwibu:-∅_i?
 interrogate.2.PL-him_i
 ‘Who_i are you bringing {____i / him_i} to the police station in order to interro-
 gate him_i?’
- c. *Gapped wh-questions license parasitic gaps in purpose clauses*
 ?minu_i da-tzi:bu:n ____i li-markaz ʃ-furt^ʃa ħatta tistaɕwibu:n
 who_i PROG-bring.2.PL to-station the-police in.order interrogate.2.PL
 pg_i?
 ‘Who_i are you bringing ____i to the police station in order to interrogate pg_i?’
- d. *Resumptive wh-questions do not license parasitic gaps in purpose clauses*
 *minu_i da-tzi:bu:-∅_i li-markaz ʃ-furt^ʃa ħatta tistaɕwibu:n
 who_i PROG-bring.2.PL-**him**_i to-station the-police in.order interrogate.2.PL
 pg_i?
 (int.) ‘Who_i are you bringing him_i to the police station in order to interrogate
 pg_i?’ (Iraqi)
- (91) a. *No parasitic gaps in conditional clauses without \bar{A} -movement*
 inti mitʔakkidi kənt raħ aħibb Joni_i law ʃifit-*(ha_i) aktar.
 you.F.SG certain.F.SG was.1.SG FUT like.1.SG Joni_i if saw.1.SG-*(her_i) more
 ‘You’re certain I’d like Joni_i if I saw *(her_i) more.’
- b. *No parasitic gap baseline*
 min_i inti mitʔakkidi kənt raħ aħibb {____i / -u_i} law
 who_i you.F.SG certain.F.SG was.1.SG FUT like.1.SG { / -**him**_i} if
 ʃifit-u_i aktar?
 saw.1.SG-him_i more
 ‘Who_i are you certain I’d like {____i / him_i} if I saw him_i more?’
- c. *Gapped wh-questions license parasitic gaps in conditional clauses*
 min_i inti mitʔakkidi kənt raħ aħibb ____i law ʃifit pg_i
 who_i you.F.SG certain.F.SG was.1.SG FUT like.1.SG if saw.1.SG
 aktar?
 more
 ‘Who_i are you certain I’d like ____i if I saw pg_i more?’
- d. *Resumptive wh-questions do not license parasitic gaps in conditional clauses*

*min_i inti mitʔakkidi kənt raḥ aḥibb-**u**_i law ʃift pg_i
 who_i you.F.SG certain.F.SG was.1.SG FUT like.1.SG-**him**_i if saw.1.SG
 aktar?
 more
 (int.) ‘Who_i are you certain I’d like him_i if I saw pg_i more?’ (Syrian)

Note additionally that the relative order of licensing variable and parasitic gap does not influence these judgments. Example (92), which minimally differs from similar examples in (91), illustrates with Syrian data: gaps, but not resumptive pronouns, license parasitic gaps in adjuncts to their left.

- (92) *Resumptives in wh-questions do not license parasitic gaps to their left in Syrian*
 min_i inti mitʔakkidi law ʃift pg_i aktar kənt raḥ aḥibb {___i
 who_i you.F.SG certain.F.SG if saw.1.SG more was.1.SG FUT like.1.SG {
 / *-**u**_i}.
 / *-**him**_i}
 ‘Who_i are you certain that, if I saw pg_i more, I’d like {___i / *him_i}?’

Example (93) illustrates the same point but with a monoclausal *wh*-question:

- (93) *Resumptives in wh-questions do not license parasitic gaps to their left in Syrian*
 min_i, law ʃift pg_i aktar, kənt raḥ aḥibb {___i / *-**u**_i}.
 who_i if saw.1.SG more was.1.SG FUT like.1.SG { / *-**him**_i}
 ‘Who_i, if I saw pg_i more, would I like {___i / *him_i}?’

Thus, Syrian Arabic parasitic gap licensing is not apparently subject to a *Leftness Condition* as proposed in Sells (1984, 81ff.) and Demirdache (1991, ch. 2) for Hebrew, according to which resumptive pronouns are claimed to only license parasitic gaps to their left (for additional discussion, see examples (113)–(115) and following). The data in (92)–(93) demonstrate that there is no purely linear-based asymmetry in parasitic gap licensing with resumptives in Syrian.

Based on the different interpretive properties of optional and obligatory resumptive pronouns in certain languages (see Bianchi, 2004, 2011), some previous work has argued that only obligatory resumptives are compatible with a movement derivation (e.g., Sichel, 2014, 2021, 2022 and Rasin, 2017). We might expect, then, that *obligatory* resumptives could

license parasitic gaps. This is not the case in Iraqi, Tunisian, or Syrian: the obligatory resumptives in (94b), (95b), and (96b), which occur as complements to P, do not license parasitic gaps any more readily than the optional direct object resumptives in previous examples do.

(94) *Iraqi: obligatory resumptives in wh-questions do not license parasitic gaps in clausal adjuncts*

- a. ja: mumaθθillin_i tri:di:n tiħtʃi:n wijja:-**hum**_i bidu:n ma
 which actors_i want.2.F.SG talk.2.F.SG with-**them**_i without C
 ʃʃayyili:-hum_i?
 employ.2.F.SG-them_i
 (lit.) ‘Which actors_i do you want to talk with them_i without hiring them_i?’
- b. *ja: mumaθθillin_i tri:di:n tiħtʃi:n wijja:-**hum**_i bidu:n ma
 which actors_i want.2.F.SG talk.2.F.SG with-**them**_i without C
 ʃʃayyilin *pg*_i?
 employ.2.F.SG
 (int.) ‘Which actors_i do you want to talk with them_i without hiring *pg*_i?’

(95) *Tunisian: obligatory resumptives in wh-questions do not license parasitic gaps in clausal adjuncts*

- a. ʃkun_i ħki:t mʃa:-**h**_i mayi:r ma twaððf-u_i?
 who_i talk.2.SG with-**him**_i without C hire.2.SG-him_i
 (lit.) ‘Who_i did you talk with him_i without hiring him_i?’
- b. *ʃkun_i ħki:t mʃa:-**h**_i mayi:r ma twaððəf *pg*_i?
 who_i talk.2.SG with-**him**_i without C hire.2.SG
 (int.) ‘Who_i did you talk with him_i without hiring *pg*_i?’

(96) *Syrian: obligatory resumptives in wh-questions do not license parasitic gaps in clausal adjuncts*

- a. ajja mmaslin_i bi-ħibbi tiħki maʃ-**hon**_i mindu:n ma
 which actors_i IND-want.2.F.SG talk.2.F.SG with-**them**_i without C
 twaz^ʃ_Z^ʃifi:-hon_i?
 hire.2.F.SG-them_i
 (lit.) ‘Which actors_i do you want to talk with them_i without hiring them_i?’
- b. *ajja mmaslin_i bi-ħibbi tiħki maʃ-**hon**_i mindu:n ma
 which actors_i IND-want.2.F.SG talk.2.F.SG with-**them**_i without C
 twaz^ʃ_Z^ʃifi *pg*_i?
 hire.2.F.SG
 (int.) ‘Which actors_i do you want to talk with them_i without hiring *pg*_i?’

Thus, even the more conservative hypothesis that only obligatory resumptives may exhibit

properties associated with \bar{A} -movement fails to account for the Arabic data without additional assumptions. Parasitic gap licensing being a diagnostic of \bar{A} -movement, if obligatory resumption were compatible with a movement derivation, we would predict that at least *some* movement derivation should converge for (94b), (95b), and (96b), licensing these parasitic gaps, contrary to fact.

Restrictive relatives further bear out the asymmetry between gaps and resumptives in Arabic. Since restrictive relatives only permit resumptives and not gaps in direct object position, parasitic gaps cannot be licensed.²⁸ Contrast (97a)/(98a)/(99a) with (97b)/(98b)/(99b):

- (97) a. *No parasitic gap baseline*
 ʃifit l-bnajja_i lli wað^ʃð^ʃafit-*(**ha**_i) bidu:n ma tqa:bil-ha_i.
 saw.1.SG the-girl_i that hired.2.M.SG-*(**her**_i) without C meet.2.M.SG-her_i
 (lit.) ‘I saw the girl_i that you hired her_i without meeting her_i.’
- b. *Relative clauses don’t permit parasitic gaps*
 *ʃifit l-bnajja_i lli wað^ʃð^ʃafit-**ha**_i bidu:n ma tqa:bil *pg*_i.
 saw.1.SG the-girl_i that hired.2.M.SG-**her**_i without C meet.2.M.SG
 (int.) ‘I saw the girl_i that you hired her_i without meeting *pg*_i.’ (Iraqi)
- (98) a. *No parasitic gap baseline*
 win l-mumaθθil_i elli waððaft-*(**u**_i) mayi:r ma tqa:bl-u_i?
 where the-actor_i that hired.2.SG-*(**him**_i) without C meet.2.SG-him_i
 (lit.) ‘Where is the actor_i that you hired him_i without meeting him_i?’
- b. *Relative clauses don’t permit parasitic gaps*
 *win l-mumaθθil_i elli waððaft-**u**_i mayi:r ma tqa:bəl *pg*_i?
 where the-actor_i that hired.2.SG-**him**_i without C meet.2.SG
 (int.) ‘Where is the actor_i that you hired him_i without meeting *pg*_i?’ (Tunisian)
- (99) a. *No parasitic gap baseline*
 we:n l-mmaslin_i lli waz^ʃz^ʃaftiz-*(**hon**_i) minu:n ma tʔe:bli:hon_i?
 where the-actors_i that hired.2.F.SG-*(**them**_i) without C meet.2.F.SG-them_i
 (lit.) ‘Where are the actors_i that you hired them_i without meeting them_i?’
- b. *Relative clauses don’t permit parasitic gaps*
 *we:n l-mmaslin_i lli waz^ʃz^ʃaftiz-**hon**_i minu:n ma tʔe:bli *pg*_i?
 where the-actors_i that hired.2.F.SG-**them**_i without C meet.2.F.SG
 (int.) ‘Where are the actors_i that you hired them_i without meeting *pg*_i?’ (Syrian)

Again, the logic of analyses which associate obligatory resumption in non-island contexts

28. I have not yet investigated whether putative gaps in other positions in restrictive relatives, e.g. the embedded subject position, can license parasitic gaps in Iraqi, Tunisian, or Syrian.

with movement would lead us to expect such resumption to be compatible with parasitic gap licensing, contrary to fact.

Parasitic gap licensing under *wh*-movement has only been recognized sporadically in the previous literature on Arabic, and in some varieties it has been claimed not to exist at all (e.g. Shlonsky (1992, 462, fn. 18) on Palestinian Arabic).²⁹ Main clause gaps in *wh*-questions have been shown to license parasitic gaps inside adjuncts in Damascene Arabic (Mouchaweh, 1986, 317–333) and in the dialect of Najdi Arabic spoken in Buraidah, Saudi Arabia (Aljutaili, 2015, 10, (23)–(24)); unfortunately, these works do not consider the behavior of resumptives as licensors alongside gaps. Wahba (1984, 88, (130)), Wahba (1995, 62, (5c)) and Bolotin (1997, 274–275, (6)–(7)) argue for a distinction between gaps and resumptives in *wh*-questions in Modern Standard Arabic: main clause gaps do, while resumptives do not, license parasitic gaps.³⁰ Furthermore, Nouhi (1996) claims that parasitic gaps in clausal adjuncts are only available in Moroccan Arabic restrictive relatives in the presence of a gap. Unfortunately, the examples he provides do not all form minimal pairs: contrast (100c), which is unacceptable, with (100b) (though see Ouhalla, 2001, 174, (44a–b) for a different judgment). Examples (100a) and (100d) illustrate that direct object relatives normally permit either a gap or a resumptive pronoun in the main clause when there is no parasitic gap. Moroccan thus crucially differs from Iraqi, Tunisian, and Syrian Arabic in permitting direct object gaps in restrictive relatives.

- (100) a. Hadu huma l-ksawi_i lli frat Rqiya ____i blla ma-tqayas-hum_i.
 these they the-dresses_i that bought Rqiya without NEG-try-them_i
 ‘These are the dresses_i that Rqiya bought ____i without trying them_i on.’
- b. Hadu huma l-ktub_i lli xda Brahim ____i blla ma-yxallas pg_i.
 these they the-books_i that took Brahim without NEG-pay
 ‘These are the books_i that Brahim took ____i without paying for pg_i.’

29. See Wahba (1995, 64) for the remarkable claim that (i) pied-piped PPs, (ii) resumptive pronouns in cleft questions, and (iii) *wh* in situ can license parasitic gaps of category DP in Jeddah Arabic (Saudi Arabia).

30. It is unexpected then that Wahba (1995) claims that resumptive pronouns in clefted *wh*-questions (labeled ‘Class II interrogatives’ in Shlonsky, 1992) in Modern Standard Arabic license parasitic gaps. Her judgments, however, are disputed by Bolotin (1997, 275, fn. 1).

- c. *Hadu huma l-ktub_i lli fra-**hum**_i Brahim blla ma-iqra pg_i.
 these they the-books_i that bought-**them**_i Brahim without NEG-read
 (int.) ‘These are the books_i that Brahim bought them_i without reading pg_i.’
- d. Hadu huma l-ktub_i lli fra-**hum**_i Brahim blla ma-iqra-hum_i.
 these they the-books_i that bought-**them**_i Brahim without NEG-read-them_i
 (lit.) ‘These are the books that Brahim bought them_i without reading them_i.’
 (adapted from Nouhi, 1996, 43, (35))

Similar contrasts between gap and resumptive licensors are reported for island-insensitive resumption in Cape Verdean Creole *wh*-questions and relative clauses with resumptives which exhibit full φ -feature agreement with their antecedents (Alexandre, 2009, 192, (35); 270, (185)), in (Modern) Greek restrictive relative clauses headed by *pu* (Chatsiou, 2010, 92, (251)–(252)),³¹ in Hebrew relative clauses with parasitic gaps in adjuncts (Sells, 1984, 80–82, Shlonsky, 1986, 1992, Fox, 1994, 10, Fox, 2020, 3), in Hungarian focus raising constructions (Gervain, 2009, 700–702), in Igbo topicalization (Georgi and Amaechi, 2020, 2022), in Maltese restrictive relative clauses (Camilleri and Sadler, 2011b, 12–13, (45)–(48)), in Mooré relative clauses (Tellier, 1989, 303, (8)), and in Spanish appositive relatives (Chomsky, 1982, 58, (80), citing Esther Torrego, *pers. comm.*).³² The asymmetry also seems to

31. Though see footnote 93 in section §3.7.1 for some variation in judgments regarding the island-sensitivity of resumption in Greek relatives. Based on the discussion in section §3.4.2, I predict that parasitic gaps should be licensed in resumptive dependencies in those Greek varieties/idiolects for which resumption is island-sensitive, all else being equal. Judgments from Androulakis (1998) do not bear out this prediction, where it is reported that resumptive *wh*-questions are sensitive to strong islands (1998, 159, (65)) but also that resumptive *wh*-questions fail to license local parasitic gaps in non-island contexts (1998, 159, (62)) (see also Iatridou, 1995, 28, (56) and Georgiou, 2022, 324, (62)–(63)). To account for this apparent exception, I adopt a proposal from Angelopoulos and Sportiche (2021) (see Daskalaki and Mavrogiorgos, 2013, 342 for a similar idea). They argue that clitic left dislocation of (in)direct objects in both French and Greek involves a first step of A-movement to a clause-medial position prior to \bar{A} -movement of the doubled XP to the left periphery. I hypothesize that *wh*-movement of clitic-doubled (in)direct objects in Greek follows a similar path: clitic-doubled interrogative pronouns minimally undergo A-movement out of vP and then \bar{A} -movement to [Spec, CP]. Because A-movement does not license parasitic gaps (Engdahl, 1983; van Urk, 2017b), we account for the incompatibility of local clitic-doubled *wh*-movement and vP-level parasitic gaps. Given the assumption that movement from an \bar{A} -position to an A-position is impossible (i.e. the *Ban on Improper Movement*, Chomsky, 1973), long-distance questions should exclusively involve \bar{A} -movement in higher portions of the chain. This predicts, then, that long-distance resumptive dependencies in Greek should be able to license high parasitic gaps (see also section §3.5). According to Iatridou (1995, 29, (57)), this prediction is borne out.

32. Parasitic gaps are also not licensed by resumptive pronouns in Denya relative clauses according to Abangma (1992, 245, (19)), though I unfortunately could not determine whether resumptive pronouns obey

hold for English resumptive pronouns in three separate environments. Examples (101) and (102) illustrate with a resumptive pronoun amnestying a relative clause island violation; in (101), the parasitic gap is contained in an adjunct which is a clausemate to the resumptive (hence, is also embedded within the extraction island) and in (102), the parasitic gap containing adjunct attaches outside of the island (see Chomsky, 1982, 57–58, Haïk, 1987, 81, (136), Georgopoulos, 1991, 111, (15a), and Asudeh, 2012, 377, (31), (34) for additional examples).³³ Examples (103) and (104) illustrate with resumptives circumventing two kinds of complementizer-trace effects—a *wh*-trace effect and a *that*-trace effect, respectively (on the latter, see also Asudeh, 2012, 377, (32) and Radford, 2019, 60, (9)).

- (101) *English resumptive pronouns inside islands do not license clausemate constituents containing parasitic gaps* (adapting and expanding on an example in Tellier, 1988, 105, (23))
- a. ? This is the report_{*i*} that the spy [who forgot to [file it_{*i*}] [after having read it_{*i*}]] just got caught.
 - b. * This is the report_{*i*} that the spy [who forgot to [file ____{*i*}] [after having read it_{*i*}]] just got caught.
 - c. * This is the report_{*i*} that the spy [who forgot to [file it_{*i*}] [after having read ____{*i*}]] just got caught.
 - d. * This is the report_{*i*} that the spy [who forgot to [file ____{*i*}] [after having read ____{*i*}]] just got caught.
- (102) *English resumptive pronouns inside islands do not license parasitic gaps outside of the island*
- a. ? She’s the kind of author_{*i*} that you need to read every book [that she_{*i*} has ever written] [if you want to get to know her_{*i*} better].
 - b. * She’s the kind of author_{*i*} that you need to read every book [that ____{*i*} has ever written] [if you want to get to know her_{*i*} better].
 - c. * She’s the kind of author_{*i*} that you need to read every book [that she_{*i*} has ever written] [if you want to get to know ____{*i*} better].

islands in this language. Biloa (1990, 2013) claims that resumptive pronouns license parasitic gaps in Tuki—a surprising finding given that resumptive relative clauses violate islands in this language. Notably, I could not find any examples in Biloa’s work supporting this claim.

33. Since the gaps in examples (101) and (102) are always in opaque positions, it is not immediately clear which should be analyzed as the licenser and which as the parasitic gap. I have thus chosen to represent all gaps with an underscore.

- (int.) ‘everyone_i/who_i you danced with him_i without knowing *pg_i*’
- b. ?? ha-iša_i še-rakadt **ita_i** bli le-hakir *pg_i*
the-woman_i that-danced.2.F.SG **with.her_i** without to-know
(int.) ‘the woman_i that you danced with her_i without knowing *pg_i*’
- (106) a. (kol) mi_i še-hizmant ____i bli le-hakir *pg_i*
(all) who_i that-invited.2.F.SG without to-know
‘everyone_i/who_i you invited ____i without knowing *pg_i*’
- b. ha-iša_i še-hizmanti ____i bli le-hakir *pg_i*
the-woman_i that-invited.1.SG without to-know
‘the woman_i that I invited ____i without knowing *pg_i*’
- (Hebrew; Hagit Borer, *pers. comm.*)

Arad’s findings and Borer’s judgments for Hebrew thus parallel my findings for Iraqi, Tunisian, and Syrian Arabic.³⁵

On the other hand, at least two languages with island-insensitive resumption ostensibly present counter-evidence to this generalization: parasitic gaps can appear in resumptive restrictive relatives in Swiss German (Salzmann, 2017b) and in Polish (Bondaruk, 1995, Lavine, 2003). This variation would seem to undermine the usefulness of parasitic gap licensing as a movement diagnostic across languages, as Salzmann (2017b, 190–191) suggests. Nonetheless, there are independent explanations for both alleged counter-examples which do not rely on positing operator movement from the position of the resumptive pronoun.

For Swiss German, Salzmann (2017b, 376, fn. 29) proposes that the parasitic gap in a resumptive relative like (107) is licensed not by any putative movement of the resumptive-binding operator, but rather by fronting of the resumptive pronoun itself.

- (107) s Buech_i, won i gsäit ha, dass i s_i [ohni *pg_i* z läse] verschänkt
the book_i that I say.PTCP have that I it_i without to read.INF give.away.PTCP
ha
have.1SG
‘the book that I said that I gave away without reading’ (Salzmann, 2017b, 379,
(74))

35. In order to verify Arad’s results, I conducted a small-scale survey of four Hebrew native speakers (three of whom are linguists). Unfortunately, the results were so varied as to prevent any major conclusions from being drawn here.

Support for Salzmann’s analysis comes from Culicover (2001), citing Haverkort (1993, 137–138), who shows that Swiss German clitic movement (analyzed as adjunction to IP, an \bar{A} -position) can license parasitic gaps in the absence of another \bar{A} -dependency:

- (108) Der Peter het’**ne**_i [ooni *pg*_i aaz’luege] ____i zämegschlage.
 the Peter has-**him**_i without to.look.at beaten.up
 ‘Peter beat him_i up without looking at (him_i).’ (Culicover, 2001, 18, (41b))

This account also explains why we find apparent parasitic gap licensing by resumptive pronouns contained inside islands, as in (109), due to Martin Salzmann (*pers. comm.*): movement of the clitic *en* internal to the relative clause island licenses the parasitic gap in the clause-mate adjunct clause headed by ‘without.’

- (109) Das isch de Maa_i, [wo d Lüt [wo überzügt gsii sind dass i **en**_i [ohni
 this is the man_i C the people C convinced been are that I **him**_i without
 {*pg*_i / ?*en*_i} jemals troffe z haa] würd gern haa]] völlig falsch gläge
 { / ?*him*_i} ever met to have.INF would dear have.INF totally wrong lain
 sind.
 are
 ‘This is the man_i that the people who were convinced that I would [like **him**_i]
 [without (me) ever having met {*pg*_i / ?*him*_i}] are totally wrong.’ (lie wrong = ‘be
 wrong’)

See the text surrounding example (163) *et seq.* below for additional discussion of parasitic gap licensing in Swiss German long-distance resumptive relatives. Shlonsky (1992) offers a similar interpretation of the Hebrew contrast in (110): in situ resumptive pronouns do not license parasitic gaps in adjuncts ((110a)), but topicalized resumptives do ((110b)). This is straightforwardly explained if (gap-leaving) topicalization of the resumptive is \bar{A} -movement, and if that dependency—not the resumptive dependency—licenses the parasitic gap.³⁶

36. Category-matching between the fronted element and parasitic gap is necessary in Hebrew. Contrast (110b) with (i), due to Hagit Borer (*pers. comm.*): a fronted DP, but not a fronted PP, may license a DP parasitic gap (see also Fox, 1994, 12).

- (i) ?? ha-iša_i (še-)[**ita**_i]_k rakadt ____k bli le-hakir *pg*_i
 the-woman_i (that-)[**with.her**_i]_k danced.2.F.SG without to-know
 (int.) ‘the woman_i that [with her_i]_k you danced ____k without knowing *pg*_i’ (Hebrew; Hagit)

- (110) a. *?elu ha-sfarim_i še-Dan tiyek **?otam_i** bli likro *pg_i*.
 these the-books_i that-Dan filed **them_i** without to.read
 (int.) ‘These are the books that Dan filed them_i without reading *pg_i*.’
 (Shlonsky, 1992, 462, (32c))
- b. ?elu ha-sfarim_i še-**?otam_i** Dan tiyek ____i bli likro *pg_i*.
 these the-books_i that-**them_i** Dan filed ___ without to.read
 (lit.) ‘These are the books that them_i Dan filed ____i without reading *pg_i*.’
 (Shlonsky, 1992, 463, (33))

Turning to Polish, Lavine (2003) shows that the gap in the resumptive relative in (111) is not parasitic on \bar{A} -movement of the relative operator, contrary to initial appearances. The gap inside the adjunct clause is available without a licensing variable, either when there is no trace in the main clause ((112a)) or when there is a trace, but it is a trace of A-movement ((112b)).

- (111) To jest ten list_i, co *(**go_i**) Piotr wyrzucił bez przeczytania ____i.
 this is the letter_i COMP *(**it_i**) Piotr threw.away without reading
 ‘This is the letter that Piotr threw away without reading.’ (Bondaruk, 1995, 52)
- (112) a. Piotr wyrzucił ten list_i bez przeczytania ____i.
 Piotr threw.away the letter_i without reading
 (lit.) ‘Piotr threw away the letter without reading.’
- b. Ten list_i został wyrzucony ____i bez przeczytania ____i.
 the letter_i AUX.PAST thrown.away without reading
 (lit.) ‘The letter was thrown away without reading.’
 (adapted from Lavine, 2003, 365–366, fn. 7, (iii)–(iv); translations are mine)

Hence, the gap in (111) must be able to be licensed independently of the resumptive pronoun *go* ‘it’. If Polish resumptive relativization is insensitive to islands, as Bondaruk (1995) and Lavine (2003) claim, then we do not expect parasitic gap licensing to be possible with these resumptives.³⁷

I conclude that the Swiss German and Polish facts do not present serious challenges to the following generalization: in languages with island-insensitive resumption, resumptive

Borer, *pers. comm.*)

37. But see Hladnik (2015, 33–35) for the claim that resumptive *wh*-questions and relative clauses in Polish are island-sensitive.

pronouns differ from traces in not being able to license parasitic gaps (*pace* Asudeh, 2004, 276, (7.102)). This generalization boasts robust support from a wide array of unrelated languages and, as I will argue shortly, is a natural consequence of the different ways resumptives and traces are introduced into the derivation in these languages: base-generation vs. movement, respectively. The Arabic data conform nicely to this cross-linguistic picture. I will postpone discussing parasitic gap licensing in languages with island-sensitive resumption (e.g. in Spanish, Igbo, Slovene, and Vata) until example (134) below.

Before moving on, however, I will discuss some recalcitrant data from Hebrew which appear to present a more significant challenge to the aforementioned generalization. Unlike parasitic gaps in adjunct clauses in Hebrew (see (110a)), parasitic gaps in (finite) relative clauses modifying the subject appear to be licensed by gaps ((113)) as well as optional ((114)) and obligatory ((115)) resumptives (see Sells, 1984, Shlonsky, 1986, Demirdache, 1991, Fox, 1994, and Sichel, 2014).³⁸

- (113) rina hi ha-iša_i še-[ha-anašim_k še-ani šixnati ____k levaker *pg*_i] te'aru
 Rina is the-woman_i that-the-people_k that-I convinced to.visit described
 ____i.
- ‘Rina is the woman_i that [the people_k that I convinced ____k to visit *pg*_i] described ____i.’
 (Sells, 1984, 40, (26a))
- (114) rina hi ha-iša_i še-[ha-anašim_k še-ani šixnati ____k levaker *pg*_i] te'aru
 Rina is the-woman_i that-the-people_k that-I convinced to.visit described
ota_i.
her_i
 ‘Rina is the woman_i that [the people_k that I convinced ____k to visit *pg*_i] described **her**_i.’
 (Sells, 1984, 40, (25))
- (115) ha-iša_i (še-)[mi še-yohav *pg*_i] yixye **ita**_i lanecax
 the-woman_i (that-)who that-will.love will.live **with.her**_i forever
 ‘the woman_i that [whoever will love *pg*_i] will live with **her**_i forever’ (Fox, 1994, 12, (48))

Sells concludes that the subject-internal gap after *levaker* ‘to visit’ in (113) and (114) must

38. See Arad (2014, 14, (18a–c)) for evidence that parasitic gaps are not licensed in other subject-internal positions in Hebrew.

be parasitic because removing the licensing variable as in (116) results in ungrammaticality.

- (116) * rina hi ha-iša_i še-[ha-anašim_k še-ani šixnati ____k levaker *pg*_i] te'aru
 Rina is the-woman_i that-the-people_k that-I convinced to.visit described
 et ha-bayit.
 ACC the-house
 (int.) 'Rina is the woman_i that [the people_k that I convinced ____k to visit *pg*_i]
 described the house.'
(Sells, 1984, 41, (26b))

The contrast between parasitic gaps in adjuncts and in subject-modifying relatives in Hebrew, though puzzling, was replicated in Arad's (2014) experimental investigations into Hebrew parasitic gap licensing. Participants in her study rated resumptive pronouns as significantly worse licensors of parasitic gaps in adjunct clauses than gaps in the same positions, whereas the degradation was only marginal when the parasitic gap was contained inside a subject-modifying relative.

Sells (1984, 81ff.) and Demirdache (1991, ch. 2) interpret the asymmetry between (i) licensing of parasitic gaps inside subjects by resumptives and (ii) lack of ungrammatical licensing of parasitic gaps inside adjuncts by resumptives in Hebrew as diagnosing a linear order effect, accounted for via a particular interpretation and implementation of Chomsky's (1976) *Leftness Condition*: resumptive pronouns can putatively only license parasitic gaps to their left. The problem with this conclusion, however, is that it is based on non-minimal pairs: the parasitic gaps in (113)–(115) are contained inside subject-modifying relatives, while the relevant unacceptable parasitic gaps (e.g. (110a)) are contained inside clausal adjuncts. In order for a linearity-based account of Hebrew parasitic gap licensing by resumptive pronouns to get off the ground, minimal pairs must be constructed which only manipulate constituent order and not the containing structure of the parasitic gap. I have constructed and tested such minimal pairs in Syrian Arabic (see (91)–(93)), and linear order does not appear to play a role in parasitic gap licensing in that language. A small-scale survey of four Hebrew native speakers that I conducted produced widely varying results for similar sentences, perhaps partly owing to the fairly widespread availability of argument ellipsis in Hebrew (on which

see Landau, 2018, 2020, 2022). Consequently, I must leave it to future research to conduct a more rigorous investigation into linear order effects in parasitic gap licensing in Hebrew.

Pursuing a different explanation of the asymmetry, Arad ventures that gaps in subject-modifying relative clauses in Hebrew might not actually be parasitic on a separate \bar{A} -chain. In an acceptability questionnaire distributed among five monolingual Hebrew speakers (all linguists), Arad found that examples like (117) which lack an overt licenser outside of the subject relative clause island were judged on average to be relatively well-formed.³⁹

- (117) zot ha-iša_i še-[kol mi še-pagaš ____i] hexlit lilmod refu'a.
 this the-woman_i that-every who that-met decided to.study medicine
 'This is the woman_i that [everyone that met ____i] decided to study medicine.'
 (Arad, 2014, 164, (229c))

16 out of 25 such examples were deemed acceptable, 9 of which were judged to be as good as or better than corresponding examples with a main clause licensing gap, as in (118).

- (118) zot ha-iša_i še-[kol mi še-pagaš ____i] ahav ____i me-ha-rega
 this the-woman_i that-every who that-met loved from-the-moment
 ha-rišon.
 the-first
 'This is the woman_i that [everyone that met ____i] loved ____i from the first moment.'
 (Arad, 2014, 164, (229a))

Arad (2014, 169–176) speculates that there may be several factors which affect the acceptability of examples like (117), including the degree to which the situation described by the subject-modifying relative and the situation described by the matrix clause can be construed as being in a causal relation. Thus, according to Arad, the most natural way to interpret (117) is that everyone who met the woman decided to study medicine *because they met her*. Construing the two situations in Sells' example from (116) as causal is arguably more difficult, potentially explaining why this example is judged to be ill-formed (though Arad's survey did document a fair bit of inter-speaker variation in this regard). In a follow-up ac-

39. Erik Zyman (*pers. comm.*) too reports that he finds the idiomatic English translation given in (117) only slightly marginal (“?”), and it obligatorily has a causal reading.

ceptability judgment experiment intended to determine the degree to which causality plays a role in licensing apparent subject-internal parasitic gaps, Arad found that examples without a main clause variable which cannot be causally construed, as in (119), were judged to be significantly worse than corresponding examples with main clause gap licensors like (120). I prefix a ‘□’ diacritic to example (119) to signal the absence of a judgment.

- (119) □ ze ha-seret_i še-[ha-anašim_k še- ____k ra’u ____i] nixnesu la-ulam
 this the-movie_i that-the-people_k that saw entered to.the-theater
 ba-rega ha-axaron.
 in.the-moment the-last
 ‘This is the movie_i that [the people that saw ____i] entered the theater at the last
 minute.’ (Arad, 2014, 173, (236d))
- (120) ze ha-seret_i še-[ha-anašim_k še- ____k ra’u ____i] ahavu ____i.
 this the-movie_i that-the-people_k that saw liked
 ‘This is the movie_i that [the people that saw ____i] liked ____i.’ (Arad, 2014, 173,
 (236a))

These results suggest that causality may play some role in licensing subject-internal gaps in Hebrew.

In light of the relative acceptability of examples like (117) without a licensor of the subject-internal gap, Arad (2014, 36–38) concludes (i) that subject-internal gaps are not parasitic in Hebrew, and (ii) that the cooccurrence of resumptive pronouns with subject-internal gaps as in (113)–(115) cannot be taken as evidence that resumptives are compatible with movement in Hebrew. Instead, Arad (2014, 176–193) hypothesizes that Hebrew permits extraction from subject-modifying relative clauses. Consequently, she proposes that the subject-internal gaps in (117) and similar examples be analyzed as true gaps.⁴⁰ Because subject-internal gaps are not parasitic, their coexistence with (resumptive) pronouns is irrelevant to determining what kinds of dependencies license parasitic gaps. Arad’s account gains provisional support from her observation that subject-internal gaps can themselves license a parasitic gap in an adjunct contained either inside the subject-modifying relative clause

40. Ultimately, Arad argues that subject-internal gaps in Hebrew be analyzed as an extra-grammatical phenomenon, see Arad (2014, Appendix B.4).

((121)) or in the main clause ((122)).

- (121) zot ha-kalba_i še-[ha-anašim še-imcu ____i | kedey le-hacig pg_i
 this the-dog_i that-the-people that-adopted in.order to-present
 be-ta'aruxot]] hofi'u be-katava ba-iton.
 in-exhibitions appeared in-article in.the-newspaper
 'This is the dog_i that the people that adopted ____i in order to present pg_i in
 exhibitions appeared in a newspaper article.' (Arad, 2014, 180, (244d))
- (122) ze ha-kelev_i še-[ha-anašim še-imcu ____i | higi'u me-raxok | kedey
 this the-dog_i that-the-people that-adopted arrived from-far in.order
 la-kaxat pg_i la-veterinar].
 to-take to.the-veterinarian
 'This is the dog_i that the people that adopted ____i arrived from far away in order
 to take pg_i to the vet.' (Arad, 2014, 180, (245d))

Although both subjects and relative clauses are well-known islands for extraction in many languages, the possibility of gap-leaving extraction out of a certain class of relative clauses in Hebrew has been independently noted by Doron (1982) and Sichel (2018). As Ivy Sichel (*pers. comm.*) points out to me, however, such extraction is typically limited to cases where the containing DP is indefinite and the relative clause is nonpresuppositional (see Sichel, 2018, 354–365). If Arad's account of gaps inside subject-modifying relatives in Hebrew is to be maintained, we consequently predict that all such relatives must be nonpresuppositional. Whether or not this prediction is borne out remains to be investigated. For the moment, I tentatively adopt Arad's skeptical stance towards the relevance of examples like (113)–(115) for determining the ability of resumptives to license parasitic gaps.⁴¹ Clearly more

41. A related test to determine whether subject-internal gaps are truly parasitic and licensed by \bar{A} -movement from the position of the resumptive pronoun would be to embed both variables inside a strong island. Example (i) illustrates with English words, adapting (114) from the main text and adding an adjunct island boundary between the relative head and the subject-internal gap and resumptive pronoun.

- (i) *Example to be tested in Hebrew, here using English words for convenience*
 Rina is the woman_i that I had to leave [_{Adjunct Island} before [the people_k that I convinced ____k to
 visit pg_i] described **her**_i].

Assume that \bar{A} -movement cannot escape adjunct islands. Then, we make the following predictions: if subject internal gaps are licensed by \bar{A} -movement from the position of the resumptive pronoun, then (i) should be ungrammatical (setting aside the possibility of mixed chains); on the other hand, if subject internal gaps are licensed independently of \bar{A} -movement (in Hebrew), then (i) should be grammatical.

work needs to be done on parasitic gaps in Hebrew, and similar tests ought to be run on subject-internal gaps in other languages with resumptive pronouns.

It is worth noting at this stage that parasitic gaps only appear to be licensed in clausal adjuncts in Iraqi, Tunisian, and Syrian. Parasitic gaps may not occur inside relative clauses modifying subjects—regardless of the trace vs. pronoun status of the intended licenser—in either relative clauses ((123)–(124)) or *wh*-questions ((125)–(126)), despite satisfying the anti-c-command condition on parasitic gaps (on which see Chomsky, 1982 and Engdahl, 1983, 1985).

(123) *Subject parasitic gaps are not permitted in Iraqi relative clauses*

- a. ha:j l-mara_i lli [kull l-na:s lli fa:fo:-ha_i] ḥabbo:-**ha**_i.
this the-woman_i that all the-people that met.3.PL-her_i loved.3.PL-**her**_i
- b. * ha:j l-mara_i lli [kull l-na:s lli fa:fo:-ha_i] ḥabbaw ____i.
this the-woman_i that all the-people that met.3.PL-her_i loved.3.PL
- c. * ha:j l-mara_i lli [kull l-na:s lli fa:faw *pg*_i] ḥabbaw ____i.
this the-woman_i that all the-people that met.3.PL loved.3.PL
- d. * ha:j l-mara_i lli [kull l-na:s lli fa:faw *pg*_i] ḥabbo:-**ha**_i.
this the-woman_i that all the-people that met.3.PL loved.3.PL-**her**_i
All: ‘This is the woman that everyone who met loved.’

(124) *Subject parasitic gaps are not permitted in Syrian relative clauses*

- a. ha:da l-musalsal_i lli b-ətwaqqaḥ innu [kəll lli
this the-show.M.SG_i that IND-suspect.1.SG that every that
jʃu:f-u_i] raḥ jḥibb-**u**_i.
watch.3.M.SG-it.M.SG_i FUT like.3.M.SG-**it.M.SG**_i
- b. * ha:da l-musalsal_i lli b-ətwaqqaḥ innu [kəll lli
this the-show.M.SG_i that IND-suspect.1.SG that every that
jʃu:f-u_i] raḥ jḥibb ____i.
watch.3.M.SG-it.M.SG_i FUT like.3.M.SG
- c. * ha:da l-musalsal_i lli b-ətwaqqaḥ innu [kəll lli jʃu:f
this the-show.M.SG_i that IND-suspect.1.SG that every that watch.3.M.SG
*pg*_i] raḥ jḥibb ____i.
FUT like.3.M.SG
- d. * ha:da l-musalsal_i lli b-ətwaqqaḥ innu [kəll lli jʃu:f
this the-show.M.SG_i that IND-suspect.1.SG that every that watch.3.M.SG
*pg*_i] raḥ jḥibb-**u**_i.
FUT like.3.M.SG-**it.M.SG**_i
All: ‘This is the show that I suspect that everyone who watches will like.’

(125) *Subject parasitic gaps are not permitted in Iraqi wh-questions*

- a. ja: musalsala_i titwaqqaʕi:n raḥ jhibb-**ha**_i [ajj aḥḥad
 which show.F.SG_i think.2.F.SG FUT like.3.M.SG-**it.F.SG**_i any one
 jʃu:f-ha_i]?
 watch.3.M.SG-it.F.SG_i
- b. *ja: musalsala_i titwaqqaʕi:n raḥ jhibb [ajj aḥḥad
 which show.F.SG_i think.2.F.SG FUT like.3.M.SG any one
 jʃu:f-ha_i] ____i?
 watch.3.M.SG-it.F.SG_i
- c. *ja: musalsala_i titwaqqaʕi:n raḥ jhibb [ajj aḥḥad jʃu:f
 which show.F.SG_i think.2.F.SG FUT like.3.M.SG any one watch.3.M.SG
 pgi] ____i?
- d. *ja: musalsala_i titwaqqaʕi:n raḥ jhibb-**ha**_i [ajj aḥḥad
 which show.F.SG_i think.2.F.SG FUT like.3.M.SG-**it.F.SG**_i any one
 jʃu:f pgi]?
 watch.3.M.SG
 All: ‘Which show do you think anyone who watches will like?’

(126) *Subject parasitic gaps are not permitted in Syrian wh-questions*

- a. ajja musalsal_i b-titwaqqaʕi innu [kəll lli
 which show.M.SG_i IND-suspect.2.F.SG that every that
 jʃu:f-u_i] raḥ jhibb-**u**_i?
 watch.3.M.SG-it.M.SG_i FUT like.3.M.SG-**it.M.SG**_i
- b. *ajja musalsal_i b-titwaqqaʕi innu [kəll lli
 which show.M.SG_i IND-suspect.2.F.SG that every that
 jʃu:f-u_i] raḥ jhibb ____i?
 watch.3.M.SG-it.M.SG_i FUT like.3.M.SG
- c. *ajja musalsal_i b-titwaqqaʕi innu [kəll lli jʃu:f pgi]
 which show.M.SG_i IND-suspect.2.F.SG that every that watch.3.M.SG
 raḥ jhibb ____i?
 FUT like.3.M.SG
- d. *ajja musalsal_i b-titwaqqaʕi innu [kəll lli jʃu:f pgi]
 which show.M.SG_i IND-suspect.2.F.SG that every that watch.3.M.SG
 raḥ jhibb-**u**_i?
 FUT like.3.M.SG-**it.M.SG**_i
 All: ‘Which show do you suspect that everyone who watches will like?’

Examples (123a)/(124a) and (125a)/(126a) are grammatical with a resumptive pronoun in the main clause and no parasitic gap. Examples (123b)–(123c)/(124b)–(124c) are ungrammatical because relative clauses do not permit direct object gaps, and (125b)/(126b) are

ill-formed due to weak crossover violations. Examples (123d)/(124d) and (125d)/(126d) illustrate once again that resumption forestalls parasitic gap licensing. Finally, the parasitic gaps in (125c)/(126c) are ungrammatical presumably because relative clauses *in general* do not permit direct object gaps in these Arabic varieties. Specifically, we can explain this parallelism between true gaps and parasitic gaps if we adopt the null operator movement analysis of parasitic gap containing XPs propounded by Chomsky (1986), Browning (1987), and Nissenbaum (2000), among others, which build off of ideas in Contreras (1984). This analysis posits movement of a null operator to the left edge of the phrase containing the parasitic gap.⁴² I assume that gap-leaving operator movement in general is disallowed from the direct object position within relative clauses in Arabic, as indicated by the fact that direct object relativization cannot leave a gap ((97)–(99)); thus, the parasitic gaps in (125c)/(126c) will be correctly excluded.⁴³ Note too that these facts cast doubt on any alternative analysis of parasitic gaps as *in situ* empty pronominals (e.g. Taraldsen, 1981; Chomsky, 1982), since

42. One might reasonably object, however, that the hypothesized movement frequently bypasses an overt complementizer (realized as *ma* in most of the examples in the main text) at the left edge of the CP within the adjunct. This movement potentially raises concerns about the locality profile of null operator movement. Note, however, that similar issues arise in the context of parasitic gaps in relative clauses in English (*Which show_i does [Op_k everyone [CP who_j you introduce ____j to pg_k] like ____i?*).

43. In light of the distribution of parasitic gaps in other languages, one might also expect to find such gaps inside complex event nominals, parallel to the following English example:

- (i) Who_i did Mason’s promotion of *pg_i* please ____i?

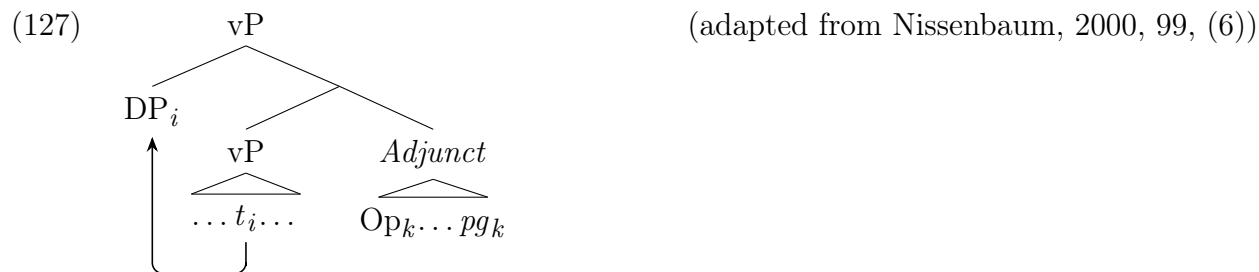
However, *wh*-movement of a matrix direct object in Iraqi—whether case-marked or not—does not license a parasitic gap in the subject-internal complement position. Contrast the baseline example without extraction in (ii) with (iii).

- (ii) taʕji:n Mason l-Hend farraḥ l-mudir.
 hiring Mason of-Hend pleased.3.M.SG the-director
 ‘Mason’s hiring of Hend pleased the director.’
- (iii) * {minu_i / ?il-man_i} taʕji:n Mason *pg_i* farraḥ ____i?
 {who_i ACC-who_i} hiring Mason please.3.M.SG
 (int.) ‘Who(m)_i did Mason’s hiring of *pg_i* please ____i?’
 (Note that this sentence is grammatical under the meaning ‘Who_i did the hiring of Mason please ____i?’)

I therefore restrict my attention to parasitic gaps in clausal adjuncts in the main text.

such an analysis would fail to explain the absence of parasitic gaps in subject-modifying relative clauses in Arabic without additional assumptions.

To summarize, I have argued that gapped \bar{A} -dependencies, but not resumptive ones, license parasitic gaps in Iraqi, Tunisian, and Syrian Arabic. I also demonstrated that the same basic contrast holds for a variety of unrelated languages with island-insensitive resumption, despite initial appearances in at least some cases. A natural way to account for this asymmetry is to posit \bar{A} -movement only when the dependency terminates in a gap. For concreteness, I will assume with Nissenbaum (2000) that, in order to create the correct licensing configuration for parasitic gaps in vP-level adjuncts to be interpreted, the element moving in the main clause is forced to move to the edge of vP, as shown in (127) (see also Legate, 2003, Abels, 2012, 43–47, and Davis, 2020b, among others).

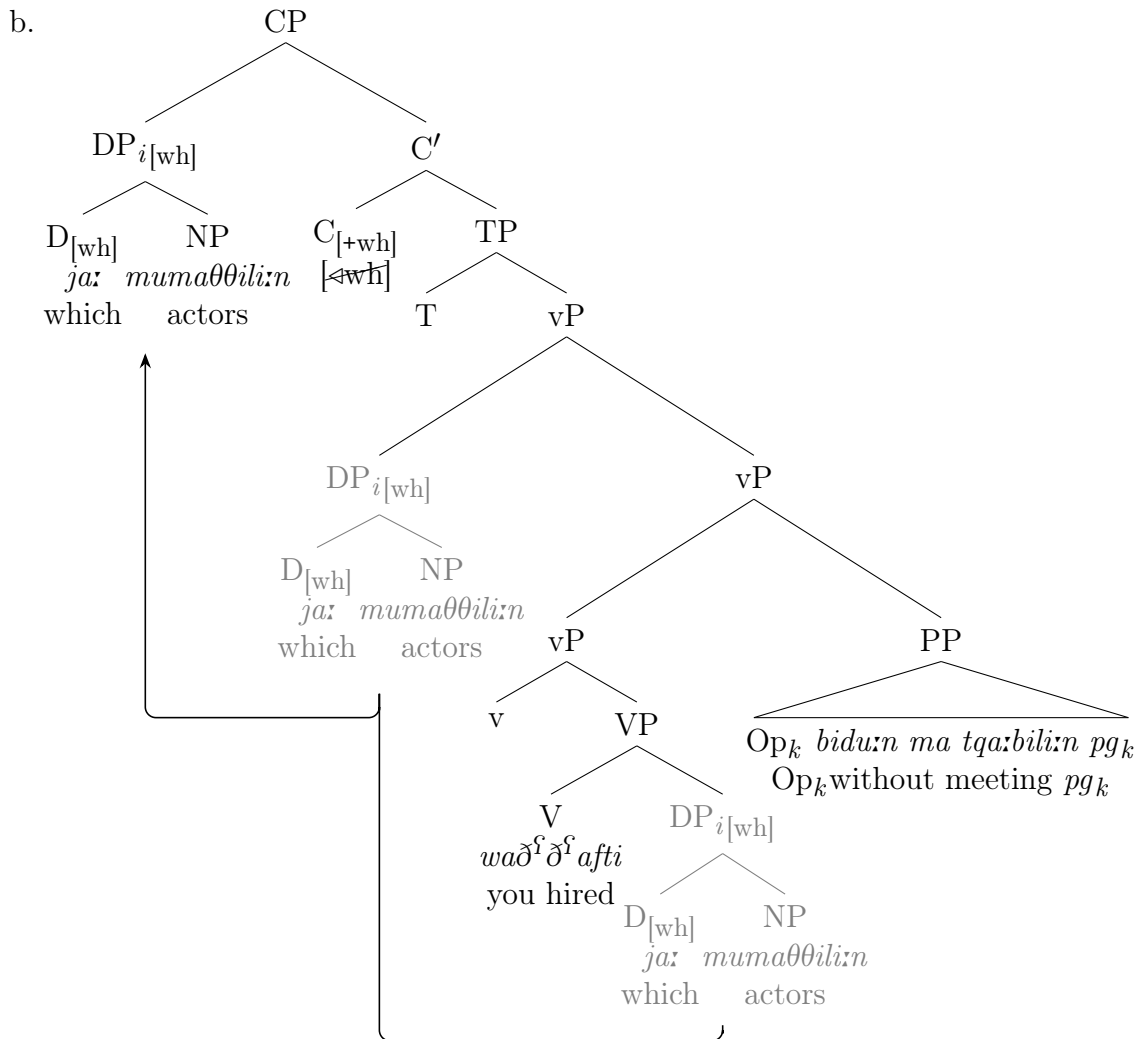


The key insight of Nissenbaum’s analysis for our purposes is that parasitic gaps are licensed by successive-cyclic movement to the edge of vP (see Nissenbaum, 2000, 20, (1)). Parasitic gaps can thus serve as a diagnostic for movement of a *wh*-phrase to a clause-internal position on the way to its final landing site. Whether or not this movement is driven by the existence of a clause-internal phase, as argued in Chomsky (2000, 2001b) and much subsequent work, is ultimately peripheral to my analysis (see Keine, 2020, 280–291 for a reassessment of the phasal status of vP, and see Arregi and Murphy, 2021, 2022 for arguments that parasitic-gap-licensing intermediate movement steps can be motivated independently of phasehood).⁴⁴ The contrasts between gaps and resumptives in Iraqi, Tunisian, and Syrian are explained, then,

44. Though, as Erik Zyman (*pers. comm.*) points out to me, their proposal that parasitic-gap-licensing movement can be licensed by a *semantic* need to create the required licensing configuration involves quite a bit of lookahead.

if intermediate phrasal movement to [Spec, vP] is only available when the \bar{A} -dependency terminates in a gap. If the *wh*-phrase moves, as in (128), it will need to stop over in [Spec, vP] to create the correct licensing configuration for the parasitic-gap containing adjunct attached just below the operator's intermediate landing site. As shown in (78b), repeated here as (128a), a gap may occupy the foot of such chains in the Arabic varieties under discussion. Note that, for ease of exposition, I refrain from explicitly representing null *pro* subjects and verbal head movement in the following Arabic trees.

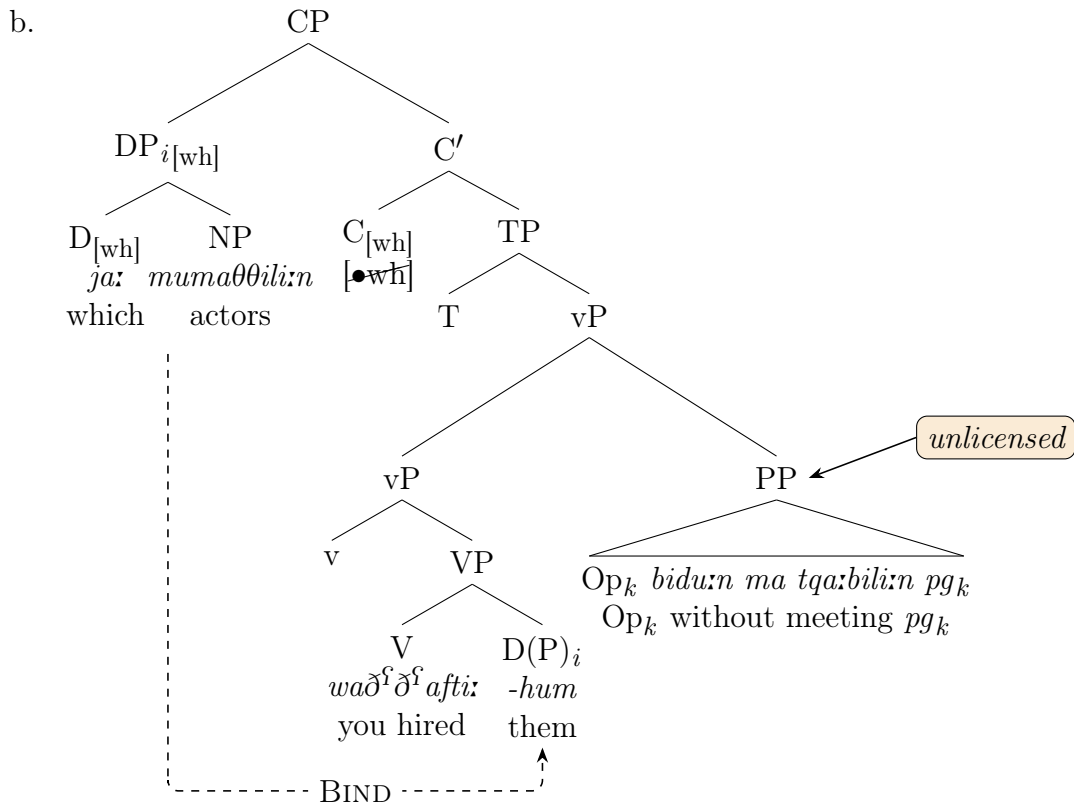
- (128) a. ? ja: mumaθθili:n_i wað^fð^fafti ____i bidu:n ma tqa:bi:li:n pg_i?
 which actors_i hired.2.F.SG without C meet.2.F.SG
 ‘Which actors_i did you hire ____i without meeting pg_i?’ (Iraqi)



If instead the *wh*-phrase does not move successive-cyclically through the specifier of vP, but

is externally merged by the [\bullet wh] feature on $C_{[+wh]}$ into [Spec, CP], from which position it binds a resumptive pronoun in situ, no parasitic gap containing adjunct will be licensed along the dependency path. The failed derivation in (129b) illustrates for (78c), repeated here as (129a).

- (129) a. *ja: mumaθθili:n_i wað^fð^fafti:-hum_i bidu:n ma tqa:bili:n pg_i?
 which actors_i hired.2.F.SG-them_i without C meet.2.F.SG
 (int.) ‘Which actors_i did you hire them_i without meeting pg_i?’ (Iraqi)



An account which posits movement only in the case of gapped dependencies explains the observed contrast.

3.4.2 *Alternative analyses and parasitic gap licensing under island-sensitive resumption*

There are at least two alternative hypotheses worth considering at this point, as both appear *a priori* just as well equipped to account for the contrast. First, one might argue that the

difference between resumptive and gapped dependencies is not *whether* \bar{A} -movement has taken place, but rather what *kind* of \bar{A} -movement it was. Specifically, resumptive pronouns could be argued to only inhabit non-successive-cyclic movement dependencies—ones that do not involve movement stopping over at [Spec, vP].⁴⁵ If we retain Nissenbaum’s explanation of parasitic gap licensing, then the failure of resumptive pronouns to license parasitic gaps in Iraqi would be attributable to the lack of an intermediate copy of the operator in [Spec, vP] in resumptive dependencies. This alternative explanation of the failure of resumptives to license parasitic gaps was first set forth in writing to my knowledge in Arad (2014, 22–23), citing Danny Fox (*pers. comm.*).⁴⁶ I will follow Arad in rejecting this analysis as unnecessarily stipulative without independent evidence in favor of non-successive-cyclic movement in Arabic.⁴⁷ What’s more, the anti-case-connectivity effects adduced in section §3.7 for island-insensitive resumptive dependencies speak strongly against a movement analysis: moved operators—even those which move in one fell swoop—are predicted to show connectivity with their extraction sites.

A second alternative is pursued by Wahba (1984, 88–91) for Modern Standard Arabic

45. This analysis would bear some similarity to Cinque’s (1990) proposal that ‘long’ (i.e. non-successive-cyclic) movement is possible for referential *wh*-phrases which bind a null resumptive *pro* across weak island boundaries. For the view that island-insensitive resumption is derived via successive-cyclic movement, see Boeckx (2003), Müller (2014, ch. 4), Klein (2016, ch. 4), and Korsah and Murphy (2020). Some other work positing movement under resumption is silent on the issue of the (non-)cyclic nature of the putative movement, for instance Bianchi (2004).

46. This idea is related to the more general intuition that resumptive pronouns ‘salvage’ otherwise illicit (non-successive-cyclic) movement out of islands. On this view, it is typically assumed that islands are representational constraints at PF, and that resumptive pronouns are phonological repairs (see, for instance, Ross, 1967, Perlmutter, 1972, Fox, 1994, Broihier, 1995, Pesetsky, 1998, 360–367, Hornstein, 2001, 178, Hornstein et al., 2003, Johnson, 2009, and Korsah and Murphy, 2020, 860–862, and with a somewhat different set of assumptions, Kayne, 1981, 115). See Salzmann (2017b, 210–214) for critical discussion.

47. If we assume with Fox and Pesetsky (2005) that (at least some) successive-cyclic movement derivations are enforced by PF requirements, such as their principle of *Order Preservation*, then the putative non-successive-cyclic, resumptive-leaving movement ought to be ruled out for the same reasons that gap-leaving movement cannot proceed in one fell swoop, *ceteris paribus*: both have an overt effect on PF. A resumptive pronoun would not resolve the predicted ordering conflict at PF created by non-successive-cyclic movement if we adopt the null hypothesis that resumptive pronouns are distinguished from their binders at PF. See Hornstein et al. (2003), however, for the proposal that resumptive pronouns might be indistinguishable from copies of their binders for the purposes of the linearization algorithm.

parasitic gaps, which, as previously stated, exhibit essentially the same paradigm as the Iraqi, Tunisian, and Syrian data from (78)–(80): main clause gaps, not resumptives, license parasitic gaps in adjunct clauses. Wahba assumes that resumptive pronouns are lexicalized traces of \bar{A} -movement, and attributes the incompatibility of resumption with parasitic gaps in *wh*-questions to a violation of Safir’s (1984) *Parallelism Constraint on Operator Binding*:

(130) **Parallelism Constraint on Operator Binding** (PCOB)

If O is an operator and x is a variable bound by O, then for any y , y a variable bound by O, x and y are [α lexical].
Safir (1984, 615, (28a))

Wahba interprets the PCOB as essentially a PF filter on multiple variable constructions: “In simplified terms, the constraint in [(130)] states that in a multiple variable constructions [sic], all the variables must be either all gaps, i.e., [-lexical], or all pronominal, i.e., [+lexical]. This amounts to saying that a single operator cannot bind a gap and a lexical variable” (Wahba, 1984, 90; see Sichel, 2014, 668, fn. 8 for a similar proposal). Under this analysis, (131) is ungrammatical because the operator *ja: mumaθθili:n* ‘which actors’ binds two variables which are not [α lexical]: the resumptive is [+lexical] and the parasitic gap is [-lexical] (note that, in order for this analysis to be maintained, parasitic gaps cannot be bound by a separate null operator internal to the adjunct clause).

(131) (repeated from (78c))

ja:* mumaθθili:n_{*i*} wað^ʕð^ʕafti:hum**_{*i*} bidu:n ma tqa:bili:n **pg**_{*i*}?
which actors_{*i*} hired.2.F.SG-**them**_{*i*} without C meet.2.F.SG
(int.) ‘Which actors_{*i*} did you hire them_{*i*} without meeting **pg**_{*i*}?’ (Iraqi)

(132) *Structure of a parasitic gap construction putatively violating (130)*

[CP OP_{*i*} [C' ... [vP [vP ... **pronoun**_{*i*}[+lexical] ...] [Adjunct ... **pg**_{*i*}[-lexical] ...]]]

There are two problems with this analysis, both of which stem from the fact that, as Safir (2004b, 66) argues, the [\pm lexical] distinction which the PCOB depends on is empirically orthogonal to the precise morphophonological realization of the bound variables involved. First, note that the PCOB was intended to account for, among other things, weak crossover (though see chapter 7 for a different approach to crossover effects, and see section §5.7 for

discussion of additional factors contributing to the calculation of weak crossover effects). Crucially, null subject pronouns in languages like Spanish induce weak crossover effects, as shown in (133).

- (133) * A *quién_i pro* dijiste que [la mujer con quien_k *pro_i* habló ____k] impresiona
 to who_i (you) said that the woman with whom_k (he_i) spoke ____k impresses
 ____i?
- (int.) ‘Who_i did you say that [the woman_k with whom he_i spoke ____k] impresses
 ____i? (adapted from Safir, 2004b, 66, (17))’

According to the PCOB, a weak crossover violation arises in this case because the operator *a quién* binds two different types of variables: the null *pro* subject inside the tensed relative clause counts as [+lexical], while the trace of *wh*-movement immediately following *impresiona* is [-lexical]. Therefore, null elements are not consistently [-lexical], as Wahba seems to assume.

Second, there exist resumptive pronouns in a number of languages which *do* license parasitic gaps, contrary to the situation in Arabic. Consider the well known case of Swedish: resumptive pronouns in Swedish, which only licitly appear in the subject position of an embedded tensed clause introduced by a complementizer or dislocated material (Engdahl, 1986, 121; see also Engdahl, 1982, 166–168, Sells, 1984, 55–57, and Asudeh, 2012, 236–243), license parasitic gaps in restrictive relatives ((134))⁴⁸ and *wh*-questions ((135)).⁴⁹

- (134) *Swedish resumptive pronouns in relative clauses license parasitic gaps*
 Det var den fången_i som läkarna inte kunde avgöra om **han**_i verkligen var
 it was that prisoner_i that the.doctors not could decide if **he**_i really was
 sjuk [utan att tala med *pg_i* personligen].
 ill without to talk with in.person
 (lit.) ‘This was the prisoner_i that the doctors couldn’t determine if he_i really was
 ill without talking to *pg_i* in person.’ (Engdahl, 1985, 7, (8))

48. And see Engdahl (1985, 38, n. 4, (i)) for an example showing that Swedish subject resumptives license parasitic gaps in subject-modifying relative clauses to their left.

49. Maling and Zaenen (1982, 261–262) and Engdahl (1985, 11) observe that resumptive pronouns in Swedish left dislocation constructions do not have the properties of A-bound traces: they can occur in any position in the sentence and they do not license parasitic gaps.

- (135) *Swedish resumptive pronouns in wh-questions license parasitic gaps*⁵⁰
 Vilken fånge_i var det läkarna inte kunde avgöra om **han**_i verkligen var
 which prisoner_i was it the.doctors not could decide if **he**_i really was
 sjuk [utan att tala med *pg*_i personligen]?
 ill without to talk with in.person
 (lit.) ‘Which prisoner_i was it that the doctors couldn’t decide if he_i really was ill
 without talking to *pg*_i in person?’ (Engdahl, 1985, 11, (8’))

Furthermore, resumptive pronouns in embedded subject position in Swedish—like non-subject traces—appear to obey island constraints. Because Swedish is famously quite permissive about extraction out of environments which constitute islands in other languages (e.g. embedded questions and relative clauses), we must take care to isolate the right kind of opaque domain. Engdahl (1982) provides a key test case. *Wh*-dependencies in Swedish obey the Coordinate Structure Constraint of Ross (1967): subextraction from a single conjunct terminating in a gap or a non-subject resumptive is not permitted, as shown in (136).

- (136) * Jag läste en bok_i som jag redan glömt [_{CP} vem_j som ____j skrivit { ____i / **den**_i }
 I read a book_i that I already forgot who_j that wrote { / **it**_i }
] och [_{CP} om det är torsdag idag].
 and if it is Thursday today
 (int.) ‘I read a book_i that I have already forgotten who wrote { ____i / **it**_i } and if
 it is Thursday today.’ (Engdahl, 1982, 168, (72))

Interestingly, violations of the Coordinate Structure Constraint terminating in a resumptive pronoun in embedded subject position are similarly impossible ((137)).⁵¹

- (137) * Jag läste en bok_i som jag redan glömt [_{CP} hur_j **den**_i slutar ____j] och [_{CP} om
 I read a book_i that I already forgot how **it**_i ends and if

50. Note that example (135) is a *wh*-question formed from a cleft.

51. Erik Zyman (*pers. comm.*) notes, however, that (136)–(137) suffer from a semantic/pragmatic confound. He notes that the English *such that* relatives in (ib) and (iib) are completely infelicitous, despite their not involving movement. The infelicity in these examples arises presumably because the second conjunct has nothing to do with the book.

- (i) a. I read a book such that I’ve already forgotten who wrote it.
 b. # I read a book such that I’ve already forgotten who wrote it and if it’s Thursday today.
 (ii) a. I read a book such that I’ve already forgotten how it ends.
 b. # I read a book such that I’ve already forgotten how it ends and if it’s Thursday today.

det är torsdag idag].
 it is Thursday today
 (int.) ‘I read a book_i that I have already forgotten how it_i ends and if it is
 Thursday today.’ (Engdahl, 1982, 168, (74))

Thus, Swedish resumptives, unlike Arabic resumptives, consistently behave like traces: they are island-sensitive⁵² and they license parasitic gaps.

Given that examples (134)–(135) are acceptable, we can conclude that the PCOB does not exclude on principled grounds configurations in which an operator binds a resumptive pronoun and a gap. Rather, in order to satisfy the PCOB, island-sensitive resumptive pronouns must be [-lexical] alongside bound gaps, whereas Iraqi, Tunisian, and Syrian re-

52. Engdahl also claims that resumptive pronouns in *wh*-questions worsen, rather than ameliorate, violations of locality, basing her claim on the following example:

- (i) ?* Vilken bil_i åt du lunch med någon som körde {___i / *den_i}?
 which car_i ate you lunch with someone that drove { / it_i}
 (lit.) ‘Which car_i did you have lunch with someone who drove {___i / it_i}?’ (Engdahl, 1985, 10, (16))

But as Asudeh (2012, 244) points out, the relevance of this example is less than clear because resumptive pronouns are only grammatically licensed in Swedish in embedded subject position. The empirical situation is complicated even more by the following example, provided by Zaenen et al. (1981), where a direct object resumptive is reported to be acceptable inside a subject island, which is itself embedded in a *wh*-island:

- (ii) [Vilken av sina_i flickvänner]_j undrade du om det att Kalle_i inte längre fick träffa **henne**_j
 [which of his_i girlfriends]_j wondered you if it that Kalle_i no longer sees **her**_j
 kunde ligga bakom hans dåliga humör?
 could lie behind his bad mood
 ‘[Which of his_i girlfriends]_j do you think the fact that Kalle_i no longer gets to see her_j could be behind his bad mood?’ (slightly adapted from Zaenen et al., 1981, 681, (6), translation from Asudeh, 2012, 35, (68))

It is possible that ‘her’ in (ii) is an intrusive resumptive pronoun. If so, then the relative acceptability of this example could be due to the multiple layers of embedding, since it is often argued that the acceptability of intrusive resumptives increases (or rather the penalty associated with ungrammatical resumptives decreases) with distance/embedding—one dimension of increased processing load (see Kroch, 1981, Prince, 1990, Erteschik-Shir, 1992, Dickey, 1996, Asudeh, 2004, Hofmeister and Norcliffe, 2013, Chacón, 2019, and many others; see also Morgan and Wagers, 2018 on the increased production of English resumptives with increased embedding). Indeed, Engdahl (1982) claims that embedding a non-grammatically licensed resumptive at least two clauses down renders it relatively acceptable in Swedish, treating this amelioration effect as an artifact of processing constraints. Beltrama and Xiang (2016), however, present important qualifications to any simplification of the ameliorating effect of distance on resumption. Other than example (137) in the main text, I have not been able to find supporting evidence demonstrating that embedded subject resumptives are island-sensitive in Swedish.

resumptives must be [+lexical].⁵³ Therefore, the PCOB must *not* restrict the phonological shape of variables created by movement, *pace* Wahba.⁵⁴

Swedish is not alone in this regard; parasitic gap licensing is typical of island-sensitive resumptives. For instance, resumptive pronouns in Spanish restrictive relatives, which were shown in (68) to obey subjacency, also license parasitic gaps (see Suñer, 1998, 345). Example (138) illustrates for Basque Spanish, which exhibits the so-called “animate *leísmo*” preference of *le* over *lo* or *la* for animate direct objects: both gaps ((138a)) and resumptive clitics ((138b)) license parasitic gaps in adjunct clauses (Karlos Arregi, *pers. comm.*).

53. This approach also suggests that English intrusive resumption is not merely a last resort phonological repair to salvage otherwise illicit island-crossing movement, since English resumptives also fail to license parasitic gaps, see (101)–(104) (see Boeckx, 2003, 152). The difference between Swedish-style resumptives and English-style resumptives is arguably accounted for by Asudeh’s (2012) taxonomy of resumptives. According to his terminology, Irish, Hebrew, Arabic, and other languages utilize anaphora-like *syntactically active resumptives*, languages like Swedish and Vata have gap-like *syntactically inactive resumptives*, and English has recourse to *processor resumptives* (the ‘intrusive resumption’ of Chao and Sells, 1983 and Sells, 1984). Asudeh proposes that speakers deploy processor resumptives during incremental grammatical production to create locally well-formed structures, despite inducing global ill-formedness (see also Kroch, 1981 and Asudeh, 2011a). This hypothesis is supported by experimental studies which argue that resumptives in English-type languages facilitate the comprehension or production of filler-gap dependencies spanning islands, despite being no more acceptable than gaps in the same positions; see especially Beltrama and Xiang (2016) and Morgan and Wagers (2018). Crucially, the English resumptives in (102c), (103c), and (104c) are neither globally nor locally well-formed, due to the presence of an unlicensed parasitic gap; hence, they are judged totally unacceptable. On the other hand, if Swedish resumptives inhabit true *wh*-movement dependencies, then their ability to license parasitic gaps is predicted (though see Asudeh, 2012, 250–252 for arguments against Swedish resumptives being literal spelled-out traces of movement).

54. Basically the same argument can be made on the basis of Safir’s (1996) principle of \bar{A} -Consistency which is conceptually related to the PCOB, but is explicitly divorced from PF.

- (i) \bar{A} -Consistency
An \bar{A} -chain is either consistently $d\bar{A}$ -binding or consistently $r\bar{A}$ -binding. (Safir, 1996, 318, (11))
- (ii) a. $d\bar{A}$ -binding
X $d\bar{A}$ -binds Y if X \bar{A} -binds Y and Y is the trace of X.
- b. $r\bar{A}$ -binding
X $r\bar{A}$ -binds Y if X \bar{A} -binds Y and Y is not the trace of X. (Safir, 1996, 317, (9a–b))

\bar{A} -Consistency prevents an operator from simultaneously binding one variable created by movement and one variable created by base-generation, regardless of how the two variables are ultimately realized. Thus, if we were to abandon the null operator movement analysis of parasitic gaps adopted in the main text, we could say that in Swedish *et al.*, operators $d\bar{A}$ -bind resumptives and parasitic gaps, but in Iraqi, Tunisian, and Syrian, operators $r\bar{A}$ -bind resumptives and $d\bar{A}$ -bind parasitic gaps.

- (138) a. una persona a quien_i juzgaron ____i sin haber conocido *pg_i* antes
 a person A who_i they.judged without to.have met before
 ‘a person whom_i they judged ____i without having met *pg_i* before’
- b. una persona a quien_i **le_i** juzgaron sin haber conocido *pg_i*
 a person A who_i **CL.3SG_i** they.judged without to.have met
 antes
 before
 (lit.) ‘a person whom_i they judged them_i without having met *pg_i* before’
 (Basque Spanish)

Likewise for Argentinian Spanish in *wh*-questions ((139))⁵⁵ and restrictive relatives ((140)), though resumptive pronouns are admittedly somewhat less acceptable than gaps as parasitic gap licensors (data due to Laura Stigliano, *pers. comm.*).⁵⁶

- (139) a. A quién_i juzgaste ____i sin haber conocido *pg_i* antes?
 A who_i you.judged without to.have met before
 ‘Who_i did you judge ____i without having met *pg_i* before?’
- b. ? A quién_i **lo_i** juzgaste sin haber conocido *pg_i* antes?
 A who_i **CL.3.M.SG_i** you.judged without to.have met before
 (lit.) ‘Who_i did you judge him_i without having met *pg_i* before?’ (Argentinian Spanish)
- (140) a. Me enteré que condenaron a una persona_i a la_i que juzgaron ____i
 me found.out that convicted A a person_i A the_i that they.judged
 sin siquiera haber visto *pg_i*.
 without even to.have seen
 ‘I found out that they convicted a person whom_i they judged ____i without
 even having seen *pg_i*.’
- b. ? Me enteré que condenaron a una persona_i a la_i que **la_i** juzgaron
 me found.out that convicted A a person_i A the_i that **her_i** they.judged
 sin siquiera haber visto *pg_i*.
 without even to.have seen
 (lit.) ‘I found out that they convicted a person whom_i they judged her_i
 without even having seen *pg_i*.’ (Argentinian Spanish)

Importantly, we can show that the gap in the adjunct clause in Spanish depends on extrac-

55. See Contreras (1991, 150, (29b)) for a different judgment with an inanimate (and hence, non-case-marked) *wh*-word. Note that Contreras (1991) also reports that resumptive pronouns are licit inside islands in *wh*-questions in Spanish (see footnote 20), suggesting that the dialect(s) discussed in his paper predominantly make use of base-generated resumptives like Iraqi, Tunisian, and Syrian Arabic.

56. I omit the inverted opening question mark ‘¿’ in the Spanish examples in order to avoid confusion with indicators of acceptability judgments.

tion, in contrast to the Swiss German ((108)) and Polish ((112)) examples discussed above. When there is no licensing \bar{A} -dependency, the gap is ill-formed:

- (141) a. ?? Escuché que le_i juzgaron sin haber conocido ____i antes.
 I.heard that CL.3SG_i they.judged without to.have met before
 (int.) ‘I heard that they judged him_i without having met ____i before.’
- b. ?? Escuché que juzgaron a esa persona_i sin haber conocido ____i antes.
 I.heard that they.judged A that person_i without to.have met before
 (int.) ‘I heard that they judged that person_i without having met ____i before.’
- c. ?? Escuché que le_i juzgaron a esa persona_i sin haber conocido ____i antes.
 I.heard that CL.3SG_i they.judged A that person_i without to.have met before
 (int.) ‘I heard that they judged that person_i without having met ____i before.’
 (Basque Spanish)
- (142) a. * Me enteré que la_i juzgaron sin haber visto ____i.
 me found.out that her_i they.judged without to.have seen
 (int.) ‘I found out that they judged her_i without having seen ____i.’
- b. * Me enteré que juzgaron a esa persona_i sin haber visto ____i.
 me found.out that they.judged A that person_i without to.have seen
 (int.) ‘I found out that they judged that person_i without having seen ____i.’
- c. * Me enteré que la_i juzgaron a esa persona_i sin haber visto ____i.
 me found.out that her_i they.judged A that person_i without to.have seen
 (int.) ‘I found out that they judged that person_i without having seen ____i.’
 (Argentinian Spanish)

The (a) examples show that movement of the animate clitic alone does not suffice to sanction a parasitic gap; the (b) examples, that in situ direct objects do not license parasitic gaps; and the (c) examples, that clitic doubling of the in situ direct object likewise fails to license a parasitic gap.⁵⁷

Parasitic gaps can also be found cooccurring with island-sensitive resumptives in Slovene

57. Campos (1991), García-Mayo (1992, 1995), and VanDyne (2020) argue that movement of a [-animate] clitic, but not of a [+animate] clitic, can license parasitic gaps in Spanish based on contrasts like the following:

- (i) Lo_i archivaron ____i sin leer pg_i.
 it_i they.filed without to.read
 (lit.) ‘They filed it_i without reading pg_i.’ (Campos, 1991, 118, (4d))

relative clauses ((143)), Igbo focus fronting ((144)), and Vata relative clauses ((145)), as well as in Nchufie relative clauses (Sano, 1994, 119, (17)), Persian relative clauses (Taghvaipour, 2004, 282–283), and Cape Verdean Creole *wh*-questions with the φ -featurally impoverished resumptive *el* (Alexandre, 2009, 193, (36)); see Alexandre and Hagemeyer (2002, 2013) for other examples of φ -featurally impoverished resumptives in Portuguese-based Atlantic creoles which exhibit similar behavior.⁵⁸

- (143) *Slovene resumptives in relative clauses license parasitic gaps*⁵⁹
 To je predavatelj_i, ki **ga**_i vsak, ki spozna *pg*_i, ceni.
 this is lecturer.NOM_i C **he**.ACC.CL_i everyone C meets appreciates
 (lit.) ‘This is a lecturer who everyone who gets to know appreciates him.’ (Hladnik,

-
- (ii) *Lo_i visitaron ____i sin llamar *pg*_i.
 him_i they.visited without to.call
 (int.) ‘They visited him_i without calling *pg*_i.’ (Campos, 1991, 118, fn. 3, (i))

All of the examples in the main text avoid this complication by using [+animate] clitics. However, see Davis and Toquero-Pérez (2022, §3) for potential confounds with the purported contrast between (i)–(ii).

58. The status of parasitic gap licensing in other languages with island-sensitive resumption is less clear. Georgopoulos (1991, 111–114) provides data ostensibly demonstrating that resumptive pronouns in Palauan license parasitic gaps. If we follow Chung and Wagers (2021, §5.2) in taking resumptive pronouns in Palauan to be island-sensitive, contrary to the claims in Georgopoulos (1985, 1991) (see section §2.4 above), then this behavior of Palauan resumptives would conform nicely to the cross-linguistic picture. However, as Chung and Wagers (2021, 769, fn. 8) caution, the empty categories identified by Georgopoulos could be ordinary (null) pronouns, rather than parasitic gaps.

Furthermore, although weak resumptive pronouns in restrictive relatives in both Literary Welsh (Tallerman, 1983; Rouveret, 2002, 2008) and Colloquial Welsh (Borsley, 2013, 11–12) appear to be island-sensitive, it is not clear whether even gaps can license parasitic gaps in Welsh: Borsley (2013, 23) claims that they cannot, whereas Sproat (1985, 211–212) reports that they can (see also Sadler, 1988, 253–254, n. 10). The situation across Celtic is similarly unclear: Jim McCloskey (*pers. comm.*) notes that no investigator has thus far constructed a well-formed parasitic gap construction in Irish (see also McCloskey, 1990, 226), and Adger and Ramchand (2005, 184) claim that parasitic gaps are entirely lacking in Scottish Gaelic. However, Schafer (1994, 55, (33a)) states that direct object gaps in Breton relative clauses may license parasitic gaps for at least some speakers.

Regarding Modern Greek, see footnote 31 for an account of the apparently exceptional lack of local parasitic gap licensing under island-sensitive resumption in *wh*-questions; this account requires the *wh*-operator to first undergo A-movement out of vP which will therefore fail to license vP-level parasitic gaps. A similar explanation seems plausible to account for the lack of local parasitic gap licensing in Romanian relative clauses and *wh*-questions (see Dobrovie-Sorin, 1990, 358, (14)–(15), Alboiu, 2000, 269–270).

59. However, because Hladnik (2015) does not provide the requisite controls illustrating that movement of the pronominal clitic itself is insufficient to license a parasitic gap (see the discussion of Polish parasitic gap licensing around examples (111)–(112)), we cannot be entirely sure that it is movement of the relative operator which licenses the parasitic gap. For instance, Erlewine (2020, 21), following earlier ideas in Demirdache (1991), proposes that resumptive pronouns in Slovene move covertly to the edge of the relative clause, licensing parasitic gaps.

2015, 36, (64))

- (144) *Igbo resumptives in focus fronting license parasitic gaps*
Ákwúkwò_i kà Ézé kwú-rú màkà yá_i [CP ná āgú-ghí pg_i]
book_i FOC Eze talk-rV about 3SG.ACC_i C read-NEG
(lit.) ‘Eze talked about THE BOOK_i without having read pg_i.’ (Georgi and
Amaechi, 2020, 265, (13))
- (145) *Vata resumptives in relative clauses license parasitic gaps*⁶⁰
kÒ´ mŌmŌ´_i blĪ´ k̄ā-ḅŌ pg_i yé yÉ lè Ò_i guŌ
man HIM.HIM_i Ble AUX-REL see PART he_i runs
(lit.) ‘the man_i that, when Ble sees pg_i, he_i runs away’ (Vata; Sportiche, 1983,
124, (47iii))

These data serve to reinforce the typology of resumptives advanced here: there are resumptive pronouns which are island-insensitive and which do not license parasitic gaps (e.g. in Arabic), and there are resumptive pronouns which are island-sensitive and which *do* license parasitic gaps (e.g. in Swedish, Spanish, and Igbo).⁶¹

60. Note that, although this example involves a *subject* resumptive licensing a parasitic gap in the preposed temporal adjunct clause, it nonetheless conforms to Engdahl’s (1983) anti-c-command condition on parasitic gap licensing if we assume that the adjunct clause can be interpreted in its high, surface position. See Haegeman (1984, 231–232, (9), (12)–(13)) for similar examples from English with subject gaps.

61. In addition to licensing parasitic gaps, we might expect \bar{A} -movement to license parasitic *resumptives* in languages with movement-derived resumptive pronouns. This is in fact what Scott (2021b, 824–826) and Ershova (2023a,b) have recently argued is the case in Swahili *amba*-headed restrictive relatives and Samoan topicalization/focus fronting, respectively (and see Alexandre, 2012, 150–151, fn. 9, (ii) for an important predecessor regarding Cape Verdean Creole). In both languages, when the licensing \bar{A} -dependency terminates in a φ -deficient resumptive pronoun (in Swahili, the resumptive is personless, while in Samoan, the resumptive is 3SG regardless of the features of the antecedent), the dependency is island-sensitive, demonstrating that resumption in the main clause is accompanied by \bar{A} -movement. These φ -deficient resumptive pronouns also crucially license the appearance of similarly φ -deficient resumptive pronouns inside islands in the positions we would otherwise expect to find parasitic gaps (e.g. inside adjuncts and relative clauses). However, there remain several unanswered questions regarding parasitic resumptives in both languages that require additional investigation before totally assimilating these patterns to parasitic gaps (in part because it is unclear whether parasitic gaps are licensed at all in either language in the first place). First, although Ershova is careful to show that parasitic resumptives in Samoan obey the hallmark restrictions of parasitic gaps (e.g. they are subject to the anti-c-command restriction (2023a, 31–33) and they are only licensed by \bar{A} -movement (2023a, 50–54)), Scott does not do the same for parasitic resumptives in Swahili. In other words, it remains to be shown that φ -deficient resumptives must be truly parasitic in Swahili. Second, the status of φ -matching resumptive pronouns as parasitic resumptive licensors differs in the two languages. According to Scott (2021b, 825–826), φ -matching resumptive pronouns never license parasitic resumptives in Swahili, whereas Ershova (*pers. comm.*) reports that both φ -matching and φ -deficient resumptive pronouns license parasitic resumptives in Samoan. The Samoan finding is surprising in light of the otherwise robust correlation I have discovered between island-sensitivity and parasitic gap licensing: φ -matching resumptives in Samoan are island-insensitive, but they also appear to license parasitic resumptives. An important question for future research is whether φ -matching resumptive pronouns *inside islands* in Samoan simultaneously license

To summarize briefly, the unavailability of parasitic gaps in Iraqi, Tunisian, and Syrian resumptive dependencies cannot be adequately explained either by non-successive-cyclic movement or by a PF-filter interpretation of the PCOB.⁶² Accounts which posit resumptive-leaving movement across the board—even if that movement is exceptional—fail to explain the contrast between gaps and resumptives in these languages and between the two main types of resumptives found cross-linguistically. Instead, parasitic gap licensing is best understood as a movement diagnostic, and the absence of parasitic gaps under resumption in some languages is straightforwardly predicted if no phrase moves from the variable site to the operator position (or to the surface position of the antecedent, in the case of restrictive relatives) in resumptive dependencies. Iraqi, Tunisian, and Syrian resumptives, being base-generated elements, are syntactically distinguished from traces. By contrast, because resumptive dependencies in Spanish, Swedish, Vata, Igbo, and several other languages *do* cooccur with parasitic gaps, this demands that such dependencies involve \bar{A} -movement.

3.5 Parasitic gap licensing in long-distance dependencies and mixed chains

In this section, I document variation in the availability of parasitic gap licensing in long-distance resumptive dependencies which span more than one finite clause boundary. In Iraqi and Syrian Arabic, resumptive \bar{A} -dependencies fail to license parasitic gaps at any position along the chain (section §3.5.1). In Colloquial French and Swiss German, on the other hand, parasitic gaps *are* crucially licensed one or more clauses above the resumptive. I further conclude from novel Swiss German data that the intermediate licensing of parasitic gaps in resumptive dependencies does not necessarily indicate that \bar{A} -movement launched from

parasitic gaps inside the island (see (166)–(167) for related discussion of the lack of parasitic gap licensing by resumptives inside islands in Swiss German).

62. See Arad (2014, 20–21) for further arguments against PF principles regulating the shape of parasitic gap licensors.

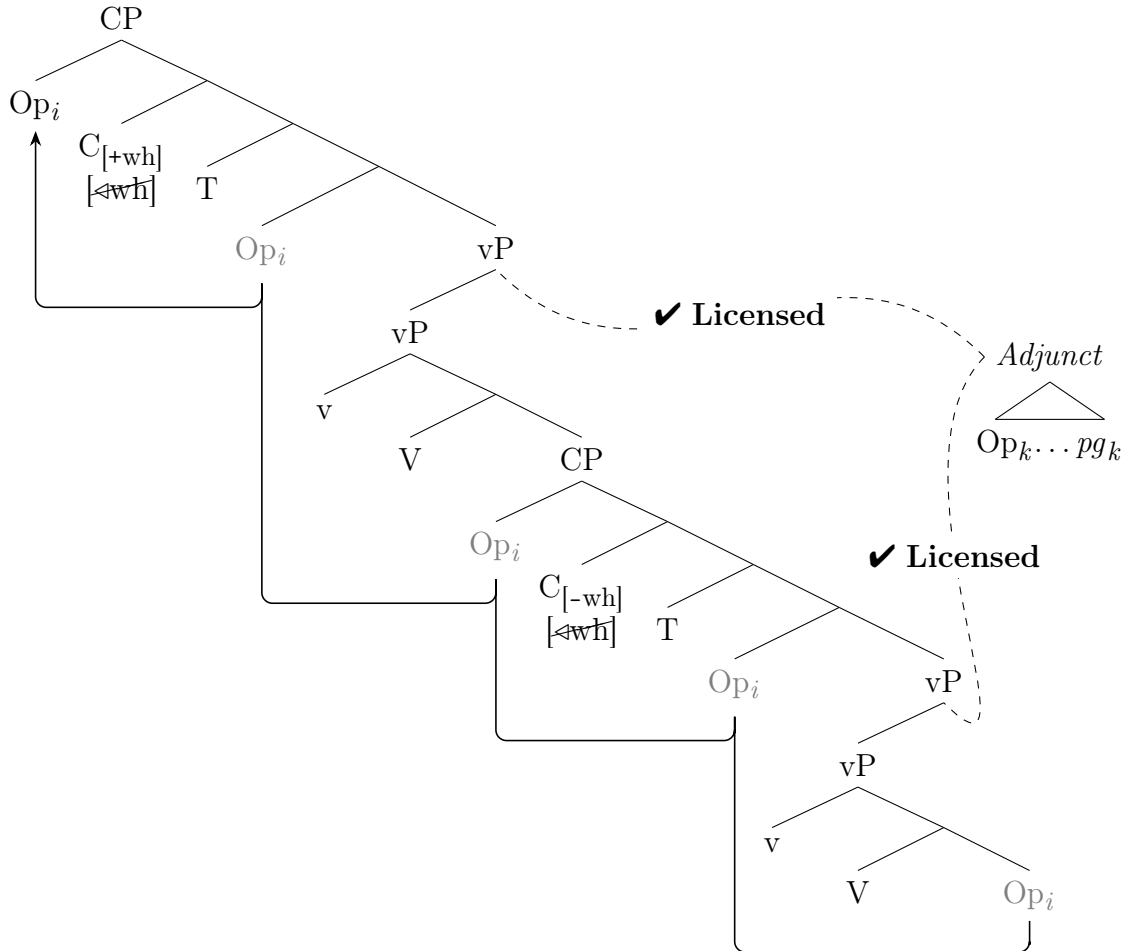
the position of the resumptive (i.e. that the entire long-distance chain uniformly involves movement)—this is because parasitic gaps are licensed in island-spanning resumptive dependencies *outside* the island containing the resumptive, but not in higher clauses *inside* the island. I argue that we can make sense of this variation by distinguishing Merge and Move at intermediate landing sites: long-distance dependencies can be formed by chaining complementizers bearing [\bullet wh] features and [\langle wh] features together to form so-called “mixed chains” (McCloskey, 2002). Crucially, because Iraqi and Syrian Arabic lack mixed chains, as diagnosed by the lack of high parasitic gap licensing in resumptive dependencies, I conclude that the featural makeup of intermediate complementizers must be lexically parameterized: Iraqi and Syrian lack an intermediate complementizer (i.e. $C_{[-wh]}$) bearing a Merge-triggering [\bullet wh] feature, while Colloquial French and Swiss German, among others, have such a complementizer. Analyses which cannot make the distinction between Merge and Move at intermediate links in the chain fail to account for this variation (see chapter 4 for additional discussion). Finally, section §3.5.2 argues that the *wh*-scope marking construction found in some Arabic varieties is not formed via a mixed chain, despite appearances. Instead, I show that *wh*-scope marking is formed via an indirect dependency between two independent *wh*-questions.

3.5.1 *Cross-linguistic variation in high parasitic gap licensing by resumptives necessitates distinguishing Merge and Move in intermediate clauses*

Given our conclusions for Iraqi, Tunisian, and Syrian Arabic thus far, it is predicted that the contrast between resumptives and gaps will be maintained in long-distance dependencies which span more than one finite clause boundary. In particular, I predict that a parasitic gap containing clause should be able to attach one or more clauses above the extraction site only in a gapped dependency, *ceteris paribus*. Examples (146)–(147) summarize the predictions, where the use of dashed lines indicates optionality in the attachment site of the adjunct (and

not multidominance).

- (146) **Long-distance gapped dependencies should license parasitic gaps at any vP along the dependency path**



- (147) **Long-distance resumptive dependencies should not license parasitic gaps at any vP along the dependency path**

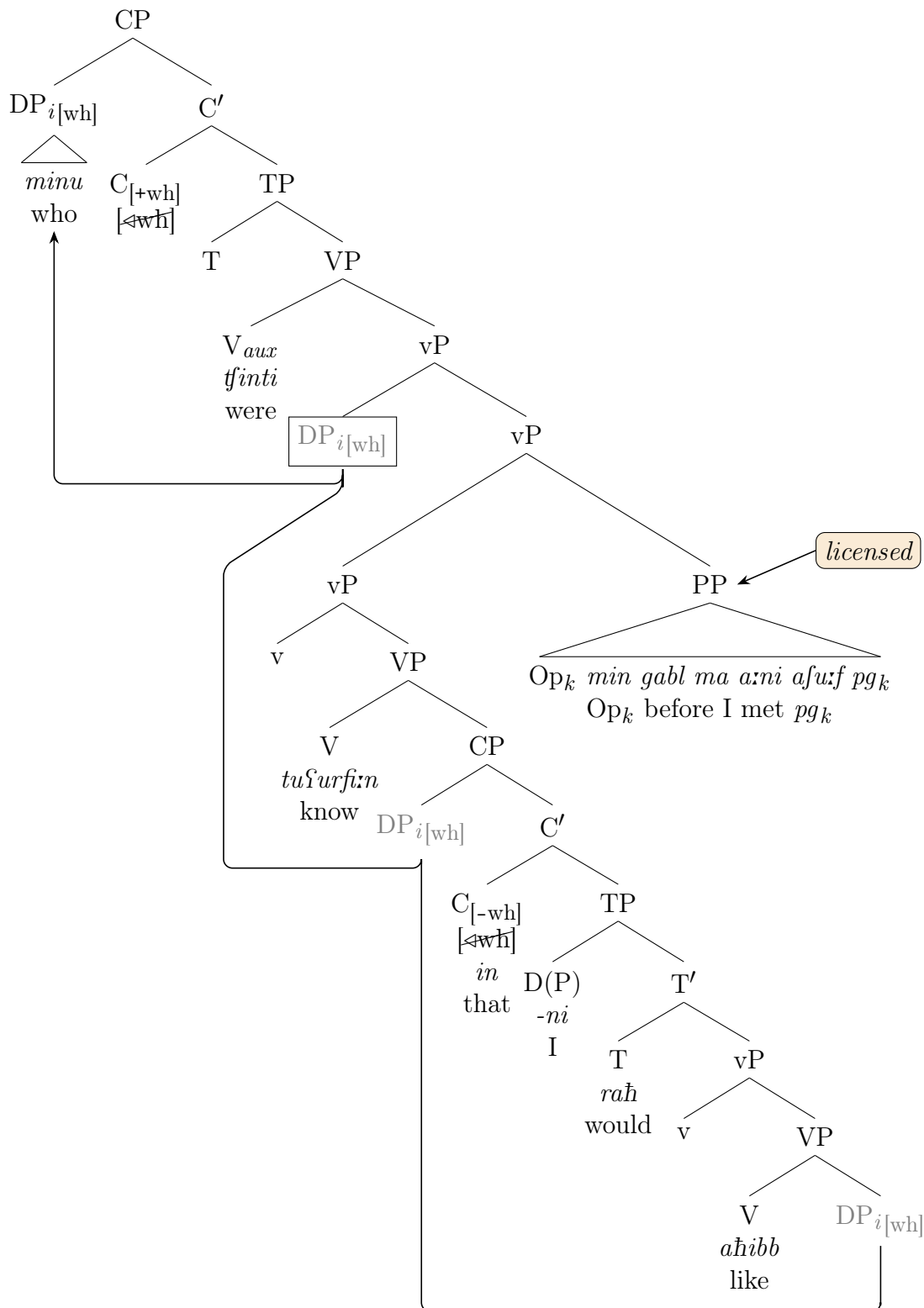
and for English and Italian by Iatridou (1995, 22, fn. 14). I will assume that the decrease in acceptability is due to some as yet unidentified additional factor; what is important is that while gaps can license parasitic gaps at least to some degree, resumptives never can. Examples (148a) and (149a) illustrate the baseline configuration without extraction, and (148b)/(149b), the possibility for either a gap or resumptive when we factor out parasitic gaps.

- (148) a. *No parasitic gaps without \bar{A} -movement*
 ʔinti tuʔurfi:n [CP ʔin-ni raħ aħibb Joni_i] [min gabl
 were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG Joni_i from before
 ma a:ni { *aʃu:f ____i / aʃu:f-ha_i }].
 C 1.SG { *see.1.SG / see.1.SG-her_i }
 ‘You knew that I would like Joni_i before I ever met { *____i / her_i }.’
- b. *No parasitic gap baseline*
 minu_i ʔinti tuʔurfi:n [CP ʔin-ni raħ { aħibb ____i /
 who_i were.2.F.SG know.2.F.SG that-1.SG FUT { like.1.SG /
 aħibb-a_i }] [min gabl ma a:ni aʃu:f-a_i]]?
 like.1.SG-**him_i**} from before C 1.SG see.1.SG-him_i
 (lit.) ‘Who_i did you know I would like (him_i) before I ever met him_i?’
- c. *Long-distance gapped wh-questions moderately license parasitic gaps in clausal adjuncts*
 (?)?minu_i ʔinti tuʔurfi:n [CP ʔin-ni raħ aħibb ____i] [min
 who_i were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG from
 gabl ma a:ni aʃu:f pg_i]?
 before C 1.SG see.1.SG
 (?)?‘Who_i did you know I would like ____i before I ever met pg_i?’
- d. *Long-distance resumptive wh-questions do not license parasitic gaps in clausal adjuncts*
 *minu_i ʔinti tuʔurfi:n [CP ʔin-ni raħ aħibb-a_i] [min
 who_i were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG-**him_i** from
 gabl ma a:ni aʃu:f pg_i]?
 before C 1.SG see.1.SG
 (int.) ‘Who_i did you know I would like him_i before I ever met pg_i?’ (Iraqi)
- (149) a. *No parasitic gaps without \bar{A} -movement*
 ʔrafti [CP ʔin-ni raħ aħibb Matt_i] [min ʔabl ma { *aʃu:f
 knew.2.F.SG that-1.SG FUT like.1.SG Matt_i from before C { *see.1.SG
 ____i / aʃu:f-u_i }].
 / see.1.SG-him_i }
 ‘You knew that I would like Matt_i before I ever met { *____i / him_i }.’

- b. *No parasitic gap baseline*
 min_i ʕrafti [CP ʔin-ni raħ {ʔaħibb ____i / aħibb-**u**_i}]
 who_i knew.2.F.SG that-1.SG FUT {ʔlike.1.SG / like.1.SG-**him**_i}
 [min ʔabl ma aʕu:f-u_i]?
 from before C see.1.SG-him_i
 (lit.) ‘Who_i did you know I would like ʔ(him_i) before I ever met him_i?’
- c. *Long-distance gapped wh-questions license parasitic gaps in clausal adjuncts*
 min_i ʕrafti [CP ʔin-ni raħ aħibb ____i] [min ʔabl ma aʕu:f
 who_i knew.2.F.SG that-1.SG FUT like.1.SG from before C see.1.SG
 pg_i]?
 ‘Who_i did you know I would like ____i before I ever met pg_i?’
- d. *Long-distance resumptive wh-questions do not license parasitic gaps in clausal adjuncts*
 *min_i ʕrafti [CP ʔin-ni raħ aħibb-**u**_i] [min ʔabl ma
 who_i knew.2.F.SG that-1.SG FUT like.1.SG-**him**_i from before C
 aʕu:f pg_i]?
 see.1.SG
 (int.) ‘Who_i did you know I would like him_i before I ever met pg_i?’ (Syrian)

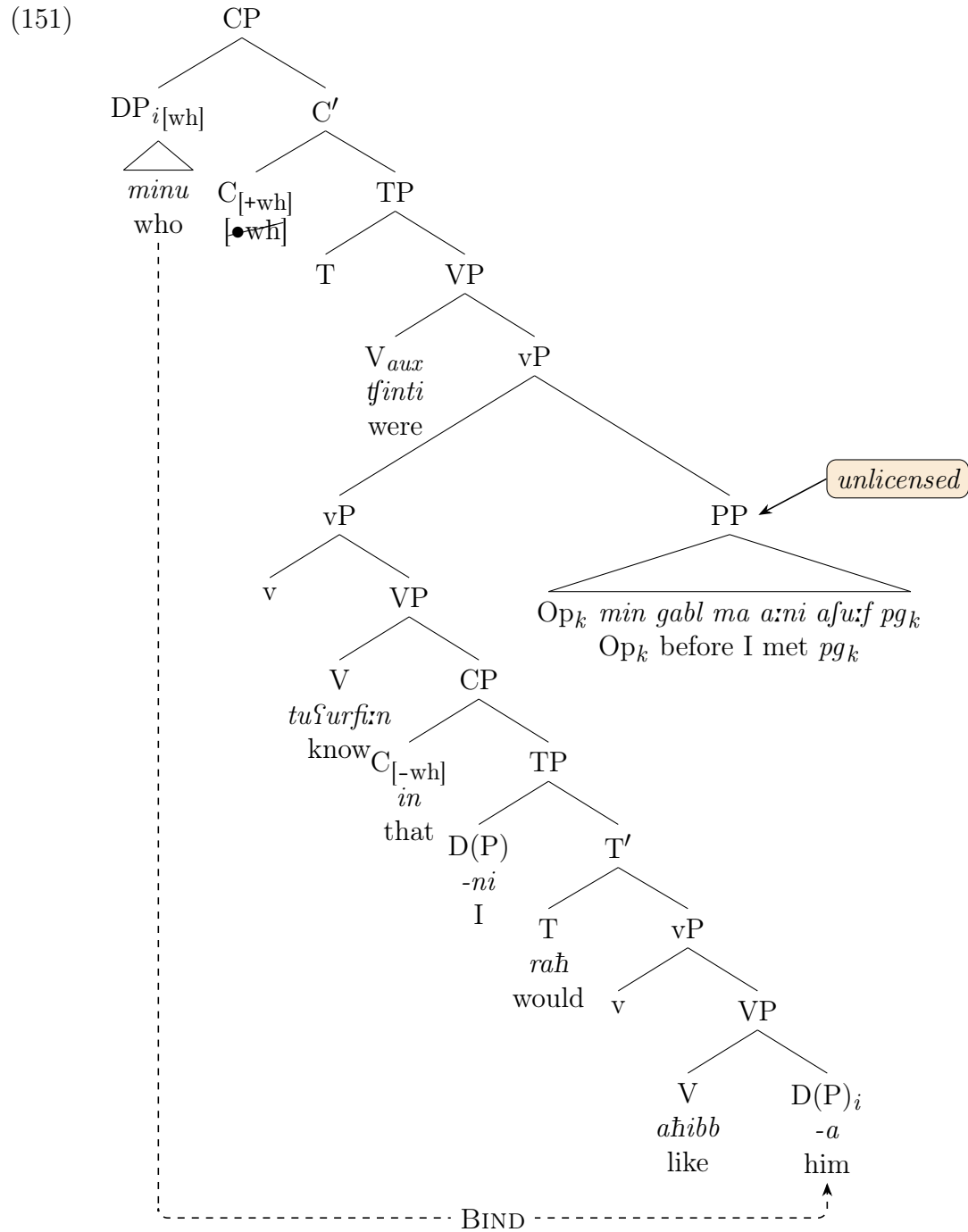
The tree in (150) illustrates how the parasitic gap in (148c) is licensed: successive-cyclic movement of *minu* out of the embedded CP (I abstract away from movement through the specifier of the embedded vP for simplicity) and then through the specifier of the matrix vP licenses the parasitic gap containing adjunct. The licensing copy of the moved operator is boxed for salience:

(150)



Resumptive pronouns, on the other hand, are base-generated separately from their binders, and base-generation does not yield the requisite vP-level copy of the operator to support a

parasitic gap in an adjunct. The tree in (151) illustrates for (148d).



Further evidence that the distinguishing factor between gapped and resumptive dependencies is movement comes from island-crossing dependencies. When the variable site is contained inside a weak ‘whether’-island, only resumptives are fully acceptable, as shown by

(152b)/(153b). Examples (152d) and (153d) illustrate once again that resumptive pronouns are incompatible with parasitic gaps. There is some variation between varieties in whether or not gaps inside weak ‘whether’ islands license parasitic gaps: example (152c) is judged to be severely degraded in Iraqi, whereas in Syrian, (153c) is on a par with (153b) with extraction but no parasitic gap. I assume for Iraqi that extraction out of a weak island paired with parasitic gap licensing, which is marked and somewhat marginal to begin with (see the discussion around (78)), produces an additive effect of unacceptability, while no such compounding effect is evident in Syrian.

- (152) a. *No parasitic gaps without \bar{A} -movement*
 Hend siʔlat-itʃ [CP iða raħ aħibb Joni_i] [ħatta min gabl
 Hend asked.3.F.SG-you.F.SG if FUT like.1.SG Joni_i until from before
 ma a:ni {*aʃuf ____i / aʃuf-ħa_i}].
 C I {*see.1.SG / see.1.SG-her_i}
 ‘Hend asked you if I would like Joni_i before I ever met {*____i / her_i}.’
- b. *No parasitic gap baseline*
 ja: bnajja_i siʔlat-itʃ Hend [CP iða raħ {??aħibb ____i /
 which girl_i asked.3.F.SG-you.F.SG Hend if FUT {??like.1.SG /
 aħibb-ħa_i}] [ħatta min gabl ma a:ni aʃuf-ħa_i]?
 like.1.SG-her_i until from before C I see.1.SG-her_i
 ‘Which girl_i did Hend ask you if I would like {??____i / her_i} before I ever met
 her_i?’
- c. *Island-violating gapped wh-questions do not license parasitic gaps in clausal adjuncts*
 *ja: bnajja_i siʔlat-itʃ Hend [CP iða raħ aħibb ____i] [ħatta
 which girl_i asked.3.F.SG-you.F.SG Hend if FUT like.1.SG until
 min gabl ma a:ni aʃuf pg_i] ?
 from before C I see.1.SG
 ‘Which girl_i did Hend ask you if I would like ____i before I ever met pg_i?’
- d. *Island-violating resumptive wh-questions do not license parasitic gaps in clausal adjuncts*
 *ja: bnajja_i siʔlat-itʃ Hend [CP iða raħ aħibb-ħa_i] [ħatta
 which girl_i asked.3.F.SG-you.F.SG Hend if FUT like.1.SG-her_i until
 min gabl ma a:ni aʃuf pg_i] ?
 from before C I see.1.SG
 ‘Which girl_i did Hend ask you if I would like her_i before I ever met pg_i?’
 (Iraqi)
- (153) a. *No parasitic gaps without \bar{A} -movement*

- Qays siʔal-ek [CP iða raħ aħibb Matt_i] [mən ʔabl ma
 Qays asked.3.M.SG-you.F.SG if FUT like.1.SG Matt_i from before C
 { *aʃu:f ____i / aʃu:f-u_i }]
 { *see.1.SG / see.1.SG-him_i }
 ‘Qays asked you if I would like Matt_i before I ever met { *____i / him_i }.’
- b. *No parasitic gap baseline*
 min_i siʔal-ek Qays [CP iða raħ {??aħibb ____i / aħibb-u_i}]
 who_i asked.3.M.SG-you.F.SG Qays if FUT {??like.1.SG / like.1.SG-him_i}
 [mən ʔabl ma aʃu:f-u_i]?
 from before C see.1.SG-him_i
 ‘Who_i did Qays ask you if I would like {??____i / him_i} before I ever met him_i?’
- c. *Island-violating gapped wh-questions moderately license parasitic gaps in clausal adjuncts*
 ??min_i siʔal-ek Qays [CP iða raħ aħibb ____i] [mən ʔabl
 who_i asked.3.M.SG-you.F.SG Qays if FUT like.1.SG from before
 ma aʃu:f pg_i]?
 C see.1.SG
 ‘Who_i did Qays ask you if I would like ____i before I ever met pg_i?’
- d. *Island-violating resumptive wh-questions do not license parasitic gaps in clausal adjuncts*
 *min_i siʔal-ek Qays [CP iða raħ aħibb-u_i] [mən ʔabl
 who_i asked.3.M.SG-you.F.SG Qays if FUT like.1.SG-him_i from before
 ma aʃu:f pg_i]?
 C see.1.SG
 (int.) ‘Who_i did Qays ask you if I would like him_i before I ever met pg_i?’
 (Syrian)

Note too that resumption inside strong islands similarly fails to license parasitic gaps in adjuncts attached outside of the island. The following Syrian data illustrate with a resumptive *pro* subject inside a strong relative clause island:

- (154) a. *No parasitic gaps without \bar{A} -movement*
 ʔiʃtaʔadti [CP ʔin-ni raħ aħibb l-kutub_k] [RC Island lli
 suspect.2.F.SG that-1.SG FUT like.1.SG the-books_k that
 ha-l-kaʔtib_i katab-hon_k] [min ʔabl ma aʃu:f { *____i /
 this-the-author_i wrote.3.M.SG-them_k from before C see.1.SG { ____i /
 -u_i }]
 -him_i }
 ‘You suspected [CP that I would like the books_k [RC Island that this author_i
 wrote them_k] [before I ever met { *____i / him_i }].’
- b. *No parasitic gap baseline*

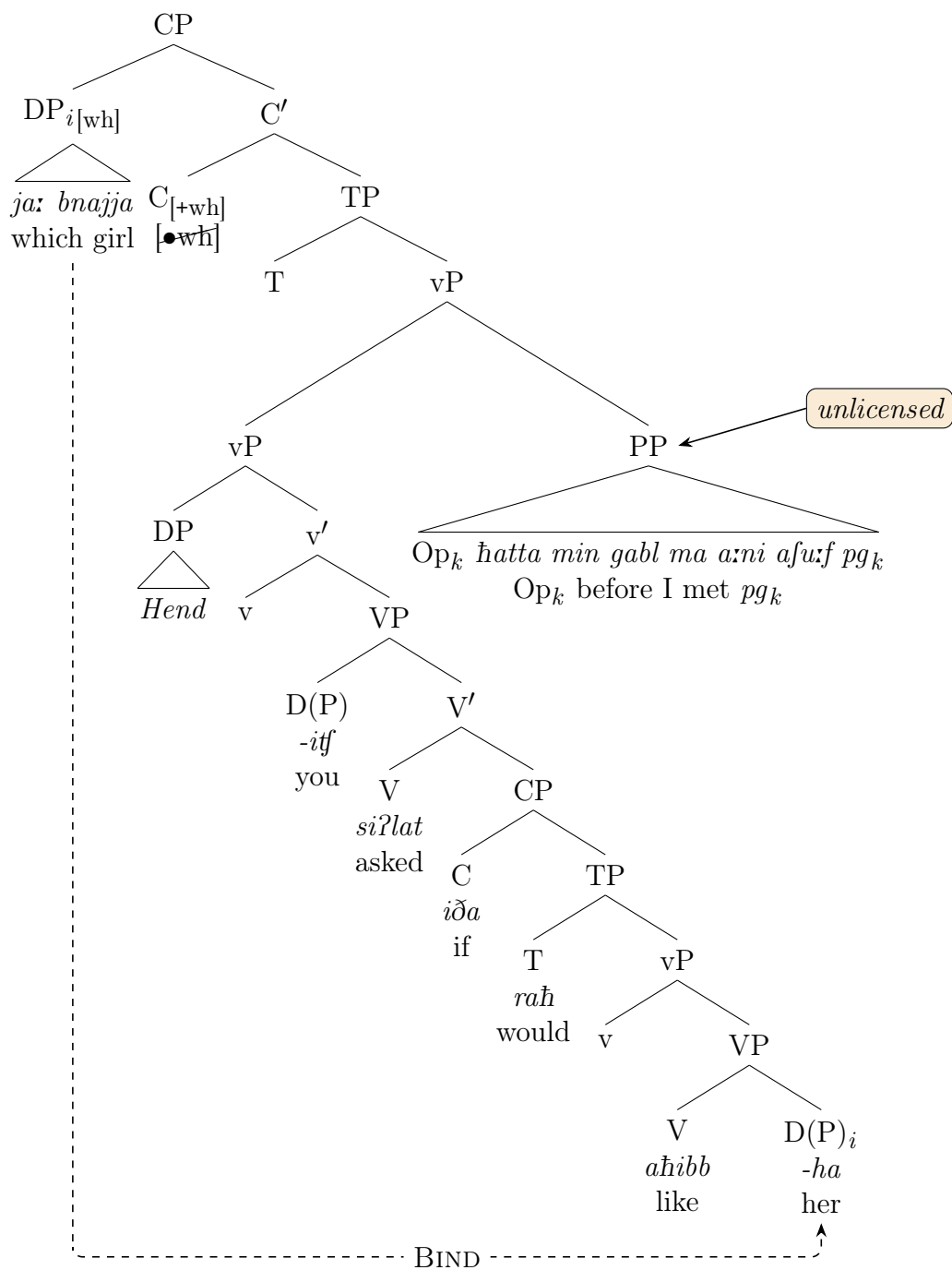
ajja ka:tib_i ?ifta?adti [CP ?in-ni rah aħibb l-kutub_k [RC Island
 which author_i suspect.2.F.SG that-1.SG FUT like.1.SG the-books_k
 lli **pro**_i katab-hon_k]] [min ?abl ma aʃu:f-u_i]?
 that wrote.3.M.SG-them_k from before C see.1.SG-him_i
 (lit.) ‘Which author_i did you suspect [CP that I would like the books_k
 [RC Island that he_i wrote them_k]] [before I ever met him_i]?’

- c. *Island-violating resumptive wh-questions do not license parasitic gaps in clausal adjuncts*

*ajja ka:tib_i ?ifta?adti [CP ?in-ni rah aħibb l-kutub_k [RC Island
 which author_i suspect.2.F.SG that-1.SG FUT like.1.SG the-books_k
 lli **pro**_i katab-hon_k]] [min ?abl ma aʃu:f *pg*_i]?
 that wrote.3.M.SG-them_k from before C see.1.SG
 (int.) ‘Which author_i did you suspect [CP that I would like the books_k
 [RC Island that he_i wrote them_k]] [before I ever met *pg*_i]?’ (Syrian)

The inability of resumptives inside islands to license parasitic gaps outside of the island is expected if no part of the chain between the resumptive and its binder involves movement. The tree in (155) illustrates for the Iraqi example in (152d): there is no intermediate copy of the operator in [Spec, vP] to license a parasitic gap in the adjoined PP.

(155)

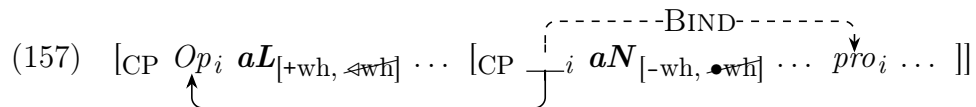


The unacceptability of (148d)/(149d) and (152d)/(153d) also indicates that mixed chains of the type proposed, inter alia, for Greek (Iatridou, 1995; Georgiou, 2022), Selayarese (Finer, 1997), Irish (McCloskey, 2002), Literary Welsh (Rouveret, 2018, 292–293) and Colloquial Welsh (Willis, 2011), Kaqchikel (Imanishi, 2013, 2019), Dinka (van Urk, 2017a), and Bikol (Erlewine and Lim, 2022)—whereby a resumptive pronoun is base-generated in situ and

bound by an operator in an intermediate position which then moves (successive-cyclically) to the matrix [Spec, CP] position—must not be available for Iraqi or Syrian Arabic *wh*-questions.⁶⁴ McCloskey posits the existence of such dependencies in Irish in light of complementizer patterns under long extraction like (156).

- (156) XP_i [CP **aL** ... [CP **aN** ... *pro*_{*i*} ...]]
- a. aon duine **a** cheap sé **a** raibh ruainne tobac aige
 any person **aL** thought he **aN** was scrap tobacco at-him
 ‘anyone that he thought had a scrap of tobacco’
- b. Cé **is** dóigh leat **a** bhfuil an t-airgead aige?
 who **aL-COP.PRES** likely with-you **aN** is the money at-him
 ‘Who do you think has the money?’ (McCloskey, 2002, 198, (34)–(35))

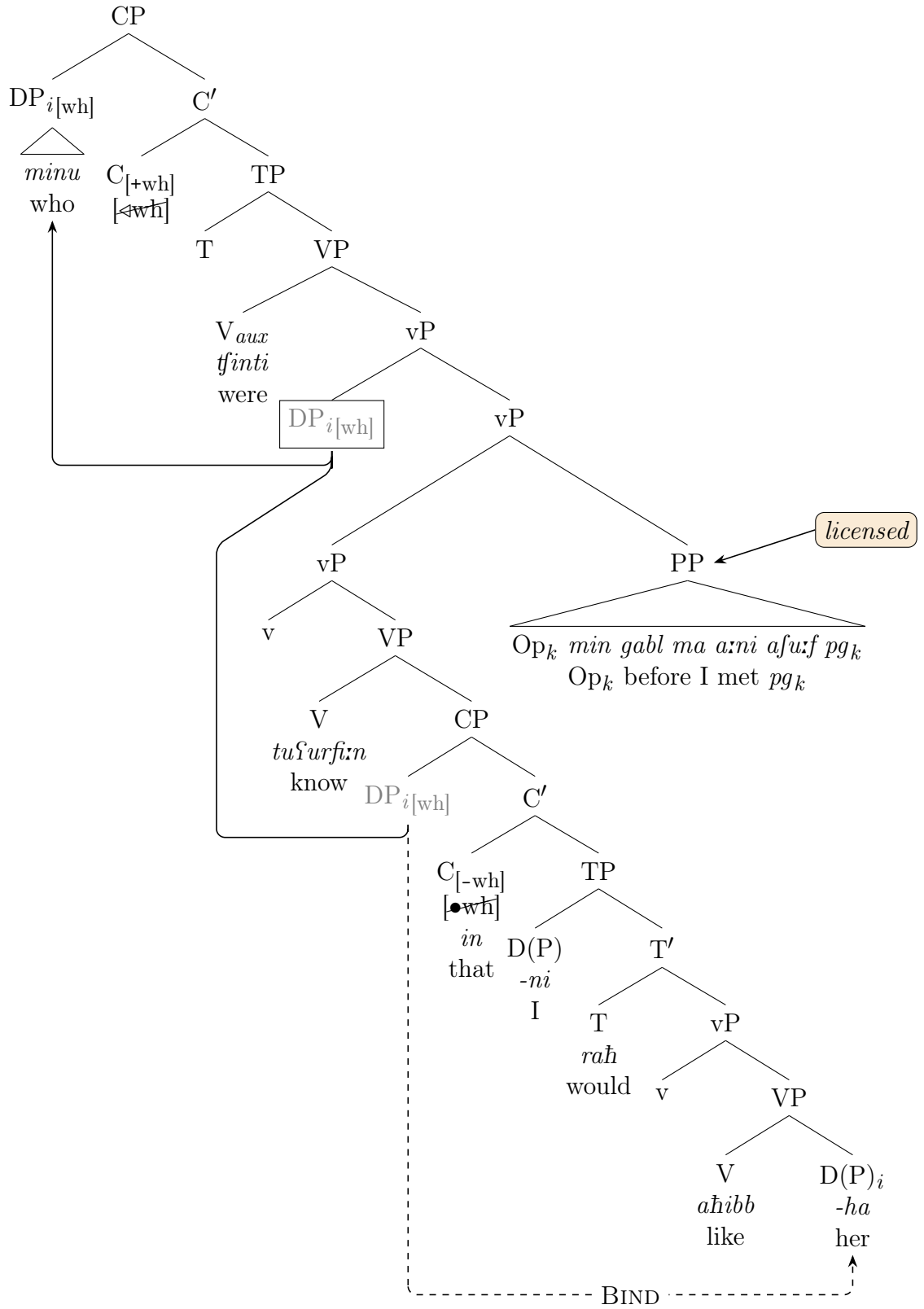
Recall from section §2.2 that, under McCloskey’s analysis, the leniting complementizer *aL* signals that there has been movement into its specifier, whereas the nasalizing complementizer *aN* signals that its specifier has been filled by externally merging a null operator. The sequence *aL* followed in an embedded clause by *aN*, then, can be understood as follows: a null operator is externally merged by a [**•wh**] feature in a specifier of the intermediate complementizer *aN* where it binds the resumptive pronoun in situ, and then moves into the specifier of *aL* to satisfy its [**◀wh**] feature. A schematic derivation is shown in (157):



If mixed chains akin to (157) were available in Iraqi or Syrian, we would predict that an operator base-generated in an intermediate [Spec, CP] position could move through [Spec, vP] of a higher clause and license a parasitic gap in that clause. That (148d)/(149d) are judged to be unacceptable suggests that this is impossible in these varieties. So, to be precise, the derivation for (148d) which is lacking is (158).

(158) *A mixed chain (base-generation followed by movement) absent from Iraqi Arabic*

64. The same conclusion can be reached for Iraqi and Syrian Arabic based on the incompatibility of resumptive *wh*-questions with *exactly* stranding discussed in section §3.6.



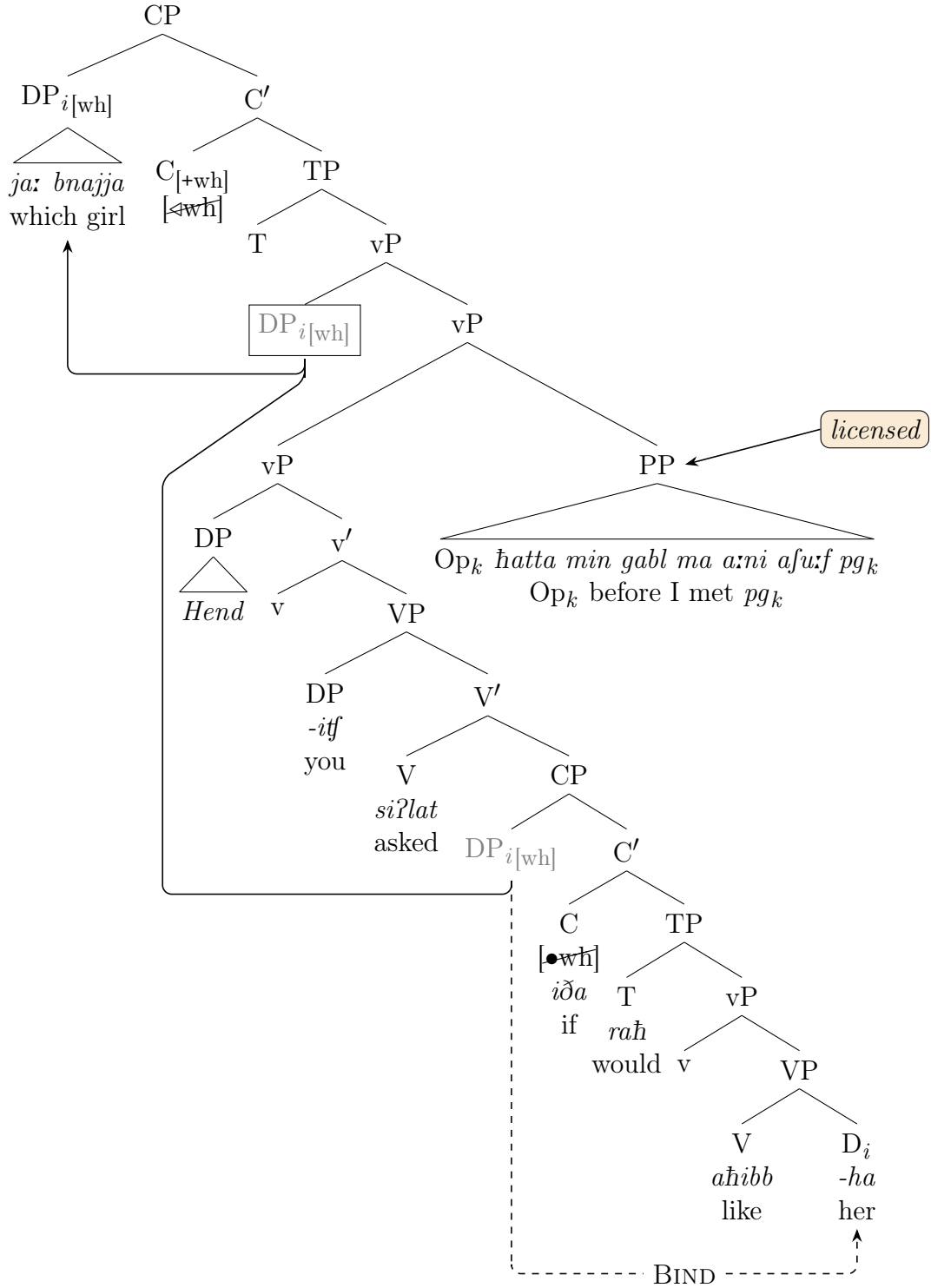
Likewise, (152d)/(153d) demonstrate that resumptive-binding operators cannot be base-

generated in intermediate positions at the left edges of islands and then move in Iraqi and Syrian. The derivation missing for (152d) is (159).⁶⁵

(159) *A mixed chain (base-generation followed by movement) absent from Iraqi Arabic*

65. As Jason Merchant (*pers. comm.*) points out to me, it's not clear that we would expect *any* language to permit base-generation of an operator at the left edge of a 'whether'-island. 'Whether'-islands plausibly contain a null operator in [Spec, CP] already, which might preclude the merging in of another operator. This is only concerning, however, if we make the (not innocuous) assumption that C can only project a single specifier. See, e.g., Müller (2011) for arguments in favor of the availability of multiple specifiers. Further investigation of mixed chains in Irish (or one of the other languages proposed to deploy mixed chains in long-distance \bar{A} -dependencies) could help to sharpen the predictions discussed in the main text. If base generation is possible at the edge of an island, then we ought to find *aL-aN* sequences spanning islands.

Demirdache and Percus (2009, 2011, 2012) posit precisely the kind of derivation illustrated in (158)—though with operator movement delayed until LF—for resumptive dependencies spanning islands in Jordanian and Lebanese Arabic and English. Adapting ideas from Iatridou (1995), they propose that a null operator (' \emptyset ') can be base-generated in the left periphery of an island, bind a resumptive variable inside that island, and then move at LF to create a λ -binder. Assuming that LF movement of the resumptive-binding operator needs to proceed successive-cyclically and hence could in principle license a parasitic gap, the unavailability of a parasitic gap in (152d) once again suggests that such a derivation is ruled out for Iraqi and Syrian.



That derivations parallel to (158) must be available in at least some languages has been argued by Iatridou (1995) on the basis of Greek clitic left dislocation and *wh*-questions and by Sportiche (2018) on the basis of colloquial French (henceforth just 'French') *wh*-

questions.⁶⁶ I will focus here on the French data. Like Iraqi and Syrian, French long-distance *wh*-questions terminating in a gap permit parasitic gaps in adjuncts attached anywhere along the dependency path—either in the same clause as the extraction site ((160a)), or in a higher clause ((160b)).⁶⁷

- (160) a. Dis-moi ce qu'il [veut que tu [comprennes __ sans mémoriser
 tell-me that that-he wants that you understand without to.memorize
pg]].
 'Tell me what he [wants you to [understand __ without (you) memorizing
pg]].'
 b. ? Dis-moi ce qu'il [veut que tu [comprennes __] sans même
 tell-me that that-he wants that you understand without even
 mentionner *pg*].
 to.mention
 'Tell me what he [[wants you to understand __] without (him) even mentioning
pg].'
 (adapted from Sportiche, 2018, 315, (12a–b))

French gapped dependencies arguably involve successive-cyclic *wh*-movement all the way up. Also like Iraqi and Syrian, French disallows parasitic gap containing adjuncts to attach in the same clause as a resumptive pronoun, as illustrated by (161).

- (161) * Dis moi ce qu'il [veut que tu [**le** comprennes sans mémoriser *pg*]].
 tell me that that-he wants that you **it** understand without to.memorize

66. See Sells (1984, 82, (91)) for a related example with parasitic gap licensing in a long-distance resumptive relative in Hebrew, and see Shlonsky (1992, 462, fn. 19) for cautious discussion of this example.

67. Sportiche speculates that (160b) is slightly worse than (160a) due to inaccessibility of the high-attaching reading. I have nothing insightful to add to this, other than to point out that high attachment of a parasitic gap containing adjunct in Iraqi is also somewhat less than fully acceptable (see (148c)).

Erik Zyman (*pers. comm.*) cautions that the French examples might be confounded by an issue with the choice of lexical items. He finds the idiomatic English translation of (160b) semantically anomalous, owing to an incompatibility between 'without' and 'want' ((i)), which can be fixed by replacing 'without' with 'despite not' as in (ii):

- (i) # Tell me what he [[wants you to understand] without even mentioning].
 (ii) Tell me what he [[wants you to understand] despite not even mentioning].

If a similar effect holds for French, then this would suggest that the degradation reported above for Iraqi might have a different source.

(int.) ‘Tell me what he [wants you to [understand it without (you) memorizing *pg*].’

(adapted from Sportiche, 2018, 316, (13a))

However, Sportiche observes that resumptives cease to block parasitic gaps when the adjunct attaches in a higher clause:

(162) ? Dis moi ce qu’il [[veut que tu **le** comprennes] sans même mentionner
tell me that that-he wants that you **it** understand without even to.mention
pg].

(lit.) ‘Tell me what he [[wants you to understand it] without (him) even mentioning *pg*].’

(adapted from Sportiche, 2018, 316, (13b))

Sportiche argues that French resumptive dependencies inhabit mixed chains (what he calls ‘mixed two-step derivations’), similar to what McCloskey (2002) proposes for Irish. In long distance resumptive dependencies, the operator must move successive-cyclically in higher portions of the chain in order to license a parasitic gap, though it crucially must not move through the [Spec, vP] which is most local to the resumptive pronoun (see (161)).⁶⁸ This is precisely the derivation we ruled out for Iraqi in (158).

Similarly, Martin Salzmann (*pers. comm.*) informs me that embedded resumptive pronouns in Swiss German relative clauses are compatible with parasitic gap licensing in a higher clause (though the judgments are admittedly quite subtle), despite the fact that Swiss German utilizes island-insensitive resumption. Example (163) illustrates with a non-island context: the embedded direct object resumptive pronoun *en* ‘him’ can cooccur with a parasitic gap in the ‘without’ adjunct clause attached to the highest clause inside the relative. Note that in all following examples, the parasitic gap containing adjunct clause must be intraposed; extraposing the adjunct renders parasitic gaps unacceptable.

68. See Sportiche (2017b, 24–26) for the argument that mixed chains must be available in French resumptive relative clauses spanning an island boundary to account for a reported asymmetry in reconstruction: reconstruction is possible to intermediate positions outside of the island, but not to any position within the island.

- (163) Das isch de Maa_i, [won i [ohni *pg_i* z käne] überzүүgt bi, [das **en_i**
 this is the man_i C I without to know.INF convinced am that **him_i**
 würd gern haa]].
 would.1SG dear have
 (lit.) ‘This is the man_i that [I am convinced [that I would like him_i] [without
 knowing *pg_i*]].’

Crucially, resumptive pronouns inside strong relative clause islands can license parasitic gaps contained in adjuncts attached outside of the island. In (164)–(165), the ‘without’ adjunct containing a parasitic gap modifies the highest vP inside the relative clause.

- (164) Das isch de Maa_i, [won i [ohni jemals *pg_i* troffe z haa] überzүүgt bi,
 this is the man_i C I without ever met to have.INF convinced am
 dass i mit de Frau gredt haa, wo mit **em_i** uusgaat].
 that I with the woman talked have.1SG C with **he.DAT_i** goes.out
 (lit.) ‘This is the man_i that I am convinced that I talked to the [woman that is
 going out with **him_i**] [without ever having met *pg_i*].’
- (165) Das isch de Maa_i, [won i [ohni jemals *pg_i* troffe z haa] überzүүgt bi,
 this is the man_i C I without ever met to have.INF convinced am
 dass i s Buech gläse ha, won **er_i** gschriben hāt].
 that I the book read have.1SG C **he_i** written has
 (lit.) ‘This is the man_i that I am convinced that I read the [book that **he_i** wrote]
 [without ever having met *pg_i*].’

By contrast, it is completely impossible for resumptive pronouns inside strong islands to license higher parasitic gaps embedded within the same island. Examples (166)–(167) illustrate.⁶⁹

69. This is in fact a crucial test case for Sportiche’s (2020) analysis of (some instances of) resumption. According to Sportiche (2020, 12), DP clitic left dislocation (CLLD) in French is a movement dependency (diagnosed by the presence of reconstruction effects) which systematically violates islands, even showing reconstruction into islands. To reconcile these seemingly conflicting behaviors, Sportiche proposes that certain types of movement dependencies can escape islands by transiting a distinct, dedicated position at the edge of the island *qua* phase. Adopting the cartographic framework of Rizzi (1997), he proposes that tensed clauses contain at least two positions for \bar{A} -related phrases: *wh*-phrases and null operators land in a position labeled WH and clitic left dislocated phrases land in a (potentially recursive) position labeled TOP(IC) (Sportiche, 2020, 13). Clitic left dislocated phrases are marked as topical, hence they can pass through the TOP position at the edge of an island even when the island-peripheral WH position is occupied (e.g. in *wh*-islands and null operator islands). Sportiche’s \bar{A} -movement analysis of island-violating DP CLLD in French makes the following strong prediction: parasitic gaps should be licensed within the island containing the resumptive clitic, contrary to what is observed with Swiss German in (166)–(167). Importantly, Angelopoulos and Sportiche (2021, 1004–1006) have shown that French DP CLLD in non-island contexts licenses parasitic

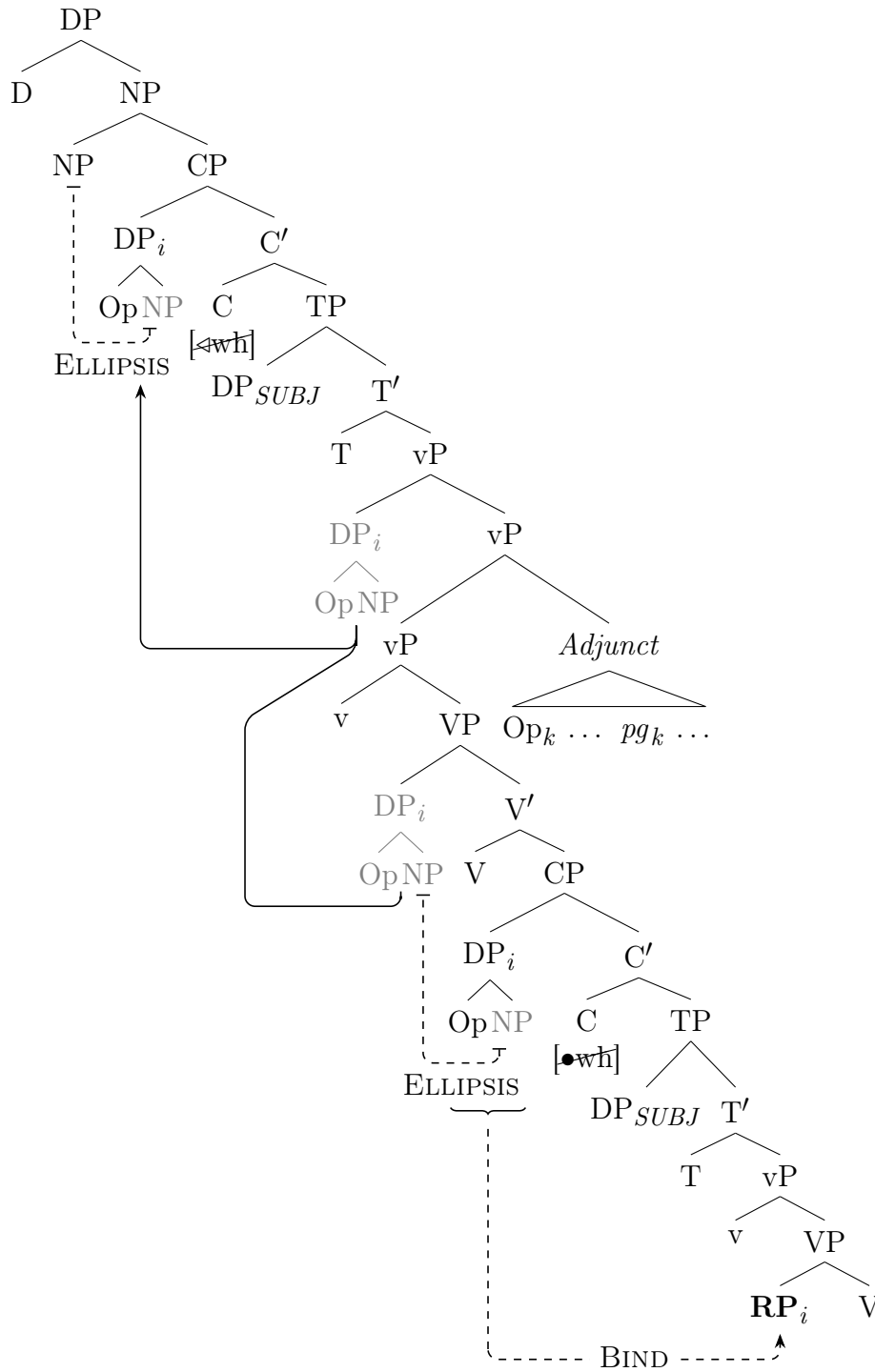
- (166) Das isch de Maa_i, wo d Lüüt [wo [ohni {**pg_i* / en_i} jemals troffe z
 this is the man_i C the people C without { / him_i} ever met to
 haa] überzeugt gsii sind dass i **en_i** würd gern haa] völlig falsch
 have.INF convinced been are that I **him_i** würd dear have.INF totally wrong
 gläge sind.
 lain are
 (lit.) ‘This is the man that the people who were convinced [that I would [like
 him_i]] [without (them) ever having met {**pg_i* / him_i}] are totally wrong.’ (lie
 wrong = ‘be wrong’)
- (167) Das isch de Roman_i, won i s Grücht ghöört ha, [das du [ohne {**pg_i*
 this is the novel_i C I the rumor heard have.1SG that you without {
 / en_i} im Vorfäld gläse z ha] behauptet häsch, [dass d Kritiker s_i
 / it_i} in.the pre-field read to have.INF claimed have.2SG that the critics **it_i**
 würded liebe]].
 would love.INF
 (lit.) ‘This is the novel_i that I heard the rumor [that you claimed [that critics love
it_i] [without (you) having read {**pg_i* / it_i} in advance]].’ (in the pre-field = ‘in
 advance’)

This complex set of facts follows if, as Salzmann (2017b, 450–451) proposes, long-distance relativization in Swiss German is not formed via a single chain but rather is mediated via a proleptic operator base-generated in the highest clause which moves to the highest [Spec, CP] position. Salzmann hypothesizes that the relevant proleptic argument in Swiss German is a silent DP consisting of a null operator *Op* and an elided NP identical to the external head of the relative clause. I will follow Salzmann in assuming that there is an additional null operator at the left edge of the embedded CP whose NP complement is elided under identity with the NP of the proleptic argument. Example (168) illustrates a schematic derivation of a mixed chain in Swiss German. A null operator is base-generated at the edge of the embedded clause (driven by the [**•wh**] feature on intermediate C) where it binds a resumptive pronoun and turns the embedded clause into a predicate. This permits a (null) proleptic DP operator

gap containing adjuncts in clauses higher than the resumptive clitic, illustrating that French CLLD is indeed compatible with parasitic gap licensing in principle (though independent confounds rule out parasitic gap licensing in the same clause as the resumptive clitic). If parasitic gaps are not licensed island-internally under DP CLLD in French, this would call into question Sportiche’s assumption that reconstruction is necessarily a property of movement dependencies (Sportiche, 2020, 5). It remains to be seen whether this prediction is borne out.

to be base-generated in the VP in the higher clause—in this case, the clause headed by the relative C. The proleptic operator then moves through [Spec, vP] on its way to the highest [Spec, CP] to satisfy C's [$\llbracket wh \rrbracket$] feature, licensing a high parasitic gap.

(168) *A mixed chain (base-generation followed by movement) in Swiss German*



Because null operator movement is restricted to higher clauses within the relative, we correctly predict that parasitic gaps will be licensed under resumption only in higher clauses, as in (163)–(165).⁷⁰ Parasitic gaps are not licensed in intermediate clauses in island-crossing resumptive dependencies ((166)–(167)).

For the analysis in (168) of Swiss German parasitic gap licensing under resumption to be maintained, it is important that the moved null operator in Swiss German not be a PP (as is standard for proleptic phrases in many languages, see Salzmann (2017a) and Zyman (2022b) for examples), since parasitic gap licensing requires categorial identity between the licensing variable and the parasitic gap (as noted by Chomsky, 1982, 55, who attributes the observation to David Pesetsky). The English examples in (169) illustrate:

- (169) a. * [PP With which knives_i]_j did you cut the bread [PP ____j] before sharpening [DP *pg_i*]?
 b. [DP Which knives]_i did you cut the bread with [DP ____i] before sharpening [DP *pg_i*]?

Salzmann sketches one possible reason why a proleptic DP is possible in Swiss German relative clauses. He proposes that a Case probe on the external head N of the relative—diagnosable via the presence of Case-matching effects in Swiss German relatives (see Georgi and Salzmann, 2017 and Salzmann, 2017b, §5.3)—Case-licenses the null relative operator in its landing site, [Spec, CP], dispensing with the need for a proleptic preposition.⁷¹ There are other logical possibilities, however; all that matters for the present analysis is that the null proleptic operator be a DP.

The analytical desideratum, then, is a way to prevent a resumptive-binding operator

70. Though movement of the clitic resumptive can itself license a parasitic gap; see the discussion around examples (107)–(109).

71. Two additional notes are in order. First, although the hypothesized proleptic operator bears a non-default case, the case assigned to the operator is not predicted to be identical to the case assigned to the resumptive pronoun. Consequently, we do not accidentally predict case-matching effects under base-generated resumption (see section §3.7 for additional details). Second, to capture cross-linguistic variation in the availability or obligatoriness of Case-attraction, Salzmann proposes that the presence of a Case probe on N be parameterized in the lexicon; in Swiss German, he proposes that N obligatorily bears this Case probe (2017b, 409).

from being merged in an intermediate [Spec, CP] position in both Iraqi and Syrian, but not in Irish, French, or Swiss German, *inter alia*. The core of the idea that I will pursue here is that intermediate complementizers in long-distance dependencies can have different feature bundles in different languages. Locating cross-linguistic variation in the lexicon conforms to what Baker dubs the ‘Borer-Chomsky Conjecture’, after ideas proposed in Borer (1984a, 29) and Chomsky (1995b): “All parameters of variation are attributable to differences in the features of particular items (e.g., the functional heads) in the lexicon” (Baker, 2008, 353). Informally speaking, Iraqi and Syrian intermediate complementizers do not allow their specifiers to be filled by (external) Merge, whereas Irish, French, and Swiss German intermediate complementizers do. Of course, both classes of language have two other types of intermediate complementizers: those which drive movement into their specifiers in long-distance \bar{A} -movement, ensuring successive-cyclicity, and those which do not have filled specifiers (i.e. regular declarative complementizers). The lexical generalizations are informally stated in (170)–(171), approximating in many respects the system proposed in McCloskey (2002, 201, (47)):

- (170) *Iraqi/Syrian inventory of intermediate complementizers (informal)*
- a. Intermediate C whose specifier is filled by Move.
 - b. Intermediate C whose specifier is not filled.
- (171) *Irish/French/Swiss German inventory of intermediate complementizers (informal)*
- a. Intermediate C whose specifier is filled by Merge. (realized as *aN* in Irish)
 - b. Intermediate C whose specifier is filled by Move. (realized as *aL* in Irish)⁷²
 - c. Intermediate C whose specifier is not filled. (realized as *go* in Irish)

72. Strictly speaking, Swiss German seems not to employ a finite declarative intermediate C whose specifier is filled by Move in headed relative clauses according to Salzmann (2017b). Long-distance relativization typically requires the use of a resumptive pronoun (2017b, 341–342), though long-distance relativization of nominal amounts and predicates, which involves an overt relative head, does allow gaps for some speakers (2017b, 371–372). Long-distance *wh*-movement and topicalization require gaps (Salzmann, 2017b, 342–343, (9), (11)), as do free relatives, which employ overt relative *wh*-pronouns (2017b, 336, fn. 1). Since gaps are available in at least some instances of long-distance \bar{A} -extraction, I conclude that the lexicon of Swiss German does contain an intermediate C whose specifier is filled by Move, though additional factors constrain its distribution. One tack we could take would be to posit a more articulated set of \bar{A} -related features, each of which would be involved in a different kind of \bar{A} -dependency (e.g. [wh], [rel], [topic], etc.).

Since Iraqi and Syrian lack the intermediate C whose specifier is filled by Merge ((171a)), we predict the absence of mixed chains like (158): a null operator will never be base-generated in an intermediate position.

Using the feature system outline in section §3.2, the difference between Iraqi and Syrian on the one hand and Irish, French, and Swiss German on the other reduces to the contrast between the lexical inventories in (172) and (173):

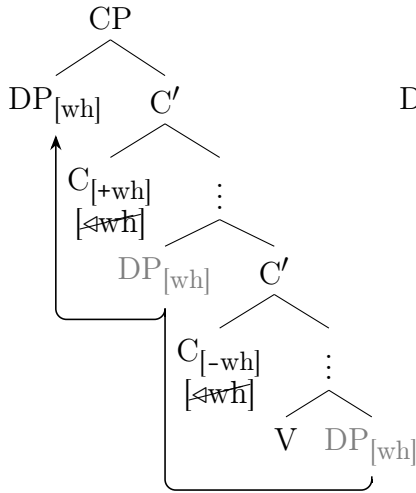
- (172) *Iraqi/Syrian inventory of intermediate complementizers (formal)*
- a. $C_{[-wh]}$ bearing [$\langle wh$].
 - b. $C_{[-wh]}$ bearing neither [$\bullet wh$] nor [$\langle wh$].
- (173) *Irish/French/Swiss German inventory of intermediate complementizers (formal)*
- a. $C_{[-wh]}$ bearing [$\bullet wh$]. (realized as *aN* in Irish)
 - b. $C_{[-wh]}$ bearing [$\langle wh$]. (realized as *aL* in Irish)⁷³
 - c. $C_{[-wh]}$ bearing neither [$\bullet wh$] nor [$\langle wh$]. (realized as *go* in Irish)

The key difference is that Irish, French, and Swiss German have in their lexicons a (finite declarative) $C_{[-wh]}$ bearing [$\bullet wh$] while Iraqi and Syrian do not. We can illustrate this difference by considering how intermediate and topmost complementizers combine to yield mixed chains. Assuming that $C_{[+wh]}$ in both types of language can be lexically specified to bear [$\langle wh$], we predict three different ways to form a biclausal *wh*-dependency:⁷⁴

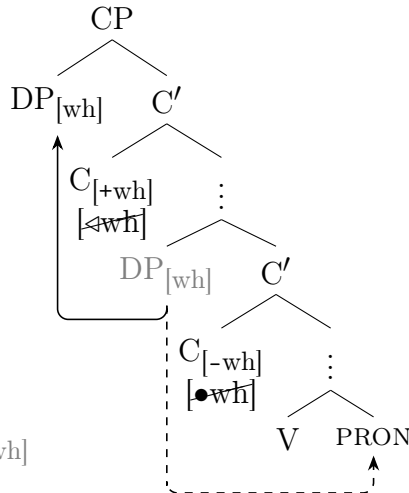
73. But see footnote 72 for discussion of the complex distribution of this complementizer in Swiss German.

74. See section §3.5.3 for discussion of multi-clausal dependencies with $C_{[+wh]}$ bearing [$\bullet wh$].

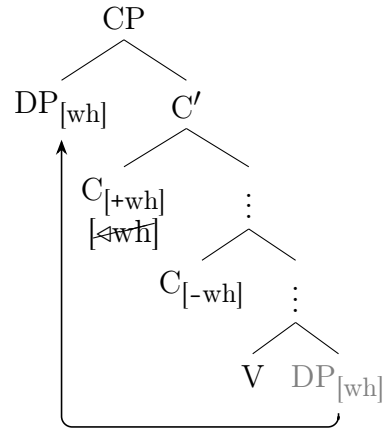
(174) Move → Move



(175) Merge → Move



(176) ‘One fell swoop’ movement



Successive-cyclic movement is achieved in both types of language by chaining complementizers bearing [\triangleleft wh], as in (174). Mixed chains involving base-generation followed by movement result from combining intermediate $C_{[-wh]}$ bearing [\bullet wh] (which triggers External Merge of a resumptive-binding operator) with topmost $C_{[+wh]}$ bearing [\triangleleft wh] ((175)). According to the inventories of complementizers in (172)–(173), such a derivation is available in Irish, French, and Swiss German, but is unavailable in Iraqi and Syrian. I assume that ‘one fell swoop’ movement as in (176)—which could be generated by combining an intermediate $C_{[-wh]}$ bearing neither [\triangleleft wh] nor [\bullet wh] with topmost $C_{[+wh]}$ bearing [\triangleleft wh]—is independently ruled out due to the Phase Impenetrability Condition of Chomsky (2000, 108): because $C_{[-wh]}$ is a phase head, only $C_{[-wh]}$ and its edge will be accessible to the [\triangleleft wh] probe on $C_{[+wh]}$. Importantly, an account which did not posit a distinction between Merge- and Move-triggering features on intermediate complementizers would fail to explain why movement, but not base-generation, is possible in intermediate [Spec, CP] positions in Arabic.⁷⁵ The analysis developed here, by contrast, does correctly rule out the mixed chain in (158)—and the

75. As Karlos Arregi (*pers. comm.*) points out to me, the idea that the featural triggers for Merge and Move are the same (using those labels somewhat anachronistically) has a long history in the tradition of generative grammar. For instance, this intuition underlies early conceptualizations of expletive insertion, whereby insertion of an expletive in an expletive sentence satisfies the same requirement that movement to subject position does—namely, that (English) sentences have a subject (i.e. the EPP, Chomsky, 1981).

schematic derivation in (175)—for Arabic.⁷⁶

Of course, one would hope that my proposed system of features would make interesting—and ideally *correct*—cross-linguistic predictions about possible lexical inventories in other languages. And in fact, there is evidence that this is indeed the case. Two other language types predicted by the bundling of Merge- and Move-triggering features on intermediate complementizers are shown in (177) and (178).⁷⁷ The first type contains only intermediate complementizers bearing [\bullet wh] (as well as regular declarative Cs bearing neither [\bullet wh] nor [\langle wh]), and is predicted to ban long-distance movement, but to allow iterative base-generation at each clause boundary in long-distance dependencies. The second type contains only intermediate complementizers lacking *wh*-related features, hence is predicted to

76. One could attempt to restate the differences between the two types of language using McCloskey's (2002) feature system, but doing so would require making explicit several assumptions which are not laid out concretely in his original explication. The most important of these implicit assumptions is that if a head which bears an agreement-triggering feature and an EPP feature, the latter must be satisfied by whatever element satisfies the former. To see why McCloskey's proposal, unchanged, fails to account for both the Arabic and Irish data, consider the following. In McCloskey's system, (external) Merge is driven solely by an EPP feature on C which requires the specifier of C to be filled; in the absence of other requirements, this EPP feature must be satisfied by introducing a lexical item from the lexicon/numeration or an already constructed complex syntactic object. Move, on the other hand, is a composite operation, driven by two separate lexical properties of the head: one feature triggers an agreement relation between C and a constituent bearing a matching feature in its c-command domain—in the case of *wh*-movement, the triggering feature is [*Op*], a feature that identifies operators—and the other is the EPP feature. It is assumed that, in the case of Move, the EPP feature will be parasitic on the agreement step, raising the agreed with operator into [*Spec*, CP]. In other words, McCloskey assumes that the [*Op*] and [EPP] features *must* be checked by the same element when bundled together on a single head. But this correlation is never made explicit, and it is not clear why it should hold. First, we know that the [EPP] feature can be satisfied by external Merge when isolated on a head; this is how a derivation with the complementizer *aN* proceeds in Irish. Why, then, should the presence of an unchecked [*Op*] feature on the same head preclude this?

Second, much work at the time by Chomsky (2000, 2001b) on expletive constructions attempted to tease apart satisfaction of the EPP from the effects of Agree, arguing that the EPP feature and φ -features could be checked independently on T. If the EPP feature is an independent property of lexical items, and not a second order property of features (see the concept of feature 'strength' in Chomsky, 1993; conceptual arguments against the EPP as a second order property of features can be found in Bošković, 2007, 621 and Zyman, 2023b, 44–45), then nothing precludes an application of Agree being followed by an application of external Merge to satisfy the EPP feature in Irish. As it stands, then, McCloskey's system incorrectly predicts that movement effects should not be obligatory with the movement-specific complementizer *aL* in Irish (contra McCloskey, 2002, 204). However, if the assumption that an agreement-triggering probe and an EPP feature on a single head must be satisfied by the same element is given an explicit analysis, McCloskey's system is, as far as I can tell, isomorphic to my own.

77. I set aside the possibility that some languages might lack regular declarative intermediate complementizers (i.e. C_[\bullet wh] bearing neither [\bullet wh] nor [\langle wh]).

bar long-distance dependencies altogether.⁷⁸

- (177) *Inventory of intermediate complementizers in a language with only iterated base-generation + resumption in long-distance \bar{A} -dependencies*
- a. $C_{[-wh]}$ bearing [$\bullet wh$].
 - b. $C_{[-wh]}$ bearing neither [$\bullet wh$] nor [$\triangleleft wh$].
- (178) *Inventory of intermediate complementizers in a language without long-distance \bar{A} -dependencies*
- a. $C_{[-wh]}$ bearing neither [$\bullet wh$] nor [$\triangleleft wh$].

Schneider-Zioga (2009) argues that Kinande is precisely the type of language predicted by (177). According to Schneider-Zioga, Kinande lacks long successive-cyclic \bar{A} -movement, diagnosed by (i) the absence of reconstruction to embedded positions in unbounded dependencies, (ii) the lack of superiority effects with both clausemate and non-clausemate *wh*-elements, and (iii) the impossibility of successive-cyclic A -movement in the language. Instead, long-distance dependencies are formed by a series of local operator–bound-variable dependencies, with intermediate operators being bound by higher ones, and the lowest link in the chain being a null resumptive pronoun. Roughly, this is the *iterative prolepsis* analysis adopted in one guise or another for Selayarese by Finer (1997), for Madurese by Davies (2003), for Kinande by Boeckx (2008b, 97–98), and for (at least some) Swiss German relatives by Salzmann (2017b, 444–458). On the other hand, according to Polinsky and Potsdam (2001, 603–604), Tsez completely lacks (covert and overt) cross-clausal \bar{A} -movement, with supporting evidence coming from topicalization, scrambling, and *wh*-movement. This is despite the fact that Tsez permits clausal embedding in non-extraction contexts. Tsez thus instantiates a language with the lexical inventory of intermediate complementizers in (178). Similar restrictions on \bar{A} -dependencies crossing finite clause boundaries have been reported in other languages. Comrie (1973) and Pesetsky (1982) show that *wh*-movement cannot

78. If each of these flavors of $C_{[-wh]}$ can be idiosyncratically selected by particular heads, as the theory of *l*-selection (Pesetsky, 1991, ch. 1; Merchant, 2019) leads us to expect, then my proposed cross-linguistic inventory of complementizers might form the basis for an analysis of the bridge/non-bridge verb distinction: bridge verbs will select for either $C_{[-wh]}$ or $C_{[-wh, \triangleleft wh]}$, whereas non-bridge verbs will select only for $C_{[-wh]}$.

mixed chains with base-generation of the *wh*-phrase in an intermediate landing site and insertion of a *wh*-expletive *f*- ‘what’ at the top of the chain.⁸⁰ The lexical inventory of intermediate complementizers in (172) is intended to rule such a derivation out. This concern dissolves, however, if we adopt the indirect dependency approach to *wh*-scope marking (see Dayal, 1994, Bruening, 2006, and Keine, 2020, 87–91). According to this approach, *wh*-scope marking constructions consist of two independent questions: “What did Hend tell you?” and “which of them the administration is going to hire?” These questions are linked semantically, but the embedded *wh*-phrase *ja: wa:ħid min-hum* ‘which of them’ is crucially never associated with the higher C. Thus, there are two strictly local \bar{A} -dependencies involved in (179): the matrix question involves regular \bar{A} -movement of the *wh*-argument *f*- ‘what’ (which must not be pleonastic), while the embedded question involves either \bar{A} -movement leaving a gap ((179a)) or base-generation plus binding ((179b)).⁸¹

- (180) [CP What_i C_[+wh, <wh] ... what_i ... [CP which one_k C_[+wh, <wh] ... hire which one_k]]?
- (181) [CP What_i C_[+wh, <wh] ... what_i ... [CP which one_k C_[+wh, •wh] ... hire PRON_k]]?

In fact, the distribution of subject-verb inversion in Iraqi provides independent evidence in support of the indirect dependency analysis of *wh*-scope marking. When a *wh*-element appears at the left edge of a [+wh] CP in Iraqi, the subject (if overt) and verb most local to the *wh*-phrase preferably invert (see Sulaiman, 2016, 26–39 for a discussion of similar facts in Syrian Arabic, and Borer, 1984b, 226–228 and Fox, 1994, 15–16 on VSO order in Hebrew gapped and resumptive relatives). The order of overt subjects and verbs in embedded clauses, on the other hand, is much freer: both S-V and V-S orders are permitted.⁸²

80. The *wh*-word ‘what’ in Iraqi appears as *finu* when not followed by any overt material (e.g. in sluicing) and in many verbless sentences, while the reduced and proclitic form *f*- appears in the majority of other contexts, for instance in verbal sentences and in certain verbless sentences. See Erwin (1963, 293–294) for discussion and examples.

81. The higher dependency cannot involve resumption because *f(inu)* cannot be resumed in Iraqi Arabic.

82. Many of the Iraqi ex-situ *wh*-questions reported by Wahba (1992) display matrix S-V order, contrasting

(182) Matrix V-S order is preferred in long-distance gapped *wh*-dependencies

a. *Matrix V-S, Embedded S-V*

[ja: wa:ħid min-hum]_i ga:lat-litʃ Hend innu
 [which one from-them]_i said.3.F.SG-2.F.SG.DAT Hend that
 l-ʔida:ra raħ twað^ʕð^ʕaf ____i?
 the-administration FUT hire.3.F.SG

b. *Matrix V-S, Embedded V-S*

[ja: wa:ħid min-hum]_i ga:lat-litʃ Hend innu raħ twað^ʕð^ʕaf
 [which one from-them]_i said.3.F.SG-2.F.SG.DAT Hend that FUT hire.3.F.SG
 l-ʔida:ra ____i?
 the-administration

c. *Matrix S-V, Embedded S-V*

??[ja: wa:ħid min-hum]_i Hend ga:lat-litʃ innu
 [which one from-them]_i Hend said.3.F.SG-2.F.SG.DAT that
 l-ʔida:ra raħ twað^ʕð^ʕaf ____i?
 the-administration FUT hire.3.F.SG

d. *Matrix S-V, Embedded V-S*

??[ja: wa:ħid min-hum]_i Hend ga:lat-litʃ innu raħ twað^ʕð^ʕaf
 [which one from-them]_i Hend said.3.F.SG-2.F.SG.DAT that FUT hire.3.F.SG
 l-ʔida:ra ____i?
 the-administration

All: ‘Which one of them did Hend tell you that the administration is going to hire?’

(183) Matrix V-S order is preferred in long-distance resumptive *wh*-dependencies

a. *Matrix V-S, Embedded S-V*

[ja: wa:ħid min-hum]_i ga:lat-litʃ Hend innu
 [which one from-them]_i said.3.F.SG-2.F.SG.DAT Hend that
 l-ʔida:ra raħ twað^ʕð^ʕaf-**a**_i?
 the-administration FUT hire.3.F.SG-**him**_i

b. *Matrix V-S, Embedded V-S*

[ja: wa:ħid min-hum]_i ga:lat-litʃ Hend innu raħ
 [which one from-them]_i said.3.F.SG-2.F.SG.DAT Hend that FUT
 twað^ʕð^ʕaf-**a**_i l-ʔida:ra?
 hire.3.F.SG-**him**_i the-administration

with the examples provided here. Notably, there are other differences between the judgments reported by Wahba and those of my consultant—a native speaker of Muslim Baghdadi Arabic. For instance, Wahba (1992, 258, (10)) reports that partial *wh*-movement is possible in Iraqi without an overt matrix scope marker like *f*-, a judgment which my consultant does not share. I suspect that this variation can be attributed to differences in dialect, as there is significant diversity among the Arabic varieties spoken in Iraq (for overviews, see Blanc (1964); Jastrow (2009)). Unfortunately, Wahba does not list which variety of Iraqi Arabic her reported judgments come from.

- c. *Matrix S-V, Embedded S-V*
 ??[ja: wa:hid min-hum]_i Hend ga:lat-litʃ innu
 [which one from-them]_i Hend said.3.F.SG-2.F.SG.DAT that
 l-ʔida:ra raḥ twað^ʕð^ʕaf-**a**_i?
 the-administration FUT hire.3.F.SG-**him**_i
- d. *Matrix S-V, Embedded V-S*
 ??[ja: wa:hid min-hum]_i Hend ga:lat-litʃ innu raḥ
 [which one from-them]_i Hend said.3.F.SG-2.F.SG.DAT that FUT
 twað^ʕð^ʕaf-**a**_i l-ʔida:ra?
 hire.3.F.SG-**him**_i the-administration
 All: (lit.) ‘Which one of them did Hend tell you that the administration is
 going to hire him?’

Note that subject-verb inversion in Iraqi does not appear to be a diagnostic for successive-cyclic movement (cf. Kayne and Pollock, 1978 on French, Torrego, 1984 on at least one variety of Spanish, and Henry, 1995 on Belfast English), since it is required in both gapped ((182)) and resumptive ((183)) dependencies. Furthermore, if the strong preference for inversion were enforced by each C hosting a *wh*-phrase in its specifier, we would predict to find the same preference in intermediate clauses, contrary to fact.

Returning to scope-marking in Iraqi, we observe a different pattern of judgments: subject-verb inversion is strongly preferred in both matrix *and* embedded clauses in *wh*-scope marking constructions which span a finite clause boundary. Thus, (179a) and (179b) (repeated here as (184a) and (185a), respectively) with inversion in both clauses are fully acceptable, but any deviation from the preferred V-S order immediately under *wh*-elements, as in (184b)–(184d) and (185b)–(185d), results in degradation. Note that it is a property of the phonologically reduced *wh*-word *f*- ‘what’ that it must cliticize onto verbs in Iraqi finite verbal clauses (see footnote 80), explaining the total impossibility of S-V order in the matrix clause.

- (184) V-S order under both *wh*-elements in Iraqi gapped *wh*-scope marking constructions
- a. *Matrix V-S, Embedded V-S*
 f-ga:lat-litʃ Hend [ja: wa:hid min-hum]_i raḥ twað^ʕð^ʕaf
 what-said.3.F.SG-2.F.SG.DAT Hend [which one from-them]_i FUT hire.3.F.SG

l-ʔida:ra ____i?
 the-administration
 ‘Which one of them did Hend tell you that the administration is going to hire?’

b. *Matrix V-S, Embedded S-V*

ʔʔf-ga:lat-liʔf Hend [ja: wa:hid min-hum]_i
 what-said.3.F.SG-2.F.SG.DAT Hend [which one from-them]_i
 l-ʔida:ra raħ twað^ʔð^ʔaf ____i?
 the-administration FUT hire.3.F.SG

c. *Matrix S-V, Embedded V-S*

*f-Hend ga:lat-liʔf [ja: wa:hid min-hum]_i raħ twað^ʔð^ʔaf
 what-Hend said.3.F.SG-2.F.SG.DAT [which one from-them]_i FUT hire.3.F.SG
 l-ʔida:ra ____i?
 the-administration

d. *Matrix S-V, Embedded S-V*

*f-Hend ga:lat-liʔf [ja: wa:hid min-hum]_i
 what-Hend said.3.F.SG-2.F.SG.DAT [which one from-them]_i
 l-ʔida:ra raħ twað^ʔð^ʔaf ____i?
 the-administration FUT hire.3.F.SG

(185) V-S order under both *wh*-elements in Iraqi resumptive *wh*-scope marking constructions

a. *Matrix V-S, Embedded V-S*

f-ga:lat-liʔf Hend [ja: wa:hid min-hum]_i raħ
 what-said.3.F.SG-2.F.SG.DAT Hend [which one from-them]_i FUT
 twað^ʔð^ʔaf-**a**_i l-ʔida:ra?
 hire.3.F.SG-**him**_i the-administration
 ‘Which one of them did Hend tell you that the administration is going to hire?’

b. *Matrix V-S, Embedded S-V*

ʔʔf-ga:lat-liʔf Hend [ja: wa:hid min-hum]_i
 what-said.3.F.SG-2.F.SG.DAT Hend [which one from-them]_i
 l-ʔida:ra raħ twað^ʔð^ʔaf-**a**_i?
 the-administration FUT hire.3.F.SG-**him**_i

c. *Matrix S-V, Embedded V-S*

*f-Hend ga:lat-liʔf [ja: wa:hid min-hum]_i raħ
 what-Hend said.3.F.SG-2.F.SG.DAT [which one from-them]_i FUT
 twað^ʔð^ʔaf-**a**_i l-ʔida:ra?
 hire.3.F.SG-**him**_i the-administration

d. *Matrix S-V, Embedded S-V*

*f-Hend ga:lat-liʔf [ja: wa:hid min-hum]_i
 what-Hend said.3.F.SG-2.F.SG.DAT [which one from-them]_i
 l-ʔida:ra raħ twað^ʔð^ʔaf-**a**_i?
 the-administration FUT hire.3.F.SG-**him**_i

The preference for embedded V-S order in *wh*-scope marking constructions is immediately explained under the indirect dependency approach: the two *wh*-elements are at the tops of two separate *wh*-dependencies, and consequently both trigger subject-verb inversion in the minimal clause containing them. There is no need to posit exceptionally obligatory subject-verb inversion in an embedded context in (184a) and (185a).

3.5.3 *Summary and overview of other kinds of mixed chains*

To summarize, then, I have argued that parasitic gaps are a cross-linguistically reliable diagnostic for successive-cyclic movement in \bar{A} -dependencies. I used this diagnostic to establish a previously unrecognized dimension of cross-linguistic variation—namely, in the availability of mixed chains. Novel evidence from Iraqi, Tunisian, and Syrian Arabic showcasing the incompatibility of resumption with parasitic gaps in higher clauses strongly supports the hypothesis that resumptive dependencies in these languages never involve successive-cyclic movement triggered by [\leftarrow wh] features at any part of the chain. Instead, resumptive-binding operators in Arabic are exclusively externally merged in [Spec, C_[+wh]P] by a [\bullet wh] feature on C_[+wh]. On the other hand, I argued that long-distance dependencies in Irish, French, and Swiss German, among others, provide solid evidence for mixed base-generation and movement chains which terminate in a resumptive pronoun; this evidence consisted primarily of (i) mixed chains of complementizers, and (ii) non-local licensing of parasitic gaps. I accounted for this cross-linguistic contrast by positing a difference in the lexical inventories of intermediate complementizers in the two types of language: Irish, French, and Swiss German, but not Iraqi and Syrian, have access to intermediate complementizers (C_[-wh]) whose specifiers are filled by (external) Merge. Finally, I showed that *wh*-scope marking constructions in Iraqi Arabic are unproblematic for this proposal if, as the evidence suggests, they are formed via an indirect dependency between two independent questions, rather than via a mixed chain.

Before continuing on to the next syntactic diagnostic for movement, I will briefly consider whether other types of mixed chains might be available in Iraqi or Syrian Arabic. In his seminal paper on mixed chains, McCloskey (2002) documents three types of mixed chains in Irish in addition to successive-cyclic movement chains:

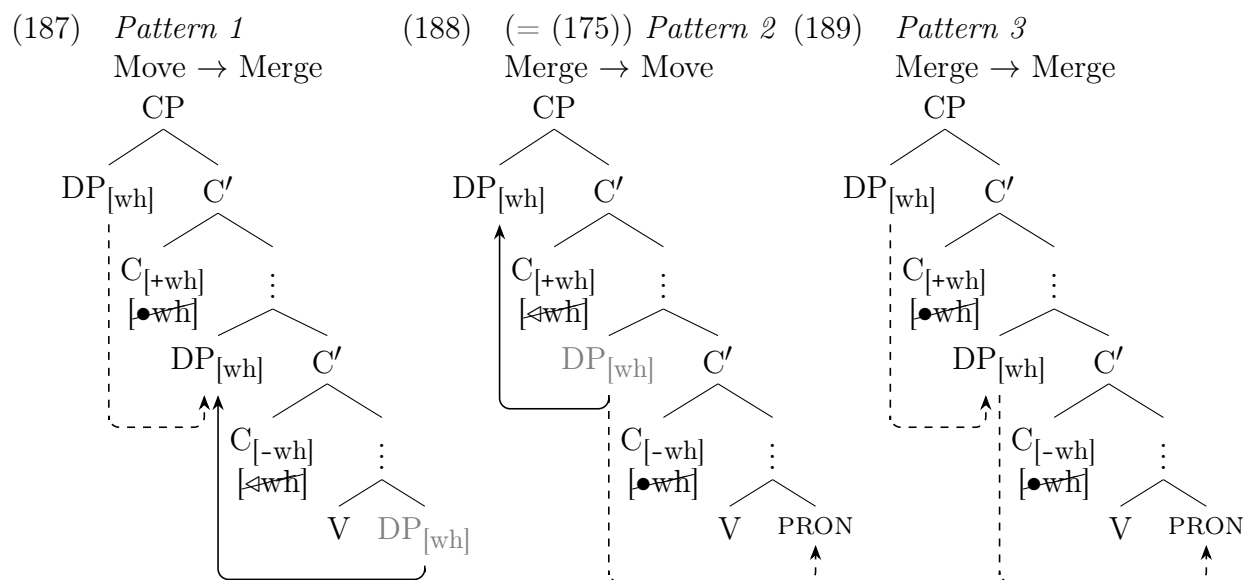
- (186) a. *Pattern 1:*

$$[CP \text{ Op}_i \text{ aN} \dots [CP \text{ Op}_i \text{ aL} \dots \text{ }]_i \dots]$$
- b. *Pattern 2:*

$$[CP \text{ Op}_i \text{ aL} \dots [CP \text{ }_i \text{ aN} \dots \text{ PRON}_i \dots]]$$
- c. *Pattern 3:*

$$[CP \text{ Op}_i \text{ aN} \dots [CP \text{ Op}_i \text{ aN} \dots \text{ PRON}_i \dots]]$$

Pattern 3 involves a chain of multiple resumptive-binding operators (on which see the discussion in section §3.3), and Pattern 2 involves base-generation of a null operator followed by movement—the primary focus of section §3.5.1. In Pattern 1, a null operator moves from the variable site to an intermediate position where it is bound by a higher, base-generated operator. These three patterns can be accounted for in terms of the Merge- and Move-triggering features which I proposed above, as in (187)–(189).



Pattern 2 in particular appears to be fairly well-documented cross-linguistically; see Iatridou

(1995) on Greek, Finer (1997) on Selayarese, Willis (2011) on Colloquial Welsh and Rouveret (2018) on Literary Welsh, Imanishi (2013, 2019) on Kaqchikel, van Urk (2017a) on Dinka, Sportiche (2017b, 2018) on French, Erlewine and Lim (2022) on Bikol, and perhaps Alber (2008, 153, (23a)) on Tyrolean German (see footnote 6 in chapter 2). Nonetheless, Patterns 2 and 3 are ruled out for Iraqi and Syrian since, as demonstrated above, both languages lack an intermediate complementizer $C_{[-wh]}$ bearing the $[\bullet wh]$ feature driving (external) Merge into its specifier.⁸³

This leaves Pattern 1. Although this pattern does not boast the same kind of robust cross-linguistic attestation as Pattern 2, Sichel (2022) provides evidence for Pattern 1-like mixed chains in Hebrew from overt movement of resumptive pronouns inside islands. See also Maki and Ó Baoill (2007) for important discussion of Pattern 1 in Irish.⁸⁴ Nothing in the lexical inventory in (172) rules out Pattern 1 derivations for Iraqi and Syrian. However, it is unclear how one might empirically determine if Pattern 1 chains are available in Arabic. Without morphologically distinct complementizers or overt intermediate operators signaling how the dependency has been formed, Pattern 1 dependencies and long-distance movement dependencies will be string-identical: both terminate in a gap and have an operator at the top of the chain. Pattern 1 dependencies are predicted not to exhibit reflexes of movement in higher portions of the chain, but the strings they yield will always have a competing parse with successive-cyclic movement along the entire chain. Absent a reliable means to

83. One might wonder whether the inversion facts reported in (183) might shed some empirical light on the availability of Pattern 3 mixed chains in Iraqi. Unfortunately, it seems not. Since the presence of a left-peripheral *wh*-word in Iraqi *wh*-questions enforces a strong preference for inversion in the minimal clause containing it, we might expect the same preference to hold in intermediate clauses if Pattern 3 mixed chains were available, as such chains would contain (potentially null) *wh*-operators in each [Spec, CP] position. However, a string produced by a Pattern 3 mixed chain could always alternatively have been produced by a long-distance resumptive-binding chain which is not expected to trigger the strong preference for inversion in lower clauses. In fact, what we find is that subject-verb inversion is merely optional in intermediate clauses. This is compatible both with Pattern 3 mixed chains being available (but not obligatory) in Iraqi and with Pattern 3 mixed chains not existing at all, hence, no clear conclusions can be drawn from the data.

84. An important dimension of variation is that Pattern 1 chains in Irish apparently cannot span an island boundary (Maki and Ó Baoill, 2007, 72, fn. 4), whereas Sichel (2022, 14, (35)) shows that resumptive pronouns can be overtly topicalized within (but not across) islands.

differentiate Pattern 1 and regular long-distance movement dependencies in Iraqi and Syrian, I will set Pattern 1 dependencies in Arabic aside.

Note that the existence of Pattern 1 chains in Irish and Hebrew leads us to predict that the following type of language should also exist, *ceteris paribus*:

(190) *Language X: a hypothetical language predicted by movement-then-base-generation chains in Irish & Hebrew*

- a. Language X uses the ‘base-generation+binding’ strategy with null operators in ‘that’-relatives (i.e. restrictive relatives with invariant complementizers).
- b. Language X uses case-marked relative pronouns in dependencies terminating in a gap.

(191) *A relative clause predicted to be possible in Language X, using English lexical items*

This is the boy [_{CP} *Op*_i that you said [_{CP} whom_i the girl saw ____i]].

In (191), a case-marked relative pronoun is base-generated in an A-position where it receives case; it then moves to the specifier of an intermediate complementizer and stops, from which position it is bound by a higher base-generated null operator.⁸⁵ Data from McDaniel (1986)

85. A superficially similar example is discussed in Kayne (1994, 155, n. 16, (ii)), who analyzes the appearance of the relative pronoun *which* in a non-highest link in the chain as a kind of relative *wh* in situ (judgment preserved from the original). Example (i) is a modified version of Kayne’s example using *pray for* rather than *like for*, as the former does not allow *for*-deletion.

- (i) ?? This is the book_i that they prayed for which_i to make a big splash.

This example in English crucially differs from the predicted example in (191) in that examples like (i) are only (marginally) acceptable when they repair PF constraints. Thus, the deviance of (i), which circumvents a violation of the **for-to* filter, seems milder than the deviance of (ii):

- (ii) * This is the book [_{CP} which_i they prayed for ____i to make a big splash].

Likewise, Erik Zyman points out to me that (iii) circumvents a *P-CP violation and, in his judgment, is more acceptable than (iv) without the relative pronoun intervening between the preposition and *that*:

- (iii) ?? He is the man [_{CP} that I believe of whom that he is a very good dancer].
 (iv) * He is the man [_{CP} who_i I believe of ____i that he is a very good dancer].

It may be, then, that (i) and (iii) void violations of PF constraints via exceptional spell-out of a non-highest copy of the relative pronoun in a fully successive-cyclic movement derivation, but because realization of a non-highest link in the chain is marked, these examples remain degraded. These examples, however, do not instantiate a Pattern 2 mixed chain along the lines of (191). Thanks to Erik Zyman for much discussion of this point.

suggest that Romani might have access to precisely this type of relative clause. In (192), the relative pronoun *kas* ‘whom’ bearing accusative case appears at the left edge of an intermediate clause and binds a gap in the variable site, while at the top of the chain we find the element *so*, analyzed here by McDaniel as an expletive scope marker.⁸⁶

- (192) Ake o čhavo_i so mislinav kas_i i Arifa dikhlâ ____i.
 here the boy_i EXPL I.think whom_i Arifa saw
 ‘Here’s the boy that I think Arifa saw.’ (McDaniel, 1986, 113, (33a))

If indeed (192) involves a Pattern 1 mixed chain (i.e. movement followed by binding), then this would constitute striking support for the taxonomy of chains proposed in McCloskey (2002).⁸⁷

3.6 Stranding *exactly* in intermediate positions

This section details an investigation of stranding *wh*-adjoined material under resumption—the first of its kind for any language, to my knowledge. I show that gapped \bar{A} -dependencies in Iraqi and Syrian Arabic, but not resumptive ones, freely permit stranding of *wh*-adjoined material at intermediate landing sites. I argue that the contrast between gaps and resumptives bears out my larger claim for Arabic that gapped dependencies are derived by Move-triggering [\leftarrow wh] features and that resumptive ones are always base-generated by [\bullet wh] features. The results of the diagnostics considered so far are summarized in (193):

- (193) *Results from Iraqi (IA), Tunisian (TA), and Syrian Arabic (SA)* (RP = ‘resumptive pronoun’) (3/4 tests)

86. McDaniel argues that *so* is homophonous between an expletive scope marker in *wh*-dependencies and the regular, uninflected complementizer.

87. See McDaniel (1986, 112–113, 133–136) for an analysis of (192) in terms of partial *wh*-movement within the relative clause.

	Resumptive dependencies		Gapped dependencies
	<i>Optional RP</i>	<i>Obligatory RP</i>	
Are islands obeyed? (IA, TA, SA)	N/A	No	Yes
Are parasitic gaps licensed? (IA, TA, SA)	No	No	Yes
Is <i>exactly</i> stranding permitted? (IA, SA)	No	No	Yes

The stranding facts also provide an additional argument that these Arabic varieties lack mixed base-generation-and-movement chains of the kind discussed in section §3.5; we can again account for this fact if Arabic lacks $C_{[-wh]}$ bearing $[\bullet wh]$. Finally, novel evidence from Spanish demonstrates that resumptives in that language *do* license stranding in intermediate positions, providing additional evidence (along with the other movement diagnostics in (194)) in favor of the bipartite taxonomy of resumptives across languages.

(194) *Syntactic tests for movement distinguish two types of resumptive pronouns* (3/4 tests)

	Island-sensitive?	License (local) PGs?	License stranding?	Exemplar languages
Base-generated resumptives	No	No	No	Iraqi, Syrian, Tunisian, Maltese, ...
Movement-derived resumptives (and gaps)	Yes	Yes	Yes	Spanish, Swedish, Vata, Igbo, Romani, ...

Several works have demonstrated that (\bar{A} -)moved elements can leave behind material at intermediate stopover points along the path of movement (e.g., du Plessis, 1977, Barbiers, 2002, and Wiland, 2010). Arguably the most well-known such case is reported in McCloskey (2000). McCloskey shows that long-distance *wh*-movement of a *wh*-element modified by the

quantifier *all* in West Ulster English can take one of three forms: *all* can be pied-piped to the final landing site of *wh*-movement ((195a)), *all* can be stranded in the base position ((195b)), or *all* can be stranded in an intermediate [Spec, CP] position ((195c)).

- (195) a. [What **all**]_{*i*} did he say ____{*i*} (that) he wanted ____{*i*}?
 b. What_{*k*} did he say ____{*k*} (that) he wanted [**all** ____{*k*}]?
 c. What_{*k*} did he say [**all** ____{*k*}]_{*i*} (that) he wanted ____{*i*}? (McCloskey, 2000, 61, (8a–c))

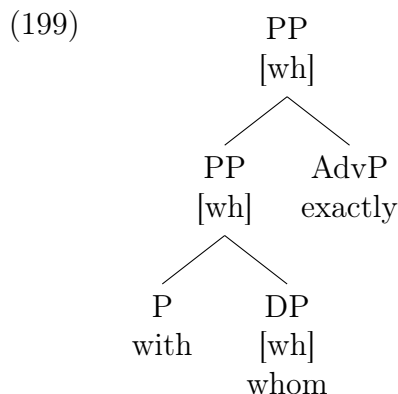
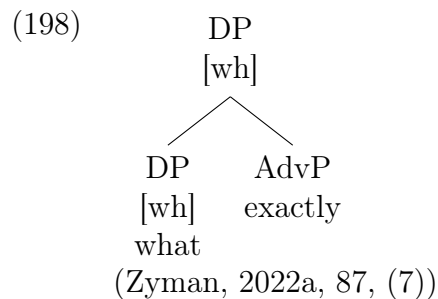
McCloskey argues that the possibility for intermediate stranding in (195c) provides strong supporting evidence for the hypothesis that *wh*-movement proceeds successive-cyclically through the specifier of CP. See den Dikken (2017, §3.3) and Davis (2020a) for additional discussion of intermediate stranding.

A similar argument can be made on the basis of the adverb *exactly*, which Zyman (2022a) argues can also be stranded at intermediate clause edges, left-adjacent to the complementizer *that* (see Zyman, 2022a, 86 for additional references). The examples in (196) illustrate with a nominal *wh*-element, and those in (197) with a questioned PP; in both cases, the (a) example involves stranding at one level of embedding and the (b) example at two levels of embedding.

- (196) a. What_{*i*} do you believe ____{*i*} **exactly** that, for some reason, she devoured ____{*i*} on Sunday?
 (Zyman, 2022a, 104, (56a))
 b. What_{*i*} do you believe that everyone said ____{*i*} **exactly** that, for some reason, she devoured ____{*i*} on Sunday?
 (Zyman, 2022a, 104, (57a))
 (197) a. [With whom]_{*i*} do you believe ____{*i*} **exactly** that, for some reason, she conspired ____{*i*} against us?
 b. [With whom]_{*i*} do you believe that everyone said ____{*i*} **exactly** that, for some reason, she conspired ____{*i*} against us?

I follow Zyman’s analysis and assume that *exactly* right-adjoins to a host bearing a [wh] feature. I will further assume that the host can either be the DP *wh*-phrase itself, as in (198), or a constituent containing the *wh*-phrase as in (199), which I will assume for explicitness

has inherited the [wh] feature via feature percolation.⁸⁸



88. Alternatively, we might adopt Cable’s (2007; 2010a) analysis of pied-piping, whereby the head of a phrase that undergoes \bar{A} -movement is not a head bearing a [wh] feature, but rather an independent head Q which can be merged either above DP or above PP. Under this proposal, *exactly* would always adjoin to QP.

Potential empirical support for the Q-based approach comes from restrictions on *exactly* adjunction: *exactly* always seems to adjoin to the topmost pied-piped node, i.e. the phrase that moves, as in (i)–(ii).

- (i) [[Which student’s paper] exactly] were you reading the other day?
- (ii) [[[How many years] ago] exactly] did you write that paper?

Adjunction of *exactly* to the embedded, pied-piping *wh*-phrase is not possible:

- (iii) *[[[Which student] exactly]’s paper] were you reading the other day?
- (iv) *[[[How many years] exactly] ago] did you write that paper?

This asymmetry is expected if *exactly* only adjoins to QP. QP is the target of \bar{A} -movement in *wh*-questions, hence *exactly* must adjoin to the phrase that moves:

- (v) [QP [QP Q [DP Which student’s paper]] exactly] were you reading the other day?
- (vi) [QP [QP Q [PP [DP How many years] ago]] exactly] did you write that paper?

By contrast, this asymmetry is arguably not expected under a feature percolation approach to pied-piping if (1) feature percolation leaves [wh] features on all intervening nodes between the maximally dominating pied-piped node (e.g. the moved phrase) and the lexical *wh* head and (2) *exactly* adjoins to nodes bearing a [wh] feature.

- (vii) *Feature percolation approaches to pied-piping wrongly predict that exactly could adjoin to a node bearing [wh] which does not dominate all pied-piped material*
 - a. * [DP_[wh] [DP_[wh] [DP_[wh] Which_[wh] student] exactly]’s paper] were you reading the other day?
 - b. * [PP_[wh] [DP_[wh] [DP_[wh] How_[wh] many years] exactly] ago] did you write that paper?

Because deciding between these two theories of pied-piping is orthogonal to my goal in the main text—which is to deploy *exactly* stranding as a diagnostic for movement—I have opted to maintain the more traditional hypothesis that the target of *wh*-movement is a phrase bearing a [wh] feature. However, the data discussed in this footnote arguably support a Q-based approach.

When either of the constituents in (198) or (199) occurs in intermediate CP edges, stranding results from subextraction of the *wh*-phrase, as shown in (200) and (201).

(200) $\left[\text{DP What} \right]_i$ do you believe $\left[\text{DP } __ \right]_i$ $\left[\text{AdvP exactly} \right]$ that, for some reason, she devoured $__ \right]_i$ on Sunday?

(201) $\left[\text{PP With whom} \right]_i$ do you believe $\left[\text{PP } __ \right]_i$ $\left[\text{AdvP exactly} \right]$ that, for some reason, she conspired $__ \right]_i$ against us?

Zyman proposes that *exactly* is obligatorily adjoined late to its *wh*-associate to account for the observation that English *exactly* cannot be stranded in situ, contrary to initial appearances (see especially Zyman, 2022a, 88–92). This is why *exactly* is not represented in the variable site in (200) or (201). I will assume that Zyman’s analysis is correct and will adopt it wholesale for both English and Iraqi, though when precisely *exactly* is introduced into the derivation is largely tangential to the main point here. If Zyman’s analysis turns out to be incorrect in this respect, my argument (detailed below) against analyzing Arabic resumptives as inhabiting movement dependencies will remain unchanged. What is crucial is that intermediate stranding is taken to be a reflex of *wh*-movement dependencies launched from an intermediate landing site, and so *exactly* stranding constitutes a key diagnostic for successive-cyclicity.

In Iraqi, the PP *b-l-ḏ^fabut^f* ‘exactly’ (lit. ‘in the precision’) can adjoin to *wh*-elements of different kinds, including *minu* ‘who’, *ja: NP* ‘which NP’, *kam NP* ‘how many NP’, and PPs like *l-ja: NP* ‘to which NP’. Thus we find ‘*wh* + *exactly*’ in both gapped ((202)) and resumptive ((203)) dependencies:

- (202) a. *minu b-l-ḏ^fabut^f titwaqqaḥi:n Hend tri:d ___ jinḏ^famm*
 who **exactly** suspect.2.F.SG Hend wants.3.F.SG join.3.M.SG
li-l-fari:q?
 to-the-team
 ‘Who **exactly** do you suspect Hend wants ___ to join the team?’
- b. *ja: la:ḥib b-l-ḏ^fabut^f titwaqqaḥi:n Hend raḥjida ___ jinḏ^famm*
 which player **exactly** suspect.2.F.SG Hend wants.3.F.SG join.3.M.SG

- li-l-fari:q?
to-the-team
'Which player **exactly** do you suspect Hend wants ___ to join the team?'
- c. kam wa:hid **b-l-ð^fabut^f** titwaqqaʕim raḥ tiʕzimim ___ ʕala
how.many one **exactly** suspect.2.F.SG FUT invite.2.F.SG to
l-ʕaʕa?
the-dinner
'How many people **exactly** do you suspect you will invite ___ to dinner?'
- d. l-ja: maɖina **b-l-ð^fabut^f** titwaqqaʕim Amira intaqalat ___?
to-which city **exactly** suspect.2.F.SG Amira moved.3.F.SG
'To which city **exactly** do you suspect Amira moved ___?'
- (203) a. minu **b-l-ð^fabut^f** titwaqqaʕim Hend tri:d-a jinð^famm
who **exactly** suspect.2.F.SG Hend wants.3.F.SG-him join.3.M.SG
li-l-fari:q?
to-the-team
(lit.) 'Who **exactly** do you suspect Hend wants him to join the team?'
- b. ja: la:ʕib **b-l-ð^fabut^f** titwaqqaʕim Hend ra:ʕidt-a jinð^famm
which player **exactly** suspect.2.F.SG Hend wants.3.F.SG-him join.3.M.SG
li-l-fari:q?
to-the-team
(lit.) 'Which player **exactly** do you suspect Hend wants him to join the team?'
- c. kam wa:hid **b-l-ð^fabut^f** titwaqqaʕim raḥ tiʕzimi:∅ ʕala
how.many one **exactly** suspect.2.F.SG FUT invite.2.F.SG-him to
l-ʕaʕa?
the-dinner
'How many people **exactly** do you suspect you will invite them (lit. 'him') to
dinner?'
- d. ja: maɖina **b-l-ð^fabut^f** titwaqqaʕim Amira intaqalat-l-ha?
which city **exactly** suspect.2.F.SG Amira moved.3.F.SG-to-it
(lit.) 'Which city **exactly** do you suspect Amira moved to it?'

Like English *exactly*, Iraqi *b-l-ð^fabut^f* can appear immediately to the right of verbs which select finite embedded complement clauses when a gap occupies the variable site of the dependency, as shown in (204).⁸⁹

89. Tunisian Arabic also permits something superficially like *exactly* stranding, parallel to Iraqi Arabic, as shown in (i): the PP adverbial *bə-l-ð^fabt* 'exactly' can occur at the left edge of finite embedded complement clauses in gapped *wh*-dependencies.

(i) a. amma zuwə:ret **bə-l-ð^fabt** Ian qa:l-lək Layla tətmanna ___ jaxlt^fu
which players **exactly** Ian said.3.M.SG-to.you Layla hopes.3.F.SG join.3.PL

- (204) a. minu titwaqqaɣim **b-l-ð^fabut^f** Hend tri:d __ jinð^famm li-l-fari:q?
 who suspect.2.F.SG **exactly** Hend wants.3.F.SG join.3.M.SG to-the-team
 ‘Who do you suspect **exactly** Hend wants __ to join the team?’

ɣal-fari:q?

on.the-team

‘Which players **exactly** did Ian tell you Layla hopes __ will join the team?’

- b. amma zuwæ:re:t Ian qa:l-lək **bə-l-ð^fabt** Layla tətmanna __ jaxlt^fu
 which players Ian said.3.M.SG-to.you **exactly** Layla hopes.3.F.SG join.3.PL
 ɣal-fari:q?
 on.the-team
 ‘Which players did Ian tell you **exactly** Layla hopes __ will join the team?’

In contrast with Iraqi, however, floating *bə-l-ð^fabt* ‘exactly’ is also permissible under resumption:

- (ii) a. amma zuwæ:re:t **bə-l-ð^fabt** Ian qa:l-lək Layla tətmanne:-**hom** jaxlt^fu
 which players **exactly** Ian said.3.M.SG-to.you Layla hopes.3.F.SG-**them** join.3.PL
 ɣal-fari:q?
 on.the-team
 (lit.) ‘Which players **exactly** did Ian tell you Layla hopes they will join the team?’
 b. amma zuwæ:re:t Ian qa:l-lək **bə-l-ð^fabt** Layla tətmanne:-**hom** jaxlt^fu
 which players Ian said.3.M.SG-to.you **exactly** Layla hopes.3.F.SG-**them** join.3.PL
 ɣal-fari:q?
 on.the-team
 (lit.) ‘Which players did Ian tell you **exactly** Layla hopes they will join the team?’

Crucially, *bə-l-ð^fabt* can float away from its *wh*-associate even when the resumptive is contained in a strong adjunct island. Examples (iiia) and (iva) are clearly better than their counterparts with gaps in (iiib) and (ivb), demonstrating that the phrase headed by *qbal* ‘before’ is indeed a strong island. Example (iva) is the crucial one: *bə-l-ð^fabt* has been floated away from its *wh*-associate over the matrix subject and verb, despite the resumptive pronoun occurring inside a strong island.

- (iii) a. ? amma zuwæ:re:t **bə-l-ð^fabt** Ian qa:l-lək Nusur Qart^fa:ɣ ke:nu xa:jbim []?
 which players **exactly** Ian said.3.M.SG-to.you Eagles Carthage were.3.PL bad
 qbal ma ɣajjnu:-**hom**]?
 before C hired.3.PL-**them**
 (lit.) ‘Which players **exactly** did Ian tell you the Carthage Eagles were bad before they hired them?’
 b. * amma zuwæ:re:t **bə-l-ð^fabt** Ian qa:l-lək Nusur Qart^fa:ɣ ke:nu xa:jbim []?
 which players **exactly** Ian said.3.M.SG-to.you Eagles Carthage were.3.PL bad
 qbal ma ɣajjnu]?
 before C hired.3.PL
 (int.) ‘Which players **exactly** did Ian tell you the Carthage Eagles were bad before they hired?’
 (iv) a. ? amma zuwæ:re:t Ian qa:l-lək **bə-l-ð^fabt** Nusur Qart^fa:ɣ ke:nu xa:jbim []?
 which players Ian said.3.M.SG-to.you **exactly** Eagles Carthage were.3.PL bad
 qbal ma ɣajjnu:-**hom**]?
 before C hired.3.PL-**them**
 (lit.) ‘Which players did Ian tell you **exactly** the Carthage Eagles were bad before they hired them?’

- b. ja: la:ʕib titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** Hend raʕjida ___ jinð^ʕamm
 which player suspect.2.F.SG **exactly** Hend wants.3.F.SG join.3.M.SG
 li-l-fari:q?
 to-the-team
 ‘Which player do you suspect **exactly** Hend wants ___ to join the team?’
- c. kam wa:ħid titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** raħ tiʕzimim ___ ʕala
 how.many one suspect.2.F.SG **exactly** FUT invite.2.F.SG to
 l-ʕaʕa?
 the-dinner
 ‘How many people do you suspect **exactly** you will invite ___ to dinner?’
- d. l-ja: maðina titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** Amira intaqalat ___?
 to-which city suspect.2.F.SG **exactly** Amira moved.3.F.SG
 ‘To which city do you suspect **exactly** Amira moved ___?’

If we adopt Zyman’s analysis for Iraqi *b-l-ð^ʕabut^ʕ*, we can account for the possibility of intermediate stranding straightforwardly: the *wh*-phrase moves out of a constituent containing the *wh*-phrase and the adverbial *b-l-ð^ʕabut^ʕ*, stranding the latter in situ. Because Iraqi lacks P-stranding, stranding the preposition in the base position in (204d) is independently ruled out; instead, the preposition must be pied-piped.

Crucially, however, intermediate stranding of *b-l-ð^ʕabut^ʕ* is impossible when a resumptive pronoun occupies the variable site. Note that this is true regardless of whether the resumptive alternates with a gap ((205a)–(205c)) or not ((205d)).

- (205) a. * minu titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** Hend tri:d-a jinð^ʕamm
 who suspect.2.F.SG **exactly** Hend wants.3.F.SG-**him** join.3.M.SG

-
- b. * amma zuwæ:re:t Ian qa:l-lək **bə-l-ð^ʕabt** Nusur Qart^ʕa:ʕ kemu xa:ʕbin []?
 which players Ian said.3.M.SG-to.you **exactly** Eagles Carthage were.3.PL bad
 qbal ma ʕajnu ___]?
 before C hired.3.PL
 (int.) ‘Which players did Ian tell you **exactly** the Carthage Eagles were bad before they hired?’

Example (iva) being relatively acceptable, I will assume that Tunisian lacks *exactly* stranding, since floating of the PP adjunct does not pattern with locality. One possible way to account for the inversion of *exactly* with matrix clause material would be to posit parenthetical insertion: phrases like ‘Ian said’ are inserted parenthetically between *exactly* and its *wh*-associate. Consequently, (iib) does not constitute a real challenge to the overarching claim made here that resumptive dependencies in Arabic systematically fail to show reflexes of successive-cyclic movement.

- li-l-fari:q?
to-the-team
(int.) ‘Who do you suspect **exactly** Hend wants him to join the team?’
- b. * ja: la:ʕib titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** Hend ra:ʕjdt-a jinð^ʕamm
which player suspect.2.F.SG **exactly** Hend wants.3.F.SG-**him** join.3.M.SG
li-l-fari:q?
to-the-team
(int.) ‘Which player do you suspect **exactly** Hend wants him to join the team?’
- c. * kam wa:ħid titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** raħ tiʕzimi:∅ ʕala
how.many one suspect.2.F.SG **exactly** FUT invite.2.F.SG-**him** to
l-ʕaʕa?
the-dinner
(int.) ‘How many people do you suspect **exactly** you will invite them (lit. ‘him’) to dinner?’
- d. * ja: maɖina titwaqqaʕi:n **b-l-ð^ʕabut^ʕ** Amira intaqalat-l-**ha**?
which city suspect.2.F.SG **exactly** Amira moved.3.F.SG-to-**it**
(int.) ‘Which city do you suspect **exactly** Amira moved to it?’

A similar contrast is evident with resumptive pronouns contained inside islands, as shown in (206) (“the Lions of Mesopotamia” is the nickname for the Iraq national football team): stranding with a resumptive is degraded.

- (206) a. ja: la:ʕibim_i **b-l-ð^ʕabut^ʕ** titwaqqaʕ Joni innu ʕusu:r Ra:ʕɖajn
which players **exactly** suspect.3.F.SG Joni that Lions Mesopotamia
s^ʕa:raw maʕa:ħi:r wara: ma qiblo:-**hum_i**?
became.3.PL famous.PL after C hired.3.PL-**them**
(lit.) ‘Which players_i **exactly** does Joni suspect that the Lions of Mesopotamia became famous after they hired them_i?’
- b. ?? ja: la:ʕibim_i titwaqqaʕ Joni **b-l-ð^ʕabut^ʕ** innu ʕusu:r Ra:ʕɖajn
which players suspect.3.F.SG Joni **exactly** that Lions Mesopotamia
s^ʕa:raw maʕa:ħi:r wara: ma qiblo:-**hum_i**?
became.3.PL famous.PL after C hired.3.PL-**them**
(int.) ‘Which players_i does Joni suspect **exactly** that the Lions of Mesopotamia became famous after they hired them_i?’

This is, to my knowledge, the first time any such observation has been made for a language with both resumptive dependencies and stranding under \bar{A} -movement. The possible surface positions of *b-l-ð^ʕabut^ʕ* in gapped and resumptive dependencies are summarized in (207)–

(208).⁹⁰

(207) Possible surface positions of $b-l-\delta^f abut^f$ ‘exactly’ in a gapped *wh*-dependency in Iraqi
 [CP Op_i ✓ ... [CP ✓ ... $__i$...]]

(208) Possible surface positions of $b-l-\delta^f abut^f$ ‘exactly’ in a resumptive *wh*-dependency in Iraqi
 [CP Op_i ✓ ... [CP ✗ ... PRON $_i$...]]

The same basic contrast is evident with $b-l-d^f abut^f$ ‘exactly’ in Syrian, though we must exercise more caution here as it appears that there is a non-stranding strategy available in Syrian to float $b-l-d^f abut^f$ away from its associate (see also footnote 89 on Tunisian Arabic). In order to control for alternative parses of the relevant examples which do not involve stranding, including a form of parenthetical insertion, the subject intervening between stranded ‘exactly’ and its *wh*-associate is the quantifier ‘everyone’ which binds a pronominal variable in the embedded clause to the right of stranded ‘exactly.’ As with Iraqi, stranding is perfectly licit with gaps, but degraded with resumptives:

(209) $b-l-d^f abut^f$ *stranding is licit in gapped dependencies in Syrian*

- a. min_i **$b-l-d^f abut^f$** $b-jitmanna$ $kəll$ $wa:ħid_k$ $innu$ $Joni$ $tixtar$
 who $_i$ **exactly** IND-hopes.3.M.SG every one.M.SG $_k$ that $Joni$ pick.3.F.SG
 $__i$ $li-fari:ʔ-u_k?$
 for-team-his $_k$
 ‘Who $_i$ **exactly** does everyone $_k$ hope that $Joni$ will pick $__i$ for his $_k$ team?’
- b. min_i $b-jitmanna$ $kəll$ $wa:ħid_k$ **$b-l-d^f abut^f$** $innu$ $Joni$ $tixtar$
 who $_i$ IND-hopes.3.M.SG every one.M.SG $_k$ **exactly** that $Joni$ pick.3.F.SG

90. As with English *exactly*, Iraqi $b-l-\delta^f abut^f$ can also occur at the far right edge of the clause. Note, however, that this position is available in both gapped ((i)) and resumptive ((ii)) dependencies:

- (i) $ja:$ $la:fib$ $titwaqqaʕim$ $Hend$ $ra:jida$ $__$ $jin\delta^f amm$ $li-l-fari:q$ **$b-l-\delta^f abut^f$** ?
 which player suspect.2.F.SG $Hend$ wants.3.F.SG $__$ join.3.M.SG to-the-team **exactly**
 ‘Which player do you suspect $Hend$ wants $__$ to join the team **exactly**?’
- (ii) $?ja:$ $la:fib$ $titwaqqaʕim$ $Hend$ $ra:jidt-a$ $jin\delta^f amm$ $li-l-fari:q$ **$b-l-\delta^f abut^f$** ?
 which player suspect.2.F.SG $Hend$ wants.3.F.SG **him** join.3.M.SG to-the-team **exactly**
 (lit.) ‘Which player do you suspect $Hend$ wants him to join the team **exactly**?’

I adopt one of the possible analyses laid out by Zyman (2022a, §7) and take $b-l-\delta^f abut^f$ to be in a high right-peripheral position in such examples, not stranded in an intermediate landing site, though I will not attempt an explicit analysis of where it is precisely or how it gets there.

- $__i$ li-fari:ʔ-u $_k$?
 for-team-his $_k$
 ‘Who $_i$ does everyone $_k$ hope **exactly** that Joni will pick $__i$ for his $_k$ team?’
- (210) b-l-d^ʕabut^ʕ *stranding is degraded in resumptive dependencies in Syrian*
- a. min $_i$ **b-l-d^ʕabut^ʕ** b-jitmanna kəll wa:ħid $_k$ innu Joni
 who $_i$ **exactly** IND-hopes.3.M.SG every one.M.SG $_k$ that Joni
 tixta:r-u $_i$ li-fari:ʔ-u $_k$?
 pick.3.F.SG-**him** $_i$ for-team-his $_k$
 ‘Who **exactly** does everyone $_k$ hope that Joni will pick for his $_k$ team?’
- b. ?? min $_i$ b-jitmanna kəll wa:ħid $_k$ **b-l-d^ʕabut^ʕ** innu Joni
 who $_i$ IND-hopes.3.M.SG every one.M.SG $_k$ **exactly** that Joni
 tixta:r-u $_i$ li-fari:ʔ-u $_k$?
 pick.3.F.SG-**him** $_i$ for-team-his $_k$
 (int.) ‘Who $_i$ does everyone $_k$ hope **exactly** that Joni will pick (him $_i$) for his $_k$ team?’

Furthermore, resumptive dependencies spanning adjunct islands are refractory to stranding:

- (211) a. ajja la:ʕibi:n $_i$ **b-l-d^ʕabut^ʕ** b-jaʕtaʔid kəll wa:ħid $_k$ innu raħ
 which players $_i$ **exactly** IND-thinks.3.M.SG every one.M.SG $_k$ that FUT
 jixs^ʕar l-liʕbi iða ma ħas^ʕs^ʕal-**hon** $_i$ li-l-fari:ʔ?
 lose.3.M.SG the-game unless C got.3.M.SG-**them** $_i$ for-the-team
 ‘Which players $_i$ **exactly** does everyone $_k$ think that he $_k$ will lose the game
 unless he $_k$ gets them $_i$ for the team?’
- b. ?? ajja la:ʕibi:n $_i$ b-jaʕtaʔid kəll wa:ħid $_k$ **b-l-d^ʕabut^ʕ** innu raħ
 which players $_i$ IND-thinks.3.M.SG every one.M.SG $_k$ **exactly** that FUT
 jixs^ʕar l-liʕbi iða ma ħas^ʕs^ʕal-**hon** $_i$ li-l-fari:ʔ?
 lose.3.M.SG the-game unless C got.3.M.SG-**them** $_i$ for-the-team
 (int.) ‘Which players $_i$ does everyone $_k$ think **exactly** that he $_k$ will lose the
 game unless he $_k$ gets them $_i$ for the team?’

The contrast between gaps and resumptives with respect to *exactly* stranding in Iraqi and Syrian can be explained by positing successive-cyclic movement only in the case of a gapped dependency. When the operator undergoes intermediate movement to the left edge of an embedded CP to check the [\leftarrow wh] feature on C $_{[-wh]}$, it leaves a gap, and then ‘exactly’ adjoins to it late; from this position, the *wh*-element can subextract from the containing phrase and strand *exactly* in situ. (212) illustrates for the Iraqi example in (204a). By contrast, since there is no movement involved in a resumptive dependency, there is no intermediate

representation of the *wh*-element with *exactly*, hence there can be no intermediate stranding. (213) illustrates for the Iraqi example in (205a).

- (212) [DP minu_i] C_[+wh, ~~wh~~] ... [CP [DP ---_i] [PP **b-l- δ^{f} abut $^{\text{f}}$**] C_[-wh, ~~wh~~] ... tri:d ---_i ...]?
- (213) [DP minu_i] C_[+wh, \bullet wh] ... [CP (*[PP **b-l- δ^{f} abut $^{\text{f}}$**]) C_[-wh] ... tri:d-**a** $_i$...]?
-----BIND-----

The unavailability of *exactly* stranding under resumption in Iraqi and Syrian also provides an additional argument that both languages lack mixed chains involving base-generation followed by movement, as argued in section §3.5. Specifically, Iraqi and Syrian Arabic lack an intermediate complementizer C_[-wh] bearing [\bullet wh]. The following example illustrates, using Iraqi lexical items:

- (214) **A MIXED CHAIN ABSENT FROM IRAQI/SYRIAN**
 [DP minu_i] C_[+wh, ~~wh~~] ... [CP [DP ---_i] [PP **b-l- δ^{f} abut $^{\text{f}}$**] C_[-wh, \bullet wh] ... tri:d-**a** $_i$...]?
-----BIND-----

Spanish, on the other hand, displays a different pattern of stranding. The following data come from Argentinian Spanish (due to Laura Stigliano, *pers. comm.*). Just as with Arabic ‘exactly,’ the Spanish adverb *exactamente* ‘exactly’ can appear immediately to the right of a *wh*-operator in dependencies with and without a resumptive clitic.

- (215) a. A quién_i **exactamente** creen todos que escogerá Rodrigo
 A who_i **exactly** believe.3PL everybody that will.pick.3SG Rodrigo
 ---_i para su equipo?
 for his team
 ‘Who $_i$ **exactly** does everyone think Rodrigo will pick ---_i for his team?’
- b. A quién_i **exactamente** creen todos que **lo** $_i$ escogerá Rodrigo
 A who_i **exactly** believe.3PL everybody that **him** $_i$ will.pick.3SG Rodrigo
 para su equipo?
 for his team
 (lit.) ‘Who $_i$ **exactly** does everyone think Rodrigo will pick him $_i$ for his team?’

Unlike Iraqi and Syrian, stranding is possible in both cases:

- (216) a. A *quién_i* creen todos **exactamente** que escogerá Rodrigo
 A *who_i* believe.3PL everybody **exactly** that will.pick.3SG Rodrigo
 ____i para su equipo?
 for his team
 ‘Who_i does everybody believe **exactly** that Rodrigo will pick ____i for his team?’
- b. A *quién_i* creen todos **exactamente** que **lo_i** escogerá Rodrigo
 A *who_i* believe.3PL everybody **exactly** that **him_i** will.pick.3SG Rodrigo
 para su equipo?
 for his team
 (lit.) ‘Who_i does everybody believe **exactly** that Rodrigo will pick him_i for his team?’

(216b) is the crucial example: the case-marked operator *a quién* ‘who’ can strand the adverb *exactamente* ‘exactly’ in an embedded [Spec, CP] position while also being doubled by the clitic resumptive *lo* ‘him’ (cf. the unacceptable Arabic examples in (205) (Iraqi) and (210b) (Syrian)). The patterns of *exactamente* stranding in Spanish are summarized below:

- (217) Possible surface positions of *exactamente* ‘exactly’ in a gapped *wh*-dependency
 [CP *Op_i* ✓ ... [CP ✓ ... ____i ...]]
- (218) Possible surface positions of *exactamente* ‘exactly’ in a resumptive *wh*-dependency
 [CP *Op_i* ✓ ... [CP ✓ ... CL_i ...]]

The different behavior of Iraqi/Syrian and Spanish resumptives with respect to *exactly* stranding jibes nicely with the island-sensitivity and parasitic-gap-licensing tests discussed in previous sections: Spanish resumptives are island-sensitive, license parasitic gaps, and *are* compatible with ‘exactly’ stranding, whereas Iraqi and Syrian resumptives are island-insensitive, do not license parasitic gaps, and are *not* compatible with ‘exactly’ stranding. Stranding therefore constitutes a third key diagnostic in differentiating the two classes of resumptives cross-linguistically. Because this argumentation is novel, it is imperative that future work investigate the availability of stranding under resumption in other languages.

3.7 Case-matching

The fourth and final diagnostic to be considered in this chapter comes from case-matching effects. I will argue that case-(anti-)connectivity in *wh*-dependencies distinguishes resumptives in Iraqi Arabic (*qua* base-generated elements) from traces and from resumptives in languages like Spanish and Romani which display the full suite of movement effects. Empirically, I present novel data from Iraqi Arabic which support Merchant's (2001; 2004) generalization reproduced in (219):

- (219) *Case and resumptive-binding operator generalization*
No resumptive-binding operator can be case-marked. (Merchant, 2001, 146, (99))

I will henceforth reinterpret Merchant's generalization as follows: all resumptive-binding operators must bear default case, if any. This will allow us to account for the fact that overt (nominal) operators can bind resumptive pronouns in many languages despite appearing in a (default) cased form. I will show that the accusative case-marked operator *?il-man* 'whom (ACC-who)' in Iraqi bears all the hallmarks of having moved successive-cyclically from an A-position. Crucially, *?il-man* cannot bind a resumptive pronoun, in accordance with Merchant's generalization. I will then demonstrate how positing base-generation of non-case-marked, resumptive-binding operators (via [\bullet wh] on $C_{[+wh]}$), but movement of case-marked operators (via [\leftarrow wh] on C), accounts for the empirical contrasts. This conclusion provides additional support for my overarching claim that resumptive dependencies in Arabic systematically lack the hallmarks of movement, the evidence for which is summarized in (220).

- (220) *Results from Iraqi (IA), Tunisian (TA), and Syrian Arabic (SA)* (RP = 'resumptive pronoun') (4/4 tests)

	Resumptive dependencies		Gapped dependencies
	<i>Optional RP</i>	<i>Obligatory RP</i>	
Are islands obeyed? (IA, TA, SA)	N/A	No	Yes
Are parasitic gaps licensed? (IA, TA, SA)	No	No	Yes
Is <i>exactly</i> stranding permitted? (IA, SA)	No	No	Yes
Can operators be case-marked? (IA)	No	N/A	Yes

Furthermore, the behavior of resumptive chains in Iraqi will be shown to contrast with island-sensitive resumptive chains in languages like Spanish and Romani which allow operators bearing non-default case to cooccur with resumptives. Thus, my findings for the two classes of resumptives are presented in (221):

(221) *Syntactic tests for movement distinguish two types of resumptive pronouns (4/4 tests)*

	Island-sensitive?	License (local) PGs?	License stranding?	Case-marked operators?	Exemplar languages
Base-generated resumptives	No	No	No	No	Iraqi, Syrian, Tunisian, Maltese, ...
Movement-derived resumptives (and gaps)	Yes	Yes	Yes	Yes	Spanish, Swedish, Vata, Igbo, Romani, ...

3.7.1 Case and resumptive-binding operator generalization

Merchant adduces evidence from a variety of languages in support of the generalization in (219), whose scope is intended chiefly to cover resumptive pronouns inside islands. The strongest such evidence comes from languages which form long-distance dependencies in

(at least) two ways: either (i) with interrogative and relative pronouns displaying case alternations overtly, or (ii) with null/caseless operators and null/invariant complementizers. Operators binding gaps may (or must) bear the case assigned to their base positions, whereas operators binding resumptives must not bear a matching case, potentially appearing instead in a default case, if possible. Merchant (2004) includes in this class Bulgarian, Greek, and Polish⁹¹ among others, and it seems to also extend to Colloquial Czech (Toman, 1998) and Maltese (Camilleri and Sadler, 2011b, 4–5).⁹² Example (222) illustrates with Greek data: ‘that’-relatives with the invariant complementizer *pou* (also transliterated *pu*) are compatible with resumptive pronouns, especially in oblique positions, but relatives employing the case-marked relative pronoun *o opios* are not:

- (222) o andras {pou / *tou opiou} **tou** edhosa ta klidhia mou
the man {that / *the which.GEN} **him.GEN** gave.1SG the keys.ACC mine
‘the man that I gave my keys to’ (adapted from Merchant, 2004, 476–477)

As Merchant shows, inserting an island boundary between the operator and the resumptive

91. Müller (2014, 138–139) provides two potentially problematic examples from Polish in which an operator bearing non-default case binds a resumptive inside a strong island, and a gap in the same position is reported to be unacceptable. I have no explanation for these judgments. On the other hand, see Hladnik (2015, 33–35) for the view that resumptive pronouns in Polish *wh*-questions and relative clauses are sensitive to islands, contra Merchant and Müller.

92. There is a slight wrinkle, in that Camilleri and Sadler (2011b) cite two examples of case-marked relative pronouns binding a resumptive inside an island in Maltese relatives: one inside a CP complement to N island (2011b, 12, (44)) and one inside a ‘whether’-island in an ATB-configuration (2011b, 15, (55)). Camilleri and Sadler state that gaps are impossible inside islands, though they do not provide the crucial minimal pairs showing that gapped variants of the island-crossing resumptive dependencies with case-marked operators are unacceptable. If indeed they are, then it seems we may have a violation of Merchant’s *Case and resumptive-binding operator generalization*.

Several other examples cited by Camilleri and Sadler allegedly illustrating that case-marked relative pronouns in Maltese can bind resumptive pronouns inside islands are confounded for different reasons. The examples in Camilleri and Sadler (2011a, 24, (77)) and Camilleri and Sadler (2011b, 11, (40)) should give rise to strong crossover violations under the indicated coindexings. Furthermore, none of the examples in Camilleri and Sadler (2011a, 24, (78)), Camilleri and Sadler (2011b, 11, (41)), or Camilleri (2014, 186, (39)) involve extraction out of an island; in all cases, there is a trace coindexed with the operator which occurs in the main clause outside of the island.

Furthermore, purported cases of case-marked relative pronouns corresponding to external possessor dative resumptives (e.g. Camilleri, 2012, 4, fn. 4, (ii) and Sadler and Camilleri, 2018, 123, (24)) likely involve clitic doubling of the relative pronoun rather than resumption proper, since in situ non-selected datives can be doubled independently (see Camilleri and Sadler, 2012).

does not alter this asymmetry (see also Chatsiou, 2006, 6, (15) and Chatsiou, 2010, 88–89, (240)–(243)). Only *pou*-relatives sanction the use of a resumptive pronoun inside a strong island:⁹³

- (223) a. *O Giannis ine o andras ton opion psaxnun mia gineka pou na
 the Giannis is the man the which.ACC seek.3PL a woman that SUBJ
 (**ton**) pandrefti.
 (**him**) marry.3SG
 (int.) ‘Giannis is the man who they’re looking for a woman who will marry
 him.’
- b. O Giannis ine o andras pou psaxnun mia gineka pou na *(**ton**)
 the Giannis is the man that seek.3PL a woman that SUBJ *(**him**)
 pandrefti.
 marry.3SG
 (lit.) ‘Giannis is the man that they’re looking for a woman who will marry
 him.’

(Merchant, 2004, 477, (26))

Merchant extends the generalization even to English intrusive resumption inside islands, as exemplified by the data in (224)–(225): resumptive-binding operators in English must either be bare ((224a), (225b)) or null ((225a)); they crucially cannot agree in case with their associated resumptives ((224b), (225c)).

- (224) a. Who_i did the police say that finding **his**_i car took all morning?

93. Other authors have reported variation in the availability and island-sensitivity of resumptive pronouns in Greek relatives depending on the type of relative (i.e. restrictive, non-restrictive, or free) and on the grammatical role of the resumptive (e.g. subject, object, etc.). I will focus here on effects of relative clause type on the island-sensitivity of resumption. Alexiadou and Anagnostopoulou (2000a, 49, (6)) claim that resumptive pronouns in *pu*-headed relatives are sensitive to strong islands, contra Merchant, but they do not consider the island-sensitivity of relative clauses formed with relative pronouns. Alexopoulou (2006, 85–86, (45b), (46b)) claims that resumptive pronouns in restrictive relatives either (i) headed by *pu* or (ii) employing the declinable relative pronoun *o opios* are sensitive to relative clause islands. Daskalaki and Mavrogiorgos (2013, 337–338) make a similar claim for resumptive pronouns in *pu*-headed restrictive relatives and free relatives introduced by the declinable relative pronoun *opios*: these resumptives are reported to be sensitive to adjunct islands and relative clause islands, again contra Merchant. Furthermore, according to Alexopoulou (2006, 85–86, (45a), (46a), (47b)), restrictive relatives contrast with non-restrictive relatives, which are island-insensitive and which may employ a relative pronoun bearing a default case that mismatches the case of the resumptive element. Despite this, all authors agree that operators bearing non-default case cannot bind a resumptive pronoun inside an island. Thus, although there is variation, it appears to be systematic: resumptive pronouns which freely violate islands obey the *Case and resumptive-binding operator generalization*. For additional discussion of island-sensitive resumptives and Merchant’s generalization, see section §3.7.3 below, and for an analysis of island-sensitive resumptives, see chapter 5.

- b. *Whose_{*i*} did the police say that finding **his_{*i*}** car took all morning?
 (Merchant, 2001, 133, (65a–b))
- (225) a. That’s the guy *Op_{*i*}* that the police said that finding **his_{*i*}** car took all morning.
 b. That’s the guy who_{*i*} the police said that finding **his_{*i*}** car took all morning.
 c. *That’s the guy whose_{*i*} the police said that finding **his_{*i*}** car took all morning.
 (Merchant, 2004, 475, (19))

Fassi Fehri (1982, 85–87) and Demirdache (1991, 46) make similar observations for resumptive *wh*-questions in Modern Standard Arabic (and see already Sībawayh, vol. I, §64 for data from Classical Arabic): *wh*-operators bearing default nominative case can bind resumptive pronouns, but case-marked *wh*-operators must bind gaps. Furthermore, only case-mismatching operators can bind resumptive pronouns inside islands (Boeckx, 2003, 158, (119)–(120)). See Klein (2016, 144–147) for additional data and discussion.

Modern spoken Arabic varieties (along with all other modern Semitic languages, see Hasselbach, 2013, 16) do not mark morphological case inflectionally outside of (non-*wh*) pronouns, making it impossible in most cases to test the *Case and resumptive-binding operator generalization* in those languages. Novel data from case-marking in Iraqi *wh*-questions, however, provide additional empirical support for Merchant’s generalization. Iraqi has innovated an optional differentially object marked form of the [+human] *wh*-word *minu* ‘who’: *?il-man* ‘whom’ (ACC-who) (see Erwin, 1963, 292–293; Blanc, 1964, 129).⁹⁴ This *wh*-word is composed of the (prosodically strong) preposition *?il* ‘to’ (as opposed to the clitic form *l-* ‘to’) and *man*, a phonologically reduced allomorph of *minu* ‘who’.⁹⁵ Note that the differentially object marked *wh*-element *?il-man* ‘whom’ is homophonous with the PP meaning

94. Maltese *wh*-pronouns seem to have undergone a similar historical development. Both Standard and Colloquial Maltese make use of a differentially object marked [+human] interrogative pronoun ‘whom’ (written *lil min* in Borg and Azzopardi-Alexander, 1997, 210 and *’l min* in Camilleri, 2012, 5, fn. 5), and the colloquial language also utilizes *’l min* as a relative pronoun (see Camilleri and Sadler, 2011a,b; Camilleri, 2012, 2014; Camilleri and Sadler, 2016; Sadler and Camilleri, 2018). See Döhla (2016) on the historical development of differential object marking in Maltese.

95. Erwin (1963, 292–293) reports that this allomorph is used with other prepositions, following a noun in the construct state, and following the preposition-like element *ma:l* ‘of, belonging to’. See Ingham (1973, 1982, 2007), Behnstedt and Woidich (2021, 17–18), and Leitner (2022, 113–114) for cognate reduced allomorphs in other Mesopotamian Arabic varieties and in Khuzestani Arabic.

‘to/for whom’. Consequently, it is important that all of the judgments presented here have carefully controlled for this potential ambiguity and concern only the relevant (direct object, non-prepositional) reading of *?il-man*.

I begin with a brief description of accusative case-marking in Iraqi Arabic which has gone largely unnoticed in the previous descriptive and theoretical literature. Direct object *wh*-questions can be formed with either the non-case-marked (or perhaps default case-marked) *wh*-word *minu* or the accusative marked form *?il-man*:

- (226) a. *minu_i difaʕat Mona ____i b-l-ħadi:qa?*
who_i pushed.3.F.SG Mona in-the-park
 ‘Who_i did Mona push ____i in the park?’
- b. *?il-man_i difaʕat Mona ____i b-l-ħadi:qa?*
ACC-who_i pushed.3.F.SG Mona in-the-park
 ‘Whom_i did Mona push ____i in the park?’

None of the other *wh*-words classified as ‘nominal’ by Aoun et al. (2010, 129–130)—namely, *f(inu)* ‘what’, *ja: NP* ‘which NP’, or *kam NP* ‘how many NP’, in Iraqi—permit overt accusative case-marking, whether they are animate as in (227) or inanimate as in (228).

- (227) a. *(*l-)ja: walad_i difaʕat Mona ____i b-l-ħadi:qa?*
*(*ACC-)which boy_i pushed.3.F.SG Mona in-the-park*
 ‘Which boy did Mona push in the park?’
- b. *(*l-)kam walad_i difaʕat Mona ____i b-l-ħadi:qa?*
*(*ACC-)how.many boy_i pushed.3.F.SG Mona in-the-park*
 ‘How many boys_i did Mona push ____i at the park?’
- (228) a. *(*l-)f_i-kisarət Mona ____i b-l-ħadi:qa?*
*(*ACC-)what_i-broke.3.F.SG Mona in-the-park*
 ‘What did Mona break in the park?’
- b. *(*l-)finu_i kisarat Mona ____i b-l-ħadi:qa?*
*(*ACC-)what_i broke.3.F.SG Mona in-the-park*
 ‘What did Mona break in the park?’
- c. *(*l-)ja: liʕba_i kisarat Mona ____i b-l-ħadi:qa?*
*(*ACC-)which toy_i broke.3.F.SG Mona in-the-park*
 ‘Which toy did Mona break in the park?’
- d. *(*l-)kam liʕba_i kisarat Mona ____i b-l-ħadi:qa?*
*(*ACC-)how.many toy_i broke.3.F.SG Mona in-the-park*
 ‘How many toys_i did Mona break ____i at the park?’

Furthermore, accusative case-marking is unavailable with (non-clitic-doubled⁹⁶) non-*wh*-direct objects ((229)) and with nominal fragment answers to *wh*-questions ((230)), even when the correlate of the nominal remnant is case-marked *?il-man*.

- (229) a. Mona difaʕat {Sami / fad walad t^ʕwi:l / -ni} b-l-ħadi:qa.
 Mona pushed.3.F.SG {Sami / some boy tall / -1.SG.ACC} in-the-park
 ‘Mona pushed {Sami / some tall boy / me} in the park.’
- b. *Mona difaʕat {l-Sami / l-fad walad t^ʕwi:l / -li /
 Mona pushed.3.F.SG {ACC-Sami / ACC-some boy tall / -1.SG.DAT /
 ?il-i} b-l-ħadi:qa.
 ACC-1.SG} in-the-park
 (int.) ‘Mona pushed {Sami / some tall boy / me} in the park.’
- (230) A: {minu_i / ?il-man_i} difaʕat Mona ____i b-l-ħadi:qa?
 {who_i / ACC-who_i} pushed.3.F.SG Mona in-the-park
 ‘Who(m)_i did Mona push in the park?’
- B: {Sami / fad walad t^ʕwi:l / ?ami}.
 {Sami / some boy tall / 1.SG}
 ‘Sami / Some tall boy / Me.’
- B’: {*l-Sami / *l-fad walad t^ʕwi:l / *?il-i}.
 {*ACC-Sami / *ACC-some boy tall / *ACC-1.SG}
 (int.) ‘Sami / Some tall boy / Me.’

The distribution of accusative case marking (without concomitant clitic doubling) is therefore highly restricted in Iraqi Arabic, unlike differential object marking in the related Semitic language Maltese (on which see Borg (1981) and footnote 94), which has been generalized to all human direct objects.

It is reported here for the first time that accusative *?il-man*, unlike its caseless coun-

96. Clitic doubling of non-*wh*-direct objects in Iraqi triggers the obligatory appearance of the clitic dative preposition *l-* on the doubled object and of a pronominal enclitic on the verb. Data from Erwin (1963, 332) illustrate the difference between a non-doubled direct object ((i)) and a doubled direct object ((ii)).

- (i) falljaw l-madrasa l-ʕati:ga.
 tore.down.3.PL the-school.F.SG the-old.F.SG
 ‘They tore down the old school.’
- (ii) fallfo:-ha li-l-madrasa l-ʕati:ga.
 tore.down.3.PL-it.F.SG to-the-school.F.SG the-old.F.SG
 ‘They tore down the old school.’

See section §5.5 and Sellami (2021, 2022, In progress) for additional discussion of clitic doubling in Arabic.

terpart *minu*, is incompatible with resumption, regardless of whether the resumptive is an accusative/direct object clitic, as in (231b), or a dative clitic or strong pronoun, as in (231c).

(231) Case-marked vs. non-case-marked questions in Iraqi

- a. $\text{minu}_i \text{ titwaqqa}\dot{\text{f}}\text{i:n} \quad \text{Hend} \text{ ixta:rat} \quad \{____i / \text{-a}_i\}?$
 $\text{who}_i \text{ suspect.2.F.SG} \text{ Hend} \text{ chose.3.F.SG} \{____i / \text{-him}_i\}$
 ‘Who do you suspect Hend chose?’
- b. $\text{?il-man}_i \text{ titwaqqa}\dot{\text{f}}\text{i:n} \quad \text{Hend} \text{ ixta:rat} \quad \{____i / *-\text{a}_i\}?$
 $\text{ACC-who}_i \text{ suspect.2.F.SG} \text{ Hend} \text{ chose.3.F.SG} \{____i / *-\text{him}_i\}$
 ‘Whom do you suspect Hend chose?’
- c. $\text{?il-man}_i \text{ titwaqqa}\dot{\text{f}}\text{i:n} \quad \text{Hend} \{ \text{ixta:rat-}\mathbf{a}_{*i/k} \quad / \quad \text{ixta:rat}$
 $\text{ACC-who}_i \text{ suspect.2.F.SG} \text{ Hend} \{ \text{chose.3.F.SG-}\mathbf{to-him}_{*i/k} \quad / \quad \text{chose.3.F.SG}$
 $\mathbf{?il-a}_{*i/k} \}?$
 $\mathbf{to-him}_{*i/k} \}$
 Only: ‘Whom_i do you suspect Hend chose $____i$ for him_k?’
 Not: *‘Whom do you suspect Hend chose?’

Note that the problem with resuming *?il-man* does not have to do with specificity or D-linking, as one might suspect in light of the frequent claim that resumptives are preferred with specific or D-linked antecedents cross-linguistically (see especially Boeckx, 2003), and perhaps even in other Arabic varieties (Aoun et al., 2010, 139–143). Adding a partitive PP, which favors a specific individual interpretation of the *wh*-word, does not affect the contrast: accusative *?il-man* still cannot bind a resumptive pronoun, as shown by (233).

- (232) $[\text{minu} \text{ min} \text{ as}^{\text{f}}\text{diqa:-ha}]_i \text{ titwaqqa}\dot{\text{f}}\text{i:n} \quad \text{Hend} \text{ ixta:rat} \quad \{____i / \text{-a}_i\}?$
 $[\text{who} \text{ from friends-her}]_i \text{ suspect.2.F.SG} \text{ Hend} \text{ chose.3.F.SG} \{ \quad / \text{-him}_i \}$
 ‘Which of her friends do you suspect Hend chose?’
- (233) $[\text{?il-man} \text{ min} \text{ as}^{\text{f}}\text{diqa:-ha}]_i \text{ titwaqqa}\dot{\text{f}}\text{i:n} \quad \text{Hend} \text{ ixta:rat} \quad \{____i / *-\text{a}_i\}?$
 $[\text{ACC-who} \text{ from friends-her}]_i \text{ suspect.2.F.SG} \text{ Hend} \text{ chose.3.F.SG} \{ \quad / *-\text{him}_i \}$
 ‘Which of her friends do you suspect Hend chose?’

Case-marked operators in Iraqi, then, conform to Merchant’s *Case and resumptive-binding operator generalization* in (219). In the next section, I defend the hypothesis that accusative *?il-man* moves to [Spec, CP] from an A-position, contrasting with the behavior of resumptive dependencies.

3.7.2 Iraqi case-marked *wh*-questions involve movement

Several strands of evidence support the hypothesis that accusative *?il-man* moves to [Spec, CP] from an A-position: it is associated with a gap, it cannot occur in clefted questions, it cannot be associated with a gap across an island boundary, it licenses parasitic gaps, and it permits *exactly* stranding.⁹⁷ These tests are summarized in the following table:

97. Case-marked *?il-man* also triggers primary weak and strong crossover effects, as shown in (i)–(ii).

- (i) Accusative case-marked *wh*-questions trigger weak crossover effects
- a. **?il-man*_i *ixtarat-a*_i *s^fadi:qat-a*_{i/j}?
 ACC-who_i chose.3.F.SG-**him**_i friend.3.F.SG-his_{i/j}
 (int.) ‘Whom_i did his_{i/j} friend (f.sg.) choose him_i?’ (∼‘Who_i was chosen by his_{i/j} friend?’)
- b. *?il-man*_i *ixtarat* *s^fadi:qat-a**_{i/j} ____i?
 ACC-who_i chose.3.F.SG friend.3.F.SG-his_{i/j}
 ‘Whom_i did his*_{i/j} friend (f.sg.) choose ____i?’
- (ii) Accusative case-marked *wh*-questions trigger strong crossover effects
- a. **?il-man*_i *titwaqqa?im* *pro*_{i/j} *jri:d* *Hend tixtar-a*_i?
 ACC-who_i suspect.2.F.SG wants.3.M.SG Hend choose.3.F.SG-**him**_i
 (int.) ‘Whom_i do you suspect he_i wants Hend to choose him_i?’ (∼‘Who do you suspect wants to be chosen by Hend?’)
- b. *?il-man*_i *titwaqqa?im* *pro**_{i/j} *jri:d* *Hend tixtar* ____i?
 ACC-who_i suspect.2.F.SG wants.3.M.SG Hend choose.3.F.SG
 ‘Whom_i do you suspect he*_{i/j} wants Hend to choose ____i?’ (cannot mean ‘Who do you suspect wants to be chosen by Hend?’)

However, I argue in chapter 7 on the basis of secondary crossover effects under resumption inside islands that crossover should be viewed as a (cluster of) representational constraint(s) on binding dependencies. If I am correct, then crossover effects do not diagnose movement, and hence are orthogonal to the present discussion.

(234)

	Caseless operator with a resumptive	Caseless operator with a gap	Accusative <i>?il-man</i>
Can the operator bind a resumptive?	Yes	No	No
Can the operator occur in a clefted question?	Yes	No	No
Are islands obeyed?	No	Yes	Yes
Are parasitic gaps licensed?	No	Yes	Yes
Is <i>exactly</i> stranding permitted?	No	Yes	Yes

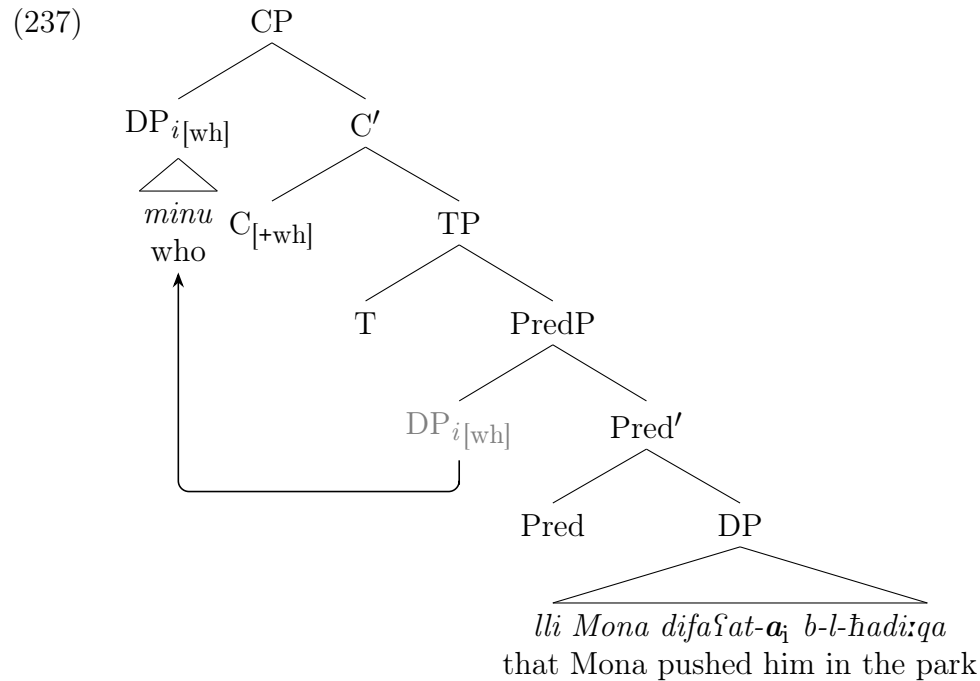
Let us consider each of these tests in turn. As we have seen, accusative *?il-man* is obligatorily associated with a gap, in contrast to certain other, non-case-marked *wh*-elements such as *minu* ‘who’. A further consequence of this is that accusative *?il-man* cannot occur in clefted *wh*-questions as in (235), though non-case-marked *minu* can, as shown in (236).

(235) * *?il-man*_{*i*} *lli* *Mona difaʕat-(a_{*i*})* *b-l-ħadi:qa?*
 ACC-who_{*i*} that Mona pushed.3.F.SG-(**him**_{*i*}) in-the-park
 (int.) ‘Whom did Mona push in the park?’ (lit. ‘Whom is it that Mona pushed
 in the park?’)

(236) *minu*_{*i*} *lli* *Mona difaʕat-*(a_{*i*})* *b-l-ħadi:qa?*
 who_{*i*} that Mona pushed.3.F.SG-*(**him**_{*i*}) in-the-park
 ‘Who did Mona push in the park?’ (lit. ‘Who is it that Mona pushed in the
 park?’)

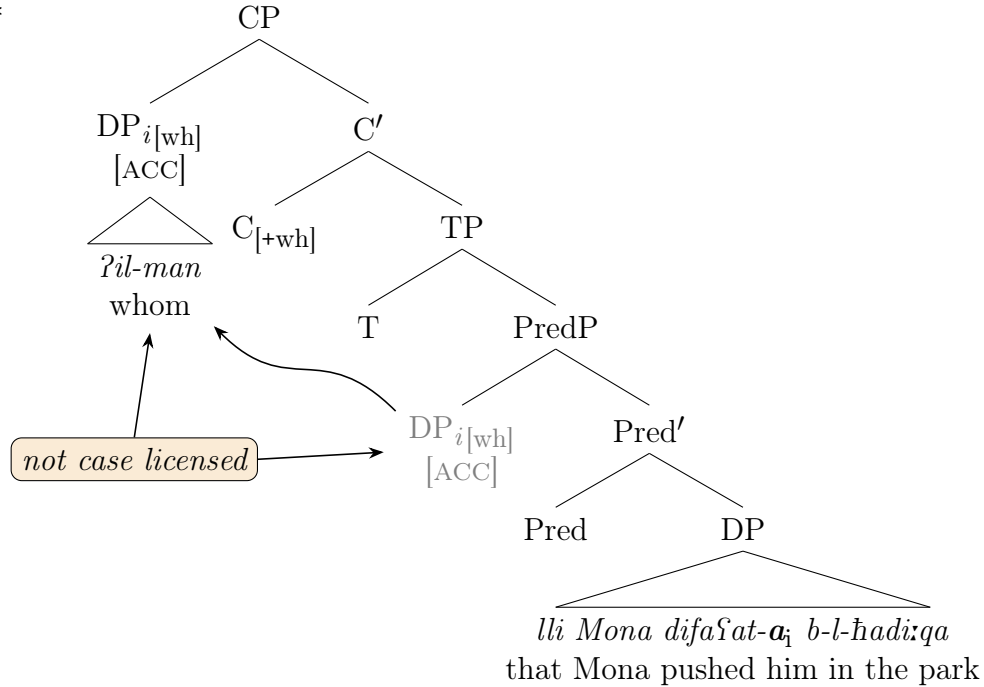
Two independent factors seem to rule out clefted questions with *?il-man*. First, we can observe that clefted questions require resumption in direct object position, as illustrated by (236). Since *?il-man* can never bind a resumptive pronoun, it cannot occur in a clefted question. Second, under the plausible assumption that clefted questions involve a matrix predication structure with a *wh*-subject and a predicate nominal containing a free relative CP headed by *lli*, as shown in (237) (see Shlonsky, 2002 and Aoun et al., 2010, 147–153), ‘who’ cannot be differentially object-marked in a clefted ‘who’-question because it is a subject, not an object. To make this explanation more concrete, I roughly follow the structural proposal

in Choueiri (2016) for verbless sentences in Arabic: a null predicative head—which projects a predicative phrase (PredP) small clause—takes the predicate nominal containing the free relative as its complement and the *wh*-element as its specifier (see also Bakir, 2019).



Pred does not assign accusative case to the nominal in its specifier. Therefore, without a matrix accusative case-assigner, *?il-man* will be ruled out in cleft structures like (235), as shown in (238).

(238) *



Next, it should come as no surprise that, just like gapped dependencies with non-case-marked operators (see (58) in section §3.3), dependencies formed with *ʔil-man* obey islands:

(239) Accusative case-marked *wh*-questions are island-sensitive in Iraqi

a. *Wh-island*

ʔil-man*_i ma: tuʕurfi:n [ja: fari:q qibal {___i / -hum**_i /
 ACC-who_i NEG know.2.F.SG which team accepted.3.M.SG { / -**them**_i /
 -**ha**_i / -**a**_i }]?
 -**her**_i / -**him**_i }
 (int.) ‘Whom do you not know which team accepted?’

b. *Relative clause island*

??/**ʔil-man*_i raħ thibbi:n [ajj fari:q jiqbal {___i / -**hum**_i / -**ha**_i
 ACC-who_i FUT like.2.F.SG any team accepts.3.M.SG { / -**them**_i / -**her**_i
 / -**a**_i }]?
 / -**him**_i }
 (int.) ‘Whom will you like any team that accepts?’

c. *Adjunct island*

??/**ʔil-man*_i s^ʕar na:di l-UAE maʕhur [wara: ma qibal
 ACC-who_i became.3.M.SG club the-UAE famous after C accepted.3.M.SG
 {___i / -**hum**_i / -**ha**_i / -**a**_i }]?
 { / -**them**_i / -**her**_i / -**him**_i }
 (int.) ‘Whom did Club UAE become famous after it accepted?’

d. *Noun complement clause island*

*ʔil-man_i aku [axbar innu na:di l-UAE raħ jit^frud { ____i / **-hum**_i
 ACC-who_i there.is news that club the-UAE FUT fire.3.M.SG { / **-them**_i
 / **-ha**_i / **-a**_i }]?
 / **-her**_i / **-him**_i }
 (int.) ‘Whom is there news that club UAE will fire?’ (Iraqi)

Inserting a resumptive pronoun at the variable site does not improve the examples in (239) because accusative *ʔil-man* cannot bind resumptives, apparently not even ‘intrusive’ resumptives in the sense of Chao and Sells (1983) and Sells (1984).

Moreover, given the assumption that parasitic gaps diagnose (successive-cyclic) movement (see sections §3.4–3.5), it is expected that gapped *wh*-questions with *ʔil-man* should license parasitic gaps, and indeed they do. Just as with non-case-marked *wh*-questions terminating in a gap, *ʔil-man* questions license parasitic gaps anywhere along the dependency path: in (240), the licensing gap and parasitic gap containing adjunct are clausemates, whereas in (241) the adjunct attaches one clause higher than the licensing gap. Examples (240b) and (241b) illustrate once more that accusative *ʔil-man* is incompatible with resumption.

(240) Accusative case-marked *wh*-questions license parasitic gaps in short-distance movement

a. ʔil-man_i da-tʒi:bu:n ____i li-markaz ʃ-furt^fa ħatta tistaɖwibu:n
 ACC-who_i PROG-bring.2.PL to-station the-police in.order interrogate.2.PL
*pg*_i?

‘Whom _i are you bringing ____i to the police station in order to interrogate *pg*_i?’

b. *ʔil-man_i da-tʒi:bu:-∅_i li-markaz ʃ-furt^fa ħatta tistaɖwibu:n
 ACC-who_i PROG-bring.2.PL **-him**_i to-station the-police in.order interrogate.2.PL
*pg*_i?

(int.) ‘Whom_i are you bringing him_i to the police station in order to interrogate *pg*_i?’ (Iraqi)

(241) Accusative case-marked *wh*-questions license parasitic gaps in long-distance movement

a. ?ʔil-man_i ʔinti tuʃurfi:n [ʔin-ni raħ aħibb ____i] [ħatta
 ACC-who_i were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG until
 min gabl ma a:ni aʃu:f *pg*_i]?
 from before C 1.SG see.1.SG

‘Whom_i did you know I would like ____i before I ever met *pg*_i?’

- b. *ʔil-man_i ʔfinti tuʔurfim [ʔin-ni raħ aħibb-a_i] [ħatta
ACC-who_i were.2.F.SG know.2.F.SG that-1.SG FUT like.1.SG-**him**_i until
min gabl ma aħni aʔuʔ ʔg_i] ?
from before C 1.SG see.1.SG
(int.) ‘Whom_i did you know I would like him_i before I ever met ʔg_i?’ (Iraqi)

Finally, accusative *ʔil-man* can strand the PP *b-l-ð^fabut^f* ‘exactly’ under cyclic *wh*-movement ((242b)), paralleling the behavior of caseless *wh*-operators binding traces (see Section §3.6); resumptive pronouns are strictly prohibited from such dependencies ((243)).

(242) Accusative *ʔil-man* binding a gap permits *b-l-ð^fabut^f* stranding

- a. ʔil-man_i **b-l-ð^fabut^f** titwaqqaʔim [CP ____i raħ tiʔzimi:n ____i ʔala
ACC-who_i **exactly** suspect.2.F.SG FUT invite.2.F.SG to
l-ʔaʔa] ?
the-dinner
‘Whom_i exactly do you suspect [CP ____i you will invite ____i to dinner]?’
- b. ʔil-man_i titwaqqaʔim [CP ____i **b-l-ð^fabut^f** raħ tiʔzimi:n ____i ʔala
ACC-who_i suspect.2.F.SG **exactly** FUT invite.2.F.SG to
l-ʔaʔa] ?
the-dinner
‘Whom_i do you suspect [CP ____i exactly you will invite ____i to dinner]?’

(243) Accusative *ʔil-man* cannot bind a resumptive pronoun

- a. *ʔil-man_i **b-l-ð^fabut^f** titwaqqaʔim [CP raħ tiʔzimi:Ø_i ʔala
ACC-who_i **exactly** suspect.2.F.SG FUT invite.2.F.SG-**him**_i to
l-ʔaʔa] ?
the-dinner
(int.) ‘Whom_i exactly do you suspect [CP you will invite him_i to dinner]?’
- b. *ʔil-man_i titwaqqaʔim [CP **b-l-ð^fabut^f** raħ tiʔzimi:Ø_i ʔala
ACC-who_i suspect.2.F.SG **exactly** FUT invite.2.F.SG-**him**_i to
l-ʔaʔa] ?
the-dinner
(int.) ‘Whom_i do you suspect [CP exactly you will invite him_i to dinner]?’

My findings regarding the behavior of accusative *ʔil-man* in contrast to non-case-marked operators in Iraqi are summarized in (244) (repeated from (234)).

(244)

	Caseless operator with a resumptive	Caseless operator with a gap	Accusative <i>?il-man</i>
Can the operator bind a resumptive?	Yes	No	No
Can the operator occur in a clefted question?	Yes	No	No
Are islands obeyed?	No	Yes	Yes
Are parasitic gaps licensed?	No	Yes	Yes
Is <i>exactly</i> stranding permitted?	No	Yes	Yes

3.7.3 *Local case assignment explains the Case and resumptive-binding operator generalization*

Merchant (2004) argues that the *Case and resumptive-binding operator generalization* finds a simple theoretical explanation given two reasonable assumptions. First, case assignment is local; only elements in A-positions can be assigned case. Second, resumptive-binding operators are base-generated in an \bar{A} -position—[Spec, CP]. Under this account, resumptive-binding operators cannot bear case because they are never in a position to receive it. Case-marked operators like Iraqi *?il-man*, on the other hand, must be generated in case positions (i.e. A-positions). Movement to [Spec, CP] will be forced by the [\bar{A} wh] feature on $C_{[+wh]}$, and because movement always leaves a gap in Iraqi, we correctly predict that case-marked operators will be unable to bind resumptive pronouns. Resumptive-binding operators, on the other hand, are externally merged in [Spec, CP] via a [\bullet wh] feature on $C_{[+wh]}$. In other words, not only *can* resumptive-binding operators be caseless, they *must* be so.

By contrast, analyses which posit resumptive-leaving movement for island-insensitive resumption (e.g. Pesetsky, 1998; Boeckx, 2003; Müller, 2014; Korsah and Murphy, 2020) must explain why it is that resumptive-binding operators cannot bear non-default case.

- (246) una persona **a quien_i le_i** juzgaron
 a person A who_i **CL.3SG_i** they.judged
 (lit.) ‘a person whom_i they judged them_i’ (Basque Spanish)
- (247) **A quién_i lo_i** juzgaste ayer?
A who_i him_i judged.2SG yesterday
 ‘Whom did you judge yesterday?’ (Argentinian Spanish)

Case-connectivity, then, marches in lockstep with island-sensitivity, parasitic gap licensing, and ‘exactly’ stranding and distinguishes between two types of resumptives cross-linguistically.

Resumptive dependencies in Romani further bear out this correlation. Recall that resumptive pronouns do not salvage illicit extraction out of strong islands in the Priština dialect of Romani ((71)) (see McDaniel, 1986, 55–56). It is a welcome finding, then, that overtly case-marked relative and interrogative pronouns in this dialect can cooccur with resumptive pronouns in various environments, including embedded below a finite clause boundary:

- (248) Ake o čavo **kas_i** janav so dikhlûm **le_i** irati.
 here.is the boy **whom.ACC_i** I.know that I.saw **him.ACC_i** yesterday
 ‘Here’s the boy whom I know that I saw yesterday.’ (McDaniel, 1986, 49, (19d))
- (249) **Kas_i** misline so dikhlûm **le_i** irati?
whom.ACC_i do.you.think that I.saw **him.ACC_i** yesterday
 ‘Whom do you think I saw yesterday?’ (McDaniel, 1986, 50, (20d))

Case-marked operators cooccurring with resumptive pronouns can also be found in Macedonian *wh*-questions and relative clauses (Berent, 1980, 157, Tomić, 2008, 76–79), Romanian *wh*-questions and relative clauses (Steriade, 1980; Comorovski, 1986; Dobrovie-Sorin, 1990; Alboiu, 2000), and may be found in Greek restrictive relatives employing the relative pronoun *o opios* (see footnote 93) and in *wh*-questions in at least some dialects/idiolects, as well as in long-distance relativization in Slovene (see Hladnik, 2015, ch. 4 for discussion).⁹⁸ In all cases where data is available—namely, in Romanian, Greek, and Slovene—the *Case and resumptive-binding operator generalization* can be shown to hold: case-marked opera-

98. See also the languages discussed in Cinque (2020, 247–248).

tors never relate to resumptive pronouns when an island boundary intervenes. We can make sense of the pattern of resumption in languages like Spanish and Romani if case-marked operators *are* base-generated in A-positions. \bar{A} -movement of case-marked operators can be accompanied by a resumptive (the precise mechanics of which will be discussed in chapter 5) matching them in φ - and case-features.⁹⁹

In summary, case-(anti-)connectivity effects constitute a fourth syntactic diagnostic for movement which can be used to distinguish two types of resumptive pronouns cross-linguistically. Overt case-marking on an operator indicates that the operator began its life in an A-position, local to a case-assigner, and moved to the left periphery. I argued in section §3.7.2 that this movement can be independently diagnosed in Iraqi with a battery of other tests. The fact that case-marked operators must bind gaps in Iraqi provides strong evidence that resumptive pronouns in this language are not overt residues of movement and that resumptive-binding operators are base-generated separately from their bindees. The obligatory lack of (non-default) case on the operator cannot be predicted by a movement analysis of resumptive dependencies without resorting to stipulation. By contrast, case-marked operators *are* compatible with resumption in languages like Spanish and Romani; crucially, resumptive dependencies in these languages were shown to exhibit several other hallmark features of

99. In fact, there is limited evidence that case-marked *wh*-operators can be found cooccurring with pronominal elements even in Iraqi Arabic. Bar-Moshe (2021, 421) reports for Jewish Baghdadi Arabic that *ex situ* direct object *wh*-questions utilizing the pronoun ‘who’ can be formed in one of two ways: either with the bare *wh*-pronoun *mani* ‘who’ and no pronominal clitic ((ia)), or with the differentially object marked *wh*-pronoun *l-mani* ‘whom’ (ACC-who) and an obligatory pronominal clitic ((ib)) (see also Blanc, 1964, 130). Using either the differential object marker *l* or the pronominal clitic alone is reported to be impossible.

- (i) a. *mani_i šəft ______i?*
 who saw.2.M.SG
- b. *l-mani_i šəft-u_i?*
 ACC-who_i saw.2.M.SG-**him_i**
 Both: ‘Who did you see?’ (adapted from Bar-Moshe, 2021, 421, fn. 12)

Jewish Baghdadi Arabic is thus unlike Muslim Baghdadi Arabic—the dialect I have been referring to as ‘Iraqi Arabic’ throughout this dissertation—and is more similar to Spanish or Romani in forming resumptive *wh*-dependencies. This raises the question whether Jewish Baghdadi Arabic employs base-generated resumption at all (e.g. inside islands).

movement.

To conclude this subsection, we may note that there is some yet-to-be-explained variation between languages in the compatibility of case-marked operators with resumption. For instance, not all resumptive pronouns cooccurring with \bar{A} -movement dependencies are necessarily related to overt operators bearing non-default case. McDaniel (1986, 47–51, 102) shows that overt relative pronouns and *wh*-words bearing non-default case can only relate to resumptive pronouns over an intervening NP, CP, or coordinate structure boundary in the Priština dialect of Romani. Single-clause *wh*-questions prohibit resumption in all other environments, and relative clauses only permit resumption in local extraction when the invariant complementizer *so* is used (see also Manetta, 2020, 70–73). Somewhat similarly, Hladnik (2015, ch. 4) reports that case-marked relative pronouns in Colloquial Slovene can only relate to resumptive pronouns embedded one or more clauses down; local extraction with a relative pronoun forbids resumption. The Romani and Slovene facts indicate that, while case-matching is *compatible* with resumptive \bar{A} -movement dependencies, it is not obligatory. However the lack of case-marking under resumption in these languages is to be accounted for, it does not undermine the usefulness of case-connectivity as a diagnostic for movement. By combining case-matching and \bar{A} -movement under resumption, we can create the following four-way typology:

(250)

		Can operators bearing non-default case cooccur with resumptives?	
		Yes	No
Do resumptive dependencies exhibit other hallmarks of movement?	Yes	Spanish, Romani (across NP/CP/&P boundaries), Slovene (across CP)	Romani (local extraction), Slovene (local extraction)
	No	–	Iraqi, Bulgarian, Polish, Greek, Maltese, Colloquial Czech

This typology is restrictive insofar as we predict only three out of four cells to be attested:

while it is possible for movement-derived resumptives to not cooccur with case-marked operators (i.e. the top-right cell in (250)), it should be impossible for base-generated resumptives to be bound by a case-marked operator (i.e. the bottom-left cell in (250)). We can accordingly preserve the central insight of Merchant’s *Case and resumptive-binding operator generalization* while simultaneously accounting for observed patterns of variation.

3.8 Conclusion

In this chapter, I have argued that gapped dependencies, but not resumptive dependencies, exhibit syntactic reflexes of successive-cyclic movement in Iraqi, Tunisian, and Syrian Arabic. The four tests used to distinguish between the two types of dependency were island-sensitivity, parasitic gap licensing, *exactly* stranding, and case-matching. The results of my investigation are summarized in the table in (251), repeated here from (220).

(251) *Results from Iraqi (IA), Tunisian (TA), and Syrian Arabic (SA)*

	Resumptive dependencies		Gapped dependencies
	<i>Optional RP</i>	<i>Obligatory RP</i>	
Are islands obeyed? (IA, TA, SA)	N/A	No	Yes
Are parasitic gaps licensed? (IA, TA, SA)	No	No	Yes
Is <i>exactly</i> stranding permitted? (IA, SA)	No	No	Yes
Can operators be case-marked? (IA)	No	N/A	Yes

These results strongly suggest that resumptive \bar{A} -dependencies in Arabic never involve movement. Note too that I did not discover any difference between optional and obligatory resumptive pronouns with regards to these syntactic tests for movement. This casts doubt on any attempt to extend to these Arabic varieties the hypothesis put forth in Borer (1981), Bianchi (2004), Sichel (2014, 2021, 2022), and Rasin (2017) that obligatory resumptive pro-

nouns inhabit movement derivations in at least some cases.

Another significant contribution of this chapter was the demonstration that these syntactic diagnostics for movement crucially converge for a given type of resumptive dependency in a given language, where data are available. The result is a bipartite taxonomy of resumptives: base-generated resumptives fail all syntactic tests for movement, whereas movement-derived resumptives (e.g. Spanish, as documented here for the first time) pass those same tests, reinforcing our conclusions from chapter 2. Table 3.1 summarizes this taxonomy for a variety of languages for which data on more than one test are available. Where citations are not provided, the data come from my own fieldwork.

	Type of A-dependency	Island-sensitive?	License (local) PGs?	Case-marked operators?	License stranding?
Iraqi	(restrictive relative, <i>wh</i> -question)	No	No	No	No
Syrian	(restrictive relative, <i>wh</i> -question)	No	No	N/A	No
Tunisian	(restrictive relative, <i>wh</i> -question)	No	No	N/A	–
Moroccan	(restrictive relative)	No ¹⁰⁰	No ¹⁰¹	–	–
Hebrew	(restrictive relative)	No ¹⁰²	No (in adjuncts) ¹⁰³	N/A	–
Cape Verdean Creole	(φ -matching <i>wh</i> -question)	No ¹⁰⁴	No ¹⁰⁵	N/A ¹⁰⁶	–
Igbo	(topicalization)	No ¹⁰⁷	No ¹⁰⁸	N/A ¹⁰⁹	–
French	(<i>wh</i> -question)	No ¹¹⁰	No ¹¹¹	N/A	–
Maltese	(restrictive relative)	No ¹¹²	No ¹¹³	No ¹¹⁴	–
Polish	(restrictive relative)	No ¹¹⁵	– ¹¹⁶	No ¹¹⁷	–
Bulgarian	(restrictive relative)	No ¹¹⁸	N/A ¹¹⁹	No ¹²⁰	–
Spanish	(<i>wh</i> -question, %)	No ¹²¹	No ¹²²	No (across islands) ¹²³	–
Greek	(restrictive relative, %)	No ¹²⁴	No ¹²⁵	No ¹²⁶	–
Greek	(non-restrictive relative)	No ¹²⁷	–	No (across islands) ¹²⁸	–
Spanish	(<i>wh</i> -question, %)	Yes ¹²⁹	Yes	Yes	Yes
Greek	(restrictive relative, %)	Yes ¹³⁰	–	Yes ¹³¹	–
Greek	(free relative)	Yes ¹³²	–	Yes ¹³³	–
Greek	(<i>wh</i> -question)	Yes ¹³⁴	No ¹³⁵	Yes ¹³⁶	–
Cape Verdean Creole	(φ -mismatching <i>wh</i> -question)	Yes ¹³⁷	Yes ¹³⁸	N/A ¹³⁹	–
Swedish	(<i>wh</i> -question)	Yes ¹⁴⁰	Yes ¹⁴¹	N/A	–
Slovene	(restrictive relative)	Yes ¹⁴²	Yes ¹⁴³	Yes ¹⁴⁴	–
Igbo	(focus fronting)	Yes ¹⁴⁵	Yes ¹⁴⁶	N/A ¹⁴⁷	–
Vata	(<i>wh</i> -question)	Yes ¹⁴⁸	Yes ¹⁴⁹	N/A	–
Nchufie	(restrictive relative)	Yes ¹⁵⁰	Yes ¹⁵¹	N/A	–
Persian	(restrictive relative)	Yes ¹⁵²	Yes ¹⁵³	N/A ¹⁵⁴	–
Romani (Priština)	(restrictive relative, <i>wh</i> -question)	Yes ¹⁵⁵	–	Yes ¹⁵⁶	–
Romanian	(restrictive relative, <i>wh</i> -question)	Yes ¹⁵⁷	No ¹⁵⁸	Yes ¹⁵⁹	–

‘–’ indicates that I did not have access to the relevant data.

Table 3.1: Summary of syntactic tests for movement under resumption and two types of resumptives

-
101. Nouhi (1996, 43, (35a–d)).
 102. Givón (1973, 142, 144), Hayon (1973, 47–49), Borer (1984b, 221).
 103. Sells (1984, 80–82), Shlonsky (1986, 575, (15)), Shlonsky (1992, 462, (32)), Fox (1994, 10), Fox (2020, 3), Arad (2014).
 104. Alexandre (2009, 109–110, (53)–(55)).
 105. Alexandre (2009, 192, (35)).
 106. Alexandre (2009, 238).
 107. Georgi and Amaechi (2022, 7, (7c)).
 108. Georgi and Amaechi (2022, 8, (10c)).
 109. Georgi and Amaechi (2022, §7).
 110. Guilliot (2006a, 41–42, (2.30)–(2.32)), Sportiche (2018, 312, (4)). See Tellier (1991, 51, (43b)) for an alternative perspective.
 111. Sportiche (2018, 316, (13a)).
 112. Camilleri and Sadler (2011b, 10–11), Camilleri and Sadler (2016, 131).
 113. Camilleri and Sadler (2011b, 12–13, (45)–(48)).
 114. Camilleri and Sadler (2011b, 4–5). But see footnote 92 for discussion of some potentially problematic examples.
 115. Bondaruk (1995, 40–42), Lavine (2003, 357–358).
 116. Lavine (2003, 365–366, fn. 12).
 117. Pesetsky (1998, 373–374), Merchant (2004, 474, (16)).
 118. Krapova (2010, 1250, (25)), Rudin (2012, 149–152).
 119. According to Stateva (2005), Bulgarian lacks true parasitic gaps.
 120. Rudin (2012, 144, (29)–(30)), Harizanov (2011). Though see Rudin (2012, 145–147) for attested (but not strictly grammatical) examples of resumptives cooccurring with case-marked relative pronouns. Krapova (2010, 1263, fn. 41) notes that relative clauses formed with a case-marked relative pronoun cannot span islands whether or not a resumptive pronoun is used, again suggesting that *ex situ* case-marked *wh*-operators must move from case positions.
 121. Contreras (1991, 146–153), Suñer (1998, 335, (1)).
 122. Contreras (1991, 150, (29b)).
 123. Non-island context: Contreras (1991, 155, (48), (50)). Island context: Contreras (1991, 149, (26)).
 124. Merchant (2004, 477), Chatsiou (2006, 6, (15)), Chatsiou (2010, 88–89, (240)–(243)).
 125. Chatsiou (2006, 8, (20)), Chatsiou (2010, 92, (251)–(252)).
 126. Merchant (2004, 476–477).
 127. Alexopoulou (2006, 85–86, (45a), (46a)).
 128. Non-island context: Alexopoulou (2006, 70, (20a); 85, (44)). Island context: Alexopoulou (2006, 85,

(45a)). Alexopoulou (2006, 86) notes that in general, relative pronouns in non-restrictive relative clauses (but not in restrictive relatives) can bear (default) nominative case regardless of the case associated with the variable site.

129. Stigliano and Xiang (2021).

130. Alexiadou and Anagnostopoulou (2000a, 49, (6)), Alexopoulou (2006, 85–86, (45b), (46b)), Daskalaki and Mavrogiorgos (2013, 338, (34)).

131. Alexiadou and Anagnostopoulou (2000a, 48, (3a)), Daskalaki and Mavrogiorgos (2013, 335, (30)).

132. Alexopoulou (2006, 85–86), Daskalaki and Mavrogiorgos (2013, 337–338).

133. This is somewhat obscured by the fact that the case on the relative pronoun in a free relative must be overwritten with the case assigned by the matrix predicate, see Alexopoulou (2006, 63–64, (12)), Daskalaki (2011), and Daskalaki and Mavrogiorgos (2013).

134. Androulakis (1998, 159, (65)), though see Androulakis (2001, 97–98) for some qualifications.

135. Androulakis (1998, 159, (62)), Androulakis (2001, 96, (14)), Iatridou (1995, 28, (56)), Georgiou (2022, 324, (62)–(63)). See footnote 31 for an account of this apparent exception.

136. Iatridou (1995, 29, (57)), Androulakis (1998), Georgiou (2022, ch. 7).

137. Alexandre (2009, 101, (27)–(28); 154, (28); 182–183, (4)–(7)).

138. Alexandre (2009, 193, (36)).

139. Alexandre (2009, 238).

140. Engdahl (1982, 168, (74)).

141. Engdahl (1982), Sells (1984, 55–57), Engdahl (1985, 38, n. 4), Asudeh and Toivonen (2012, 236–243).

142. Hladnik (2015, 30, (46)).

143. Hladnik (2015, 36, (64)).

144. Hladnik (2015, 134), though see the discussion in Hladnik (2015, ch. 4) for several important caveats.

145. Georgi and Amaechi (2022, 16, (20); 50–51, (72)–(74)).

146. Georgi and Amaechi (2022, 16–17, (23); 52–53, (81)–(83)).

147. Georgi and Amaechi (2022, §7).

148. Koopman and Sportiche (1986, 161, (19a)).

149. Sportiche (1983, 124, (47iii)).

150. Sano (1994, 118, (10)).

151. Sano (1994, 119, (17)).

152. Taghvaipour (2004, 285–288).

153. Taghvaipour (2004, 282–283).

154. Persian exclusively makes use of invariant complementizers in the formation of restrictive relatives (Taghvaipour, 2004, 276).

155. McDaniel (1986, 55–56).

Finally, in section §3.2, I presented a novel account of base-generation and movement in the grammar, inspired by a similar proposal in McCloskey (2002). This account was crucially *feature-driven* and based on a distinction between the featural triggers for Merge (i.e. ‘•’ features) and Move (i.e. ‘<’ features)—a distinction independently proposed in the Minimalist Grammars framework. I showed for each syntactic diagnostic for movement how the two kinds of resumptive dependencies could be accounted for with my proposed features. By locating the difference between Merge and Move in (features in) the lexicon, I was also able to account for heretofore unrecognized variation in the cross-linguistic availability of mixed chains, especially those in which an operator is base-generated in an intermediate [Spec, CP] position where it binds a resumptive, and then moves successive-cyclically to the scope position. My account located the variation in lexical properties of the intermediate complementizers made available in each language. Furthermore, I showed how my proposed feature system makes accurate predictions regarding cross-linguistic variation in the ways that different languages form long-distance dependencies, including iterative prolepsis and a ban on long-distance dependencies altogether.

156. McDaniel (1986, 48–50).

157. Dobrovie-Sorin (1990, 354, (4)–(5)), but see Grosu (1994, 212, (3.28b)) for an alternative perspective on restrictive relatives using the uninflected complementizer *care*.

158. Dobrovie-Sorin (1990, 358, (14)–(15)), Alboiu (2000, 269–270). See also Cornilescu (2006) on the unavailability of parasitic gaps in clitic-doubled Heavy NP Shift in Romanian. To account for this exception, we might extend to Romanian the analysis of the exceptional lack of local parasitic gap licensing under island-sensitive resumption in Greek presented in footnote 31.

159. Steriade (1980); Comorovski (1986); Dobrovie-Sorin (1990); Alboiu (2000).

CHAPTER 4

INSIGHTS FROM RESUMPTION INTO THE FEATURE-DRIVEN MERGE VS. FREE MERGE DEBATE

4.1 Introduction

This short chapter considers a consequence of the cross-linguistic variation in the composition of long-distance chains I identified in chapter 3 (especially sections §3.5 and §3.6) for current theorizing about Merge. In that chapter, I argued that the variation can be accounted for if external and internal Merge are feature-driven, and if the two are triggered by distinct features: ‘•’ features and ‘◁’ features, respectively. In this chapter, I argue that free (or untriggered) approaches to Merge, adopted most prominently, but not exclusively, in the labeling framework emerging from Chomsky (2013, 2015, 2020) (see e.g. Epstein et al., 2014, 2015; Ott, 2015; Collins, 2017; Chomsky et al., 2019; Milway, 2019; Safir, 2019, among many others), but present also in much earlier work¹ (e.g. Chomsky, 2004, 2007, 2008; Boeckx, 2010; Ott, 2010; Safir, 2010), are empirically inadequate. Free Merge accounts maintain that the application of (external or internal) Merge is constrained only by interface legibility conditions—in other words, Merge is free to apply, and any deviant structures thereby produced are filtered out at the interfaces. In a nutshell, my argument against such approaches is as follows: if Merge applies freely, and if external and internal Merge are one and the same operation (Chomsky, 2004; see also Kitahara, 1994, 1995, 1997; Groat, 1997, Epstein et al., 1998, 13, 26, Collins and Stabler, 2016, 48, and Collins and Groat, 2018, 1, as well as references therein), then there will be no way to distinguish between external and internal Merge in intermediate clauses in long-distance dependencies in Arabic. Consequently, free Merge accounts fail to explain the absence of mixed base-generation-

1. As Erik Zyman (*pers. comm.*) points out to me, the concept of free Merge has an important antecedent in “Move α ” (on which see e.g. Chomsky, 1977, 1980, 1981, 1986; Lasnik and Saito, 1984, 1992).

then-movement chains in Arabic. Thus, cross-linguistic variation in whether or not base-generation is possible in intermediate [Spec, CP] positions constitutes a novel argument against analyses which posit that Merge is untriggered (for other arguments, see Müller, 2014, 2017; Zyman, 2018, Accepted, esp. Supporting information; Merchant, 2019; and Ermolaeva, 2021, as well as references cited in those works).

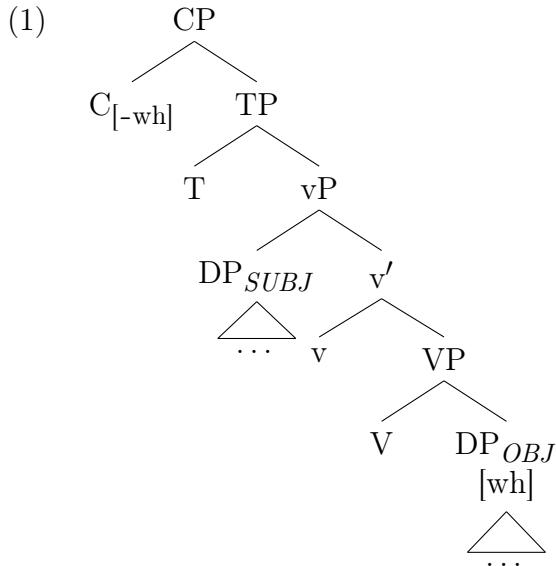
This chapter is organized as follows. Section §4.2 outlines the key distinguishing features of free Merge approaches to structure building and details how such approaches account for intermediate steps of movement in long-distance dependencies. Section §4.3 then argues that free Merge approaches cannot be extended to account for base-generated \bar{A} -dependencies—especially those which feed \bar{A} -movement of the resumptive-binding operator—without over-generating; specifically, free Merge approaches fail to predict the absence of mixed chains in Arabic. By contrast, feature-driven approaches can account for the attested cross-linguistic variation. Section §4.4 concludes.

4.2 A sketch of a free Merge system

The core of the free Merge² approach is summarized succinctly in the following quote by Chomsky: “...Merge applies freely, including I[nternal] M[erge]... Operations can be free, with the outcome evaluated at the phase level for transfer and interpretation at the interfaces” (Chomsky, 2015, 14). In free Merge approaches, there is no feature-matching/-checking prerequisite for successful applications of Merge. There are no ‘●’ features or ‘◁’ features (nor indeed structure-building features of any kind), contrary to what I have proposed. Rather, Merge applies freely, combining syntactic objects in the derivational workspace. Then, at the syntax-semantics and syntax-phonology interfaces, the output of (one or more applications of) Merge is evaluated for interpretability. If the output does not receive a well-formed semantic or phonological(/morphological) interpretation, it causes a crash.

2. Also known as ‘Simplest Merge’ (Epstein et al., 2014, 2015; Collins, 2017; Chomsky et al., 2019).

Consider how a free Merge approach accounts for successive-cyclic movement through intermediate [Spec, CP] positions in long-distance \bar{A} -dependencies,³ for instance in long-distance *wh*-movement of a direct object. Suppose that the non-*wh*-CP (headed by $C_{[-wh]}$) in (1) has already been constructed by free Merge (I omit subject movement to [Spec, TP] in the following trees for simplicity).



Assume henceforth that CP is a phase, with C being the phase head. According to the Phase Impenetrability Condition ((2)),⁴ a constituent (e.g. $DP_{[wh]}$) can only escape CP if it first reaches its edge. Adopting the definition of ‘phase edge’ given in (3), the edge of CP will consist of specifiers of C and adjuncts to CP.

- (2) *Phase Impenetrability Condition* (Chomsky, 2000, 108, (21))
 In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.
- (3) *Definition of phase edge* (Abels, 2012, 90, fn. 2; see also Chomsky, 2001b, 13)
 The edge of a head are all and only those constituents which are dominated by a

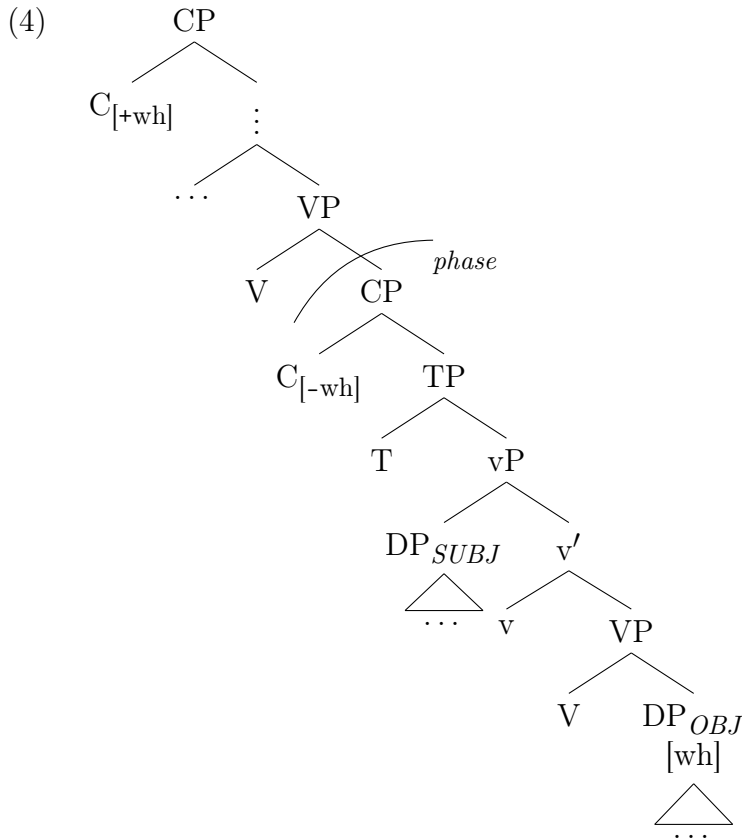
3. Like chapter 3, the present chapter is predominantly concerned with the role played by complementizers in long-distance chain formation. I therefore set aside clause-internal successive-cyclic movement, including stopping over in [Spec, vP].

4. (2) has come to be known as the *Strong P(hase) I(mpenetrability) C(ondition)*, or PIC_1 (terminology from Citko, 2014, §2.4; see the references cited there for additional discussion). The Strong PIC/ PIC_1 is to be contrasted with the *Weak PIC* or PIC_2 of Chomsky (2001b, 13–14, esp. (11)), according to which the domain of a phase head H is accessible until the next highest phase head is merged into the structure.

projection of the head and which asymmetrically c-command the head.

In (1), the object, $DP_{[wh]}$, is not at the edge of the CP phase, hence it will be inaccessible for further structure building via Merge above CP.

Suppose now that the CP in (1) is embedded inside an interrogative CP headed by $C_{[+wh]}$. The embedding clause will be built up via Merge until we reach $C_{[+wh]}$, as shown in (4), with irrelevant intervening structure omitted.

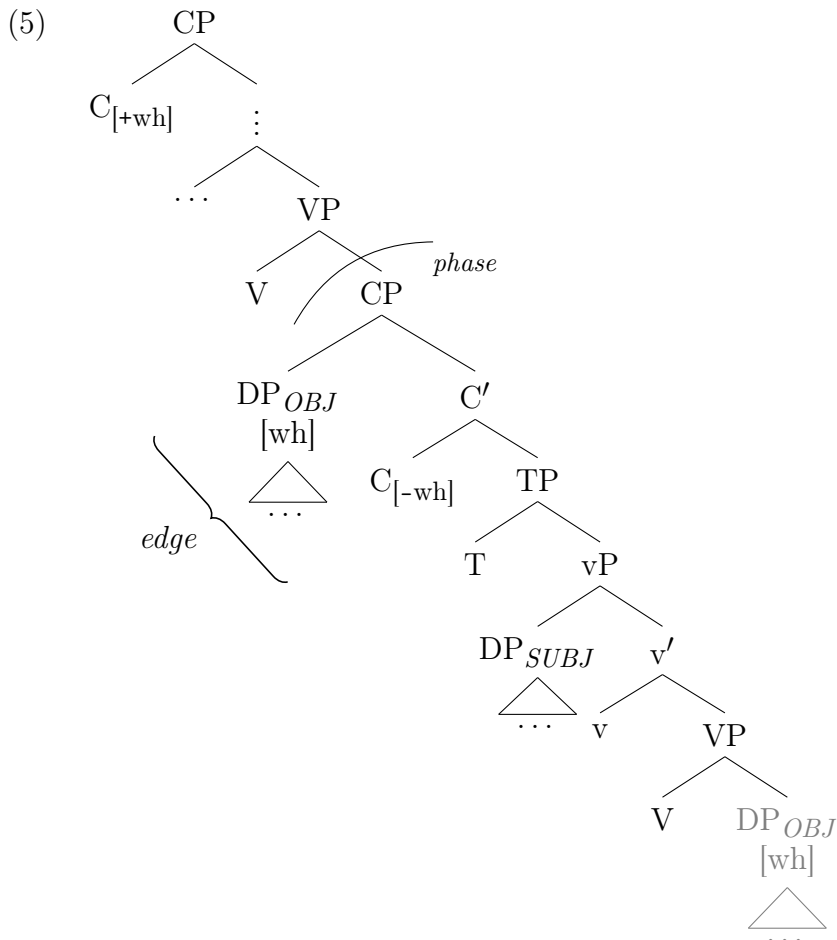


Due to the fact that $DP_{[wh]}$ is contained in the domain of the phase head $C_{[-wh]}$, it is inaccessible for Merge in all positions above the embedded CP. It will therefore be impossible to internally merge $DP_{[wh]}$ in the specifier of $C_{[+wh]}$.

Note, however, that the derivation in (4) must be prevented from converging in languages like English which require overt *wh*-movement in (non-echo) *wh*-questions. In the free Merge framework, there is no syntactic problem *per se* with (4) because there are no

Merge-triggering features whose (non-)satisfaction determines whether the derivation converges or crashes. The structure in (4) must instead induce a crash at one (or both) of the interfaces. Safir (2019, 294–296) proposes that failure to merge a *wh*-phrase in the specifier of $C_{[+wh]}$ will yield a semantically deviant output if *wh*-phrases must occupy a scopal position for the sentence to receive a constituent question interpretation.

Intermediate movement in free Merge approaches forestalls such a semantic crash. Contrast (4) with the alternative derivation in (5) in which, prior to completion of the embedded CP phase, $DP_{[wh]}$ is internally merged in the specifier of $C_{[-wh]}$. Because $DP_{[wh]}$ is at the edge of the embedded CP, it is accessible to further operations above the embedded CP.



If $DP_{[wh]}$ is internally merged in the specifier of $C_{[+wh]}$, the result will be semantically well-formed (i.e. interpreted as a constituent question) and, assuming morphophonological

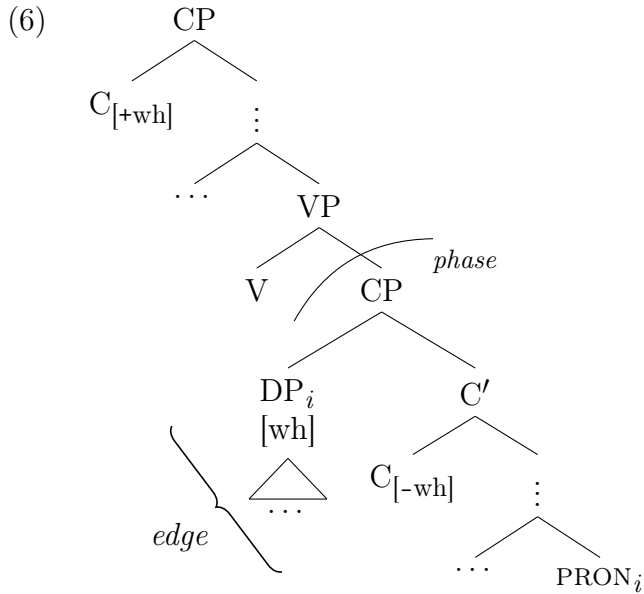
convergence, the derivation as a whole will converge. Thus, intermediate movement is “independently forced”: only if it occurs can the derivation converge at the syntax-semantics interface. Some advocates of free Merge have heralded this as a welcome consequence of the approach: if Merge is free, we can dispense with (putatively spurious) edge features which drive intermediate movement steps punctuating long-distance dependencies (e.g. Safir, 2019, 294–298).

4.3 Why free Merge approaches fail to account for cross-linguistic variation in the availability of mixed chains

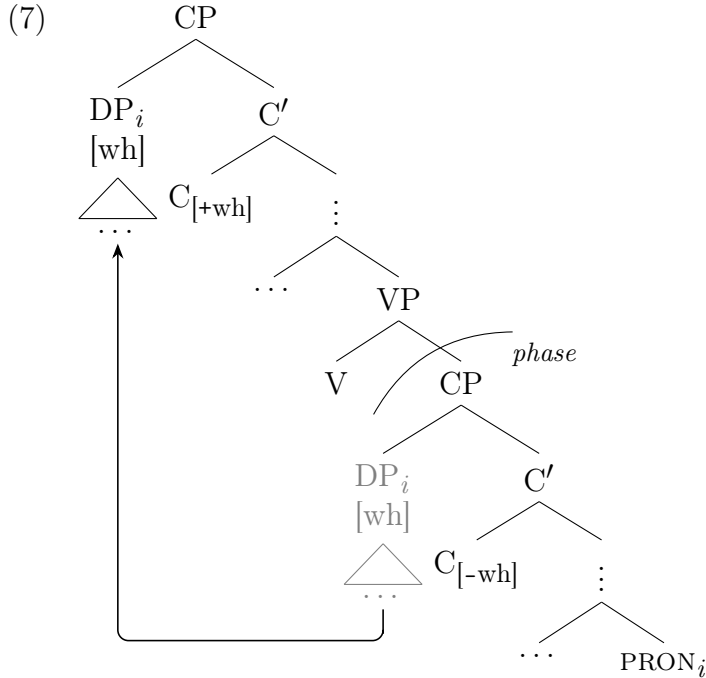
Things are not so simple, however. I submit that, if free Merge approaches are extended to account for mixed chains, they predict that *all* languages which productively form base-generated \bar{A} -dependencies should allow the formation of mixed chains, contrary to fact. Let us consider why. First, I adopt, for the sake of the argument, the proposal in Chomsky (2004, esp. 110–111; and see the references cited above on p. 173) that external Merge and internal Merge are two subcases of the same operation which can be descriptively differentiated by the pre-Merge loci of the mergees. In the case of external Merge, neither of the mergees is contained inside the other, whereas in the case of internal Merge, one of the mergees is contained inside the other. In practice, however, any distinctions that may have to be made between them must reduce to interface legibility conditions according to free Merge approaches.

Now, if Merge is free, external Merge and internal Merge should be equally licit options at a given stage of the derivation. I showed in section §4.2 that internally merging a *wh*-phrase in an intermediate [Spec, CP] position in a long-distance dependency is possible (and is in fact “indirectly forced” with the adoption of phase theory). We therefore predict external merge of a *wh*-phrase in an intermediate [Spec, CP] position—from which position it binds a resumptive pronoun—to be possible as well, assuming that the resulting structure is well-

formed semantically and (morpho)phonologically (on which see more below). Example (6) schematically illustrates external merge of a $DP_{[wh]}$ in an intermediate [Spec, CP] position, with $DP_{[wh]}$ binding a resumptive pronoun $PRON$:



Because $DP_{[wh]}$ is at the edge of the embedded CP phase, it is accessible for internal Merge with a projection of a higher C head and it can therefore land in the position necessary for it to take scope—namely, [Spec, $C_{[+wh]}P$].



Free Merge approaches therefore successfully account for the existence of mixed base-generation-then-movement chains in languages like Irish, Colloquial French, and Swiss German, among others (discussed in detail in section §3.5.1). A representative example from Irish is given in (8): the lower complementizer *aN* signals that its specifier was filled by external Merge, and the higher complementizer *aL* signals that its specifier was filled by internal Merge.

- (8) a. aon duine **a** cheap sé **a** raibh ruainne tobac aige
 any person **aL** thought he **aN** was scrap tobacco at-him
 ‘anyone that he thought had a scrap of tobacco’ (McCloskey, 2002, 198, (34))
- b. [CP *Op*_{*i*} **aL** ... [CP $\bar{\mathbf{t}}$ _{*i*} **aN** ... *pro*_{*i*} ...]]
-

By the same token, then, Arabic is predicted to allow base-generation of *wh*-phrases in intermediate [Spec, CP] positions. But as I argued extensively in chapter 3, the evidence indicates that this is not the case: in long-distance resumptive \bar{A} -dependencies in Arabic, parasitic gaps are not licensed in higher clauses ((9)), and ‘exactly’ cannot be stranded in intermediate clauses ((10)).

- (9) *Gaps, not resumptives, license parasitic gaps in higher clauses in Arabic* (repeated from (149c)–(149d) in chapter 3)
 min_i ʔrafti [CP ʔin-ni raħ aħibb {___i / *-**u**_i}] [min ʔabl
 who_i knew.2.F.SG that-1.SG FUT like.1.SG { / *-**him**_i} from before
 ma aʃu:f pɡ_i]?
 C see.1.SG
 (lit.) ‘Who_i did you know I would like {___i / ***him**_i} before I ever met pɡ_i?’
 (Syrian)
- (10) *Gaps, not resumptives, license b-l-d^ʕabut^ʕ stranding in Arabic* (repeated from (209b), (210b) in chapter 3)
 min_i b-jitmanna kəll wa:ħid_k **b-l-d^ʕabut^ʕ** innu Joni tixta:r {___i
 who_i IND-hope.3.M.SG every one.M.SG_k **exactly** that Joni pick.3.F.SG {
 / ??-**u**_i} li-fari:ʔ-u_k?
 / ??-**him**_i} for-team-his_k
 (lit.) ‘Who_i does everyone_k hope **exactly** that Joni will pick {___i / ??**him**_i} for
 his_k team?’
 (Syrian)

The difference between Irish-type languages and Arabic is wholly unexpected under an approach to Merge which cannot distinguish external and internal Merge at intermediate CP edges in long-distance chains. Once external Merge in intermediate positions is permitted in the grammar, it is not clear how it can be constrained. The only recourse available to free Merge approaches to explain this cross-linguistic variation is to posit language-specific differences at the interfaces. But such a move lacks a clear motivation in the case of mixed chains. Take the syntax-semantics interface: if *wh*-phrases are (or at least can be) interpreted in their surface scope positions, then (when they are) there will ultimately be no semantic difference between a mixed base-generation-then-movement chain and a pure base-generation chain. Consequently, it is implausible to attribute the lack of mixed chains in Arabic to semantic ill-formedness. This leaves the syntax-phonology interface, though here too there seems to be no basis for drawing the right distinction. Although Irish complementizers morphophonologically register the difference between internal and external Merge, French and Swiss German complementizers (like Arabic complementizers) do not (see the data in section §3.5.1); hence, whether or not a language has access to mixed chains does not correlate with the morphophonological properties of its long-distance dependencies. It is also perhaps

worth noting that even if there were a non-stipulative way to distinguish between languages with and without mixed chains in a free Merge system, it would be somewhat surprising, given the Y-model of grammar, for the distinction between external and internal Merge to be discernible at the interfaces if it were never registered by features in the syntax.⁵ Without a way to distinguish between external and internal Merge at intermediate CP edges, the Arabic pattern remains unaccounted for.⁶

Feature-driven approaches to Merge, on the other hand, can successfully account for the documented variation, as argued extensively in chapter 3. In that chapter, I proposed that

5. Admittedly, however, this may not be entirely accurate. If a syntactic object can have more than one mother, as has been argued by proponents of *multidominance* in syntax (see e.g. Citko, 2005; Johnson, 2009, 2012; and Citko and Gračanin-Yuksek, 2021, as well as the many references cited in those works—*pace* Chomsky 2007, 8, esp. fn. 10; 2015, 6; Larson, 2016; and Chomsky et al., 2019, 245), then it will be possible to differentiate external and internal Merge at the interfaces in a free Merge system without resorting to features, purely by making reference to tree-geometric relations (or their set-theoretic counterparts—in particular, set membership; on the relationship between tree- and set-theoretic approaches to syntax, see Chomsky, 1995a, 398–399 and Seely, 2006, 189–190). An XP which is externally merged in an intermediate [Spec, CP] will have only one mother at that point in the derivation, whereas an XP which is internally merged in an intermediate [Spec, CP] will have at least two mothers at that point in the derivation. Although possible, it is not clear that we would expect the number of mothers of an XP to influence interface legibility or to induce deviance in the cases under discussion.

6. A similar argument could be made for differentiating external and internal Merge at final landing sites, distinguishing languages like Arabic, which productively employ base-generated resumption, from languages like (at least some idiolects of) English, which do not. At least two factors complicate the argument for final landing sites. First, whether or not the operator binds a gap or a resumptive pronoun in productive resumption languages frequently depends on the position of the variable site and the type of extraction. For instance, gaps are permissible in direct object *wh*-questions in most Arabic varieties, but they are not possible in direct object restrictive relativization in Iraqi, Syrian, or Tunisian, nor in \bar{A} -extraction from most other non-subject positions. An additional explanation is therefore necessary to account for this more fine-grained variation in the availability of resumption.

Second, free Merge approaches could conceivably attribute the difference between languages with and without base-generated resumption (and hence between external and internal Merge in final landing sites) to an interface property of pronouns. Chao and Sells (1983) argue that resumptive pronouns in English have systematically different interpretive possibilities than gaps do (see Doron, 1982; Bianchi, 2004; Sichel, 2014 for a restricted version of the same claim for optional resumptives in other languages; on the other hand, see Safir, 1986, 683, fn. 22 for a dispute with the generality of Chao and Sells' empirical claim). Specifically, they argue that English resumptive pronouns can never be interpreted as \bar{A} -bound variables, in contrast to resumptive pronouns in languages like Swedish, which can be. Consequently, a proponent of the free Merge approach could argue that base-generated resumption in English—formed via external Merge of a resumptive-binding operator in [Spec, C_[+wh]P]—induces a crash at the syntax-semantics interface due to the failure of resumptive pronouns to be interpreted as \bar{A} -bound variables. Note, though, that this approach will not help to explain why Arabic lacks mixed chains and why Irish-type languages permit them, since resumptive pronouns in both groups of languages can be interpreted as \bar{A} -bound variables.

the variation is accounted for by positing lexically specified differences in the featural composition of intermediate complementizers across languages. Thus, I contend that the features responsible for establishing intermediate links in long-distance chains are not dispensable, but rather are a key driver of cross-linguistic differences in the formation of \bar{A} -dependencies.

4.4 Conclusion

This chapter has argued that heretofore unrecognized variation in the availability of mixed chains cross-linguistically supports feature-driven approaches to Merge and militates against free Merge approaches. If Merge applies freely, and if external and internal Merge are distinguished only by the pre-Merge loci of the mergees (see Chomsky, 2004), then there will be no straightforward way to distinguish between external and internal Merge at intermediate CP edges in long-distance dependencies. Free Merge approaches consequently fail to account for the difference between Irish-type languages—which permit resumptive-binding operators to be base-generated in intermediate chain positions—and Arabic, which only permits resumptive-binding operators to be base-generated in the highest chain position. This chapter thus contributes a novel argument for the necessity of feature-driven Merge (for other arguments, see Müller, 2014, 2017; Zyman, 2018, Accepted, esp. Supporting information; Merchant, 2019; and Ermolaeva, 2021, as well as references cited in those works).

CHAPTER 5

ISLAND-SENSITIVE RESUMPTION AS STRANDING

5.1 Introduction

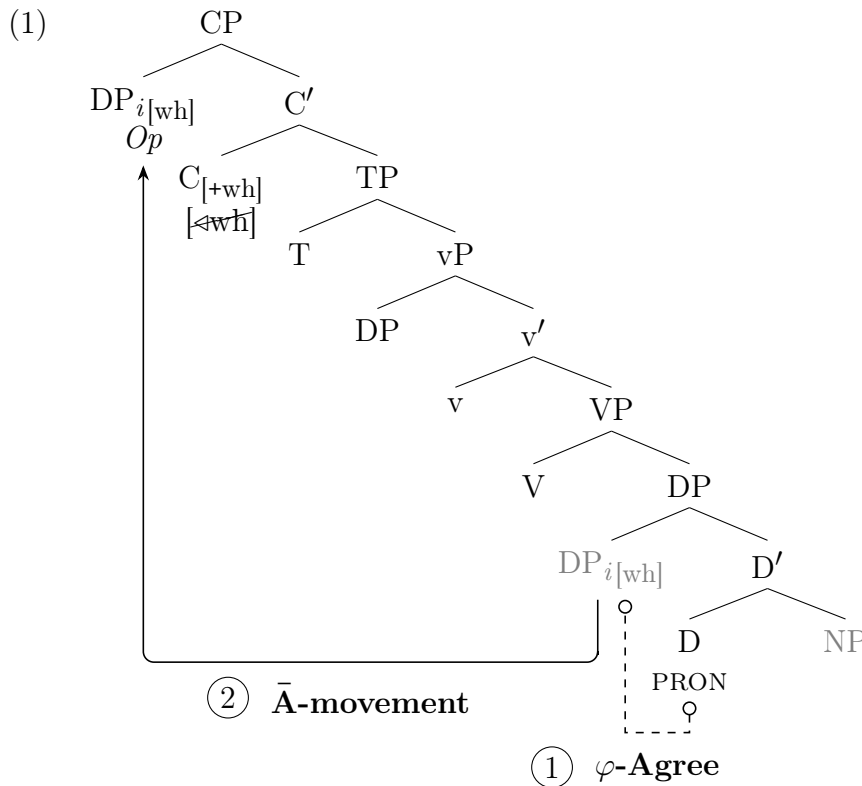
In this chapter, I argue that resumptive dependencies in languages like Spanish and Greek which exhibit the hallmarks of \bar{A} -movement are best analyzed in terms of the ‘Big-DP-*cum*-stranding’ approach (henceforth often just *Big-DP* or *stranding* approach) pioneered by Rouveret (1994), Aoun et al. (2001), and Boeckx (2003) and further advocated in Daskalaki and Mavrogiorgos (2013), Klein (2016), and Korsah (2017), among others. Under the stranding approach, operators and their corresponding ‘resumptive’ elements are base-generated together as part of a Big-DP structure, drawing on proposals from the clitic doubling literature (e.g., Torrego, 1988, Uriagereka, 1995, Cecchetto, 2000, Belletti, 2005, Roberts, 2010, Nevins, 2011, Arregi and Nevins, 2012, and Kurtz, 2022). ‘Resumption’ in these languages results from extraction of the doubled *wh*-operator, stranding the doubling pronominal element in a lower position in the clause, as described in section §5.2. Thus, what we have referred to in previous chapters as ‘resumption’ in Spanish and Greek is probably best analyzed simply as clitic doubling of a *wh*-operator, though I will largely continue to refer these pronominal elements as ‘movement-derived resumptives.’ The primary evidence in support of this approach comes from a comparison of Spanish and Greek clitics in *wh*-dependencies with base-generated resumptive pronouns in Arabic varieties. I will adduce five diagnostics to distinguish the two types of pronominal elements, two of which are repeated from chapter 3. The diagnostics are: (i) Spanish and Greek clitics can cooccur with overtly case-marked *wh*-operators, whereas Arabic resumptives cannot (§5.3; see section §3.7); (ii) Spanish clitics doubling *wh*-operators can cooccur with parasitic gaps, whereas Arabic resumptives cannot (§5.4; see section §3.4); (iii) Spanish clitics can double *wh*-operators in situ, whereas base-generated resumptive pronouns in Arabic cannot cooccur with in situ operators (§5.5);

(iv) Spanish clitics doubling *wh*-operators cannot simultaneously double strong pronouns whereas clitics resuming a *wh*-operator in Arabic can simultaneously double strong pronouns (§5.6); and (v) Spanish and Greek clitics doubling *wh*-operators can circumvent weak crossover violations, whereas Arabic resumptives cannot (§5.7). Although clitic doubling of *non-wh*-phrases is widely available in Arabic varieties (with dialects varying with regard to whether they obey Kayne’s Generalization), clitic doubling of *wh*-phrases appears to be largely prohibited in the varieties under investigation. This chapter thus provides several novel empirical arguments in favor of adopting a stranding approach to resumption in certain languages. Crucially, however, the stranding approach is shown to be incompatible with island-insensitive resumption in languages like Arabic. In the final section of this chapter (§5.8), I sketch how the Big-DP approach can be extended to island-sensitive resumption in languages like Swedish, which differs in certain respects from clitic resumption in Spanish and Greek. I also present a host of arguments against analyses of island-sensitive resumptive pronouns as ‘spelled-out traces’ or partially realized lower copies of movement. The result is a unified analysis of island-sensitive resumption as stranding.

5.2 A stranding approach to resumption *qua* clitic doubling

I will first give a preliminary sketch of the stranding approach to resumption that I will be adopting. Under the Big-DP approach, weak/clitic resumptive pronouns are standardly analyzed as heads (D^0 , or φ^0 under some accounts) which select the antecedent as their complement or specifier. In previous work, the antecedent/operator contained within the Big-DP has typically been analyzed as a DP (see Aoun et al., 2001, 392, Daskalaki and Mavrogiorgos, 2013, 340, (38), Klein, 2016, 70, (5), Korsah, 2017, 127, (61)), though Boeckx (2003, 28, (31)) proposes that it is an NP. I will henceforth assume that the doubled element is a DP and that the doubling clitic is a pronoun—represented as a D^0 with a null NP complement, adapting ideas in Postal (1966) and Elbourne (2001)—and that this pronoun

selects the doubled DP as its specifier, as in (1).¹ I assume that the clitic agrees in φ -features with the doubled DP via Spec-Head agreement (cf. Hornstein’s (2009, ch. 6) Local Agree). When the doubled element is a *wh*-phrase, it will raise out of the containing phrase under \bar{A} -extraction, triggered by a [\bar{A}] feature on the closest c-commanding C.² This movement strands the doubling pronominal element—which lacks a [wh] feature—in situ, as shown in (1).



In languages like Spanish and Greek where clitics precede the finite verb, clitics arguably move to a higher position in the clause, and clitics doubling *wh*-operators are no exception.

1. Alternatively, the head of the double might select the doubling clitic (*qua* pronominal DP) in its specifier:

- (i) $[DP_{[wh]} [DP D_{PRON} NP] [D'_{[wh]} D_{[wh]} NP]]$

See Arregi and Nevins (2012) for a related proposal for Basque clitic doubling. Choosing between these options is orthogonal to the conclusion that ‘resumption’ in Spanish and Greek, *inter alia*, launches from a clitic doubling structure.

2. I set aside movement through Spec, vP for now; see section §5.4 for some discussion.

However, because determining the surface position of the clitic is an independent issue, I will not dwell on it here. I also assume that we can account for semantic restrictions on the types of (direct object) nominals which can be clitic-doubled (see, among others, Steriade, 1980, Suñer, 1988, Anagnostopoulou and Giannakidou, 1995, and Anagnostopoulou, 2017a) by appealing to the selectional features of D_{PRON} . For instance, D_{PRON} might obligatorily select for a DP double specified as [+topic] or [+specific].

5.3 Clitic-doubled operators can be case-marked, resumptive-binding operators cannot be

As discussed in section §3.7.2, case-marked *wh*-operators in Spanish ((2)) and Greek (in at least some idiolects/dialects) ((3)) can cooccur with doubling clitics, whereas case-marked *wh*-operators in Iraqi Arabic cannot bind resumptive pronouns ((4)).

- (2) a. **A** **quién_i** (**lo_i**) juzgaste ayer?
A **who_i** (**CL.3.M.SG.ACC_i**) judged.2.SG yesterday
 ‘Whom did you judge yesterday?’ (Argentinian Spanish)
- b. **A** **quién_i** (**le_i**) juzgaste ayer?
A **who_i** (**CL.3.M.SG.ACC_i**) judged.2.SG yesterday
 ‘Whom did you judge yesterday?’ (Basque Spanish)
- (3) **Pjon** **fititi_i** (**ton_i**) sinadise i Maria sto parko?
which.ACC student_i (**CL.3.M.SG.ACC_i**) met.3SG the Mary at.the park
 ‘Which student did Mary meet at the park?’ (Greek; slightly adapted from Georgiou, 2022, 293, (1)–(2))
- (4) **?il-man_i** titwaqqaʕin Hend ixta:rat {___i / *-a_i / *-l-a}?
ACC-who_i suspect.2.F.SG Hend chose.3.F.SG {___i / *-him_i / *-to-him_i}
 ‘Whom do you suspect Hend chose?’ (Iraqi)

Additional evidence pointing to the same asymmetry between clitic doubling and resumption comes from dative clitic doubling in Tunisian.³ Recipients in ditransitive constructions

3. See Sellami (2021, 2022, In progress) for extensive treatment of clitic doubling in Tunisian and Palestinian Arabic.

in Tunisian are marked by the particle *l-*.⁴ Example (5) illustrates with the verb *bʕaθ* ‘send’: *Sami* is the recipient and is consequently marked by *l-*, analyzed here as the preposition ‘to’.

- (5) *baʕθu* *l-taswirra* *l-Sami*.
 sent.3.PL the-picture to-Sami
 ‘They sent the picture to Sami.’ (Tunisian)

The *l*-marked argument can also be doubled by a dative enclitic on the verb, as in (6). In such clitic doubling configurations, I propose that *l-* is best analyzed as the realization of dative case on the doubled DP, rather than as the preposition ‘to’, adopting an idea from Hallman (2018) for Syrian Arabic double object constructions.

- (6) *baʕθu:l-_i* *l-taswirra* *l-Sami_i*.
 sent.3.PL-3.M.SG.DAT_{*i*} the-picture DAT-Sami_{*i*}
 ‘They sent Sami the picture.’ (Tunisian)

Two facts support the dative case marker analysis of *l-* in (6). First, while the argument marked by *l-* in a prepositional dative construction such as (7) may be a location, doubled dative arguments cannot be locations, as shown by (8).⁵

- (7) *baʕθu* *l-taswirra* *l-Tunis*.
 sent.3.PL the-picture to-Tunis
 ‘They sent the picture to Tunis.’
- (8) **baʕθu:l-_i* *l-taswirra* *l-Tunis_i*.
 sent.3.PL-3.M.SG.DAT_{*i*} the-picture DAT-Tunis_{*i*}
 (lit.) ‘They sent Tunis the picture.’ (Tunisian)

This parallels a similar animacy restriction on the recipient argument in English double

4. The exception to this rule, as pointed out to me by Zeineb Sellami (*pers. comm.*), is that a class of verbs including *ʕatʕa* ‘give’ can select a non-*l*-marked recipient just in case the recipient is doubled by an accusative clitic on the verb:

- (i) *ʕtʕit-*(ha)* *Rania l-kte:b*.
 gave.1.SG-*(3.F.SG.ACC) Rania the-book
 ‘I gave Rania the book.’

5. A similar restriction also holds in Spanish dative clitic doubling (see Bleam, 2000, 108 and the references cited therein), and as a result Bleam concludes that the relevant clitic doubling configurations involve a double object construction.

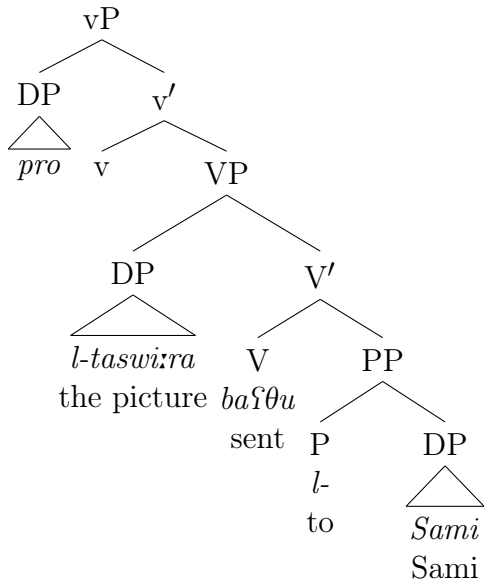
argument will only intervene for passive A-movement in the presence of clitic doubling.⁷ For concreteness, I assume that in the prepositional dative construction, both arguments are selected by the lexical verb (V), whereas in the double object construction, both DP arguments are selected by a low Appl(icative) head (Pylkkänen, 2008). Nothing in the analysis relies on these assumptions.

-
- (ii) *baʃθu:lu_i taswirət Sami_i {l-Sami_i / li:h_i}.
 sent.3.PL-3.M.SG.DAT_i picture Sami_i {DAT-Sami_i / DAT-him_i}
 (int.) ‘They sent {Sami_i / him_i} the picture of Sami_i.’ (Tunisian)

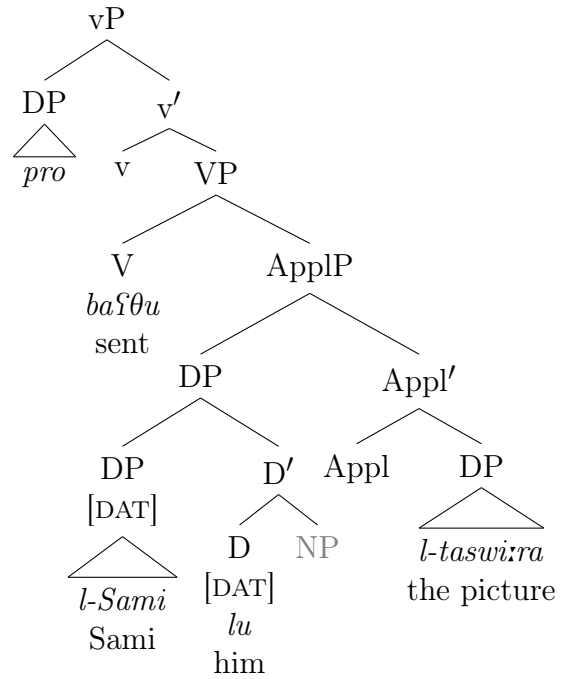
7. For reasons unclear to me, however, *l-Sami* can never be passivized, with or without a doubling dative clitic on the verb and whether or not *l-Sami* switches to nominative case (i.e. *Sami*; cf. Ancient Greek: Feldman, 1978) or exceptionally preserves its dative case marking (cf. Icelandic: McFadden, 2003, 144, citing Freidin and Sprouse, 1991):

- (i) a. *Sami_i təbʃaθ-lu_i l-taswirra.
 Sami_i was.sent.3.M.SG-3.M.SG.DAT_i the-picture.F.SG
 b. *l-Sami_i təbʃaθ-lu_i l-taswirra.
 DAT-Sami_i was.sent.3.M.SG-3.M.SG.DAT_i the-picture.F.SG
 Both: (int.) ‘Sami was sent the picture.’
- (ii) a. *Sami_i təbʃaθ l-taswirra.
 Sami_i was.sent.3.M.SG the-picture.F.SG
 b. *l-Sami_i təbʃaθ l-taswirra.
 DAT-Sami_i was.sent.3.M.SG the-picture.F.SG
 Both: (int.) ‘Sami was sent the picture.’

(11) *Prepositional dative construction*



(12) *Double object construction*



I therefore conclude that there is an overt exponence of dative Case in Tunisian Arabic and that this exponent can be distinguished from the homophonous preposition *l-* ‘to.’

Interestingly, *ex situ wh*-phrases cannot bear dative case and be doubled by a dative clitic in Tunisian (see also (29) on the absence of dative clitic doubling with *in situ wh*-phrases in Tunisian):

- (13) * **l-ʃku:n_i** baʃθu-**lu_i** l-taswirra?
DAT-who_i sent.3.PL-**3.M.SG.DAT_i** the-picture
(int.) ‘Whom_i did they send him_i the picture?’

If a *wh*-phrase is selected by the preposition *l-* ‘to’, the pied-piped PP obligatorily relates to a gap:

- (14) l-ʃku:n_i baʃθu l-taswirra ____i?
to-who sent.3.PL the-picture
‘To whom did they send the picture?’

Thus, just as the accusative-marked *wh*-phrase *ʔil-man* ‘whom’ in Iraqi cannot bind a re-

sumptive pronoun (see (4)), Tunisian dative-marked *wh*-phrases may not bind resumptives.⁸ To reiterate, the Arabic data minimally contrast with the data from Spanish and Greek in (2)–(3); the latter illustrate that clitic-doubled operators can be overtly case-marked.

We are now in a position to provide an analysis of Spanish and Greek clitic-doubled *wh*-operators based on the Big-DP approach to clitic doubling sketched in (1). The *wh*-operator is base-generated in the specifier of the doubling clitic, which agrees with the *wh*-operator in φ -features. The local Case-assigning head (assumed to be *v*) assigns accusative Case via Agree to the Big-DP—the closest potential goal with an unvalued Case feature. I adopt Norris’ (2014, 147–150) analysis of Case Concord to account for the obligatory case-matching effects between the doubling clitic and the doubled DP: specifically, after a Case value is assigned to the Big-DP—a maximal projection—this value spreads downward to elements dominated by the maximal projection which do not already bear a valued Case feature. I assume the Case Concord rule in (15):

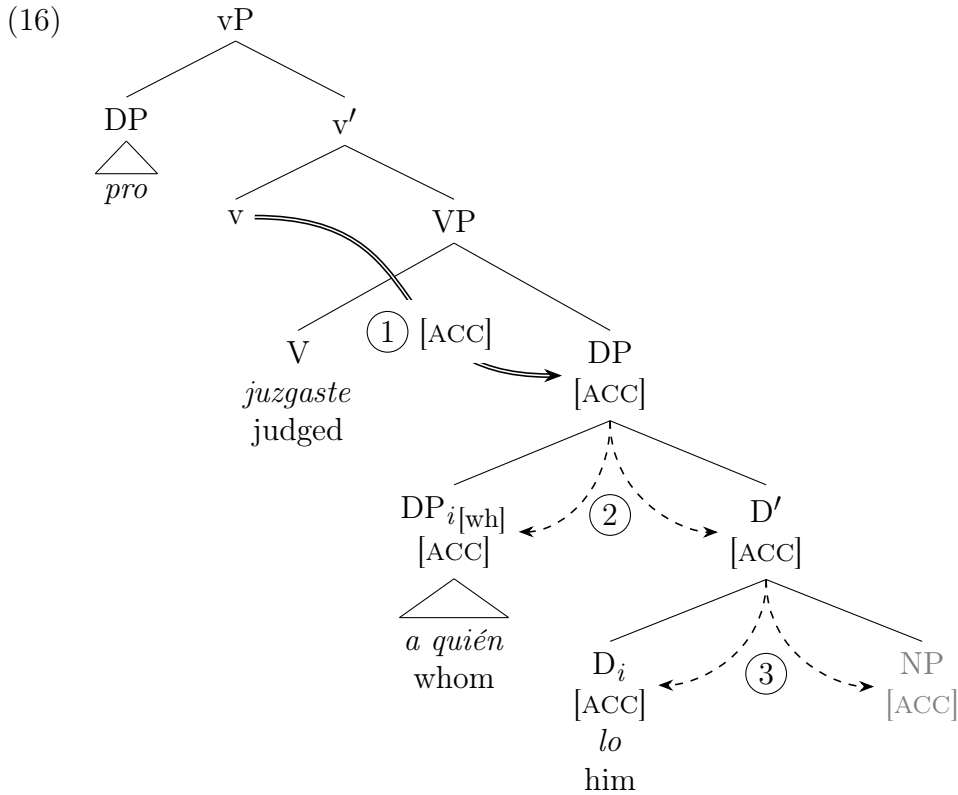
- (15) *Case Concord*
- a. Let X and Y be two nodes, Y immediately dominating X.
 - b. If Y has a valued case feature [CASE: α] (but X does not), then copy Y’s case feature to X.

(adapted from Norris, 2014, 149, (264))

Example (16) illustrates how accusative Case assignment proceeds with the Argentinian Spanish clitic-doubled *wh*-phrase in (2a): *v* assigns accusative Case to the Big-DP (indicated by a double arrow), and accusative Case then spreads via Case Concord (represented with dashed arrows) to all nodes dominated by DP which do not have valued case features,

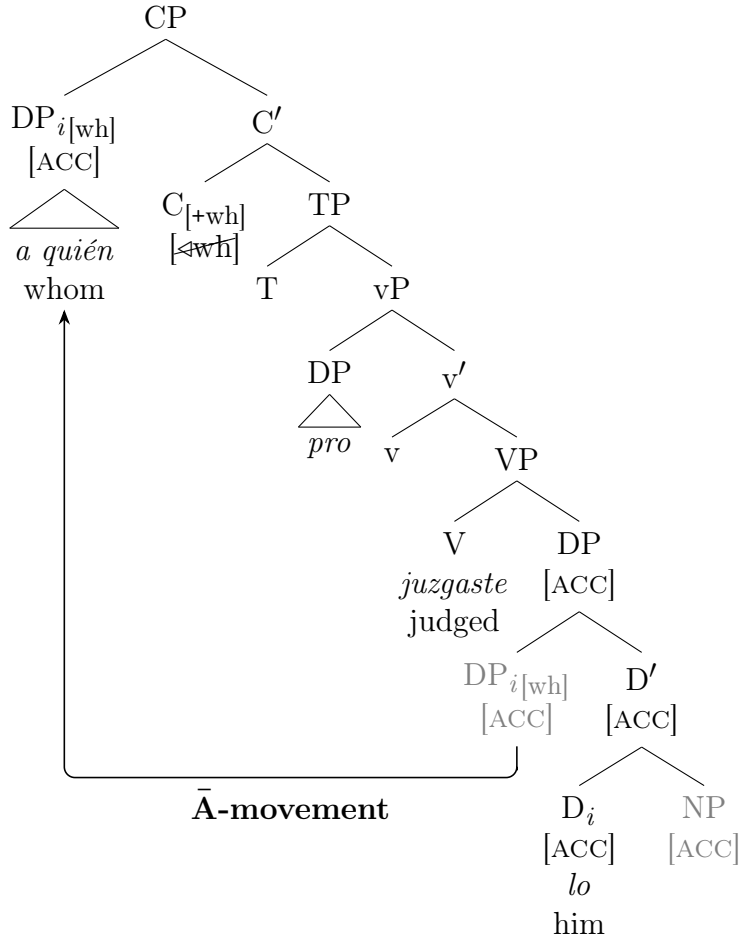
8. Two alternative doomed parses of (13) take the phrase in [Spec, CP] to be the PP ‘to whom’ and *-lu* to be either (i) a PP resumptive pronoun, or (ii) a clitic doubling the PP containing the operator. *-lu* cannot be a PP resumptive pronoun because PPs cannot be pied-piped and resumed in Arabic; see section §7.4.2. Furthermore, *-lu* cannot be a clitic doubling the PP ‘to whom’ if PPs cannot be clitic-doubled, as suggested by Anagnostopoulou (2017a, 5). Note, though, that clitic left dislocation (CLLD) in languages which lack regular clitic doubling is compatible with maximal projections of non-nominal categories, including PPs and APs; see Cinque (1990, 57–58, (1)) on Italian non-nominal CLLD, and see Angelopoulos and Sportiche (2021, 961, (1c–f)) on non-nominal French CLLD. If CLLD launches from a clitic doubling structure (Cecchetto, 2000), then the categorial asymmetry between phrases which can be clitic-doubled cross-linguistically and those which can be clitic left dislocated is somewhat puzzling.

including both the doubling clitic *lo* and the doubled DP *a quién* ‘whom.’ For the sake of brevity, I abbreviate [CASE: α] to simply [α].



Case Concord must crucially feed movement of (sub-constituents of) the Big-DP. The remainder of the derivation of (2a) is fairly straightforward and is shown in (17): $C_{[+wh]}$ bears a $[\langle wh \rangle]$ feature which triggers movement of *a quién* to [Spec, CP], and the doubling clitic moves for independent, language-specific reasons to a preverbal position, though for simplicity I do not represent clitic movement in (17). I also omit operator movement transiting [Spec, vP], though see section §5.4 for discussion of this step.

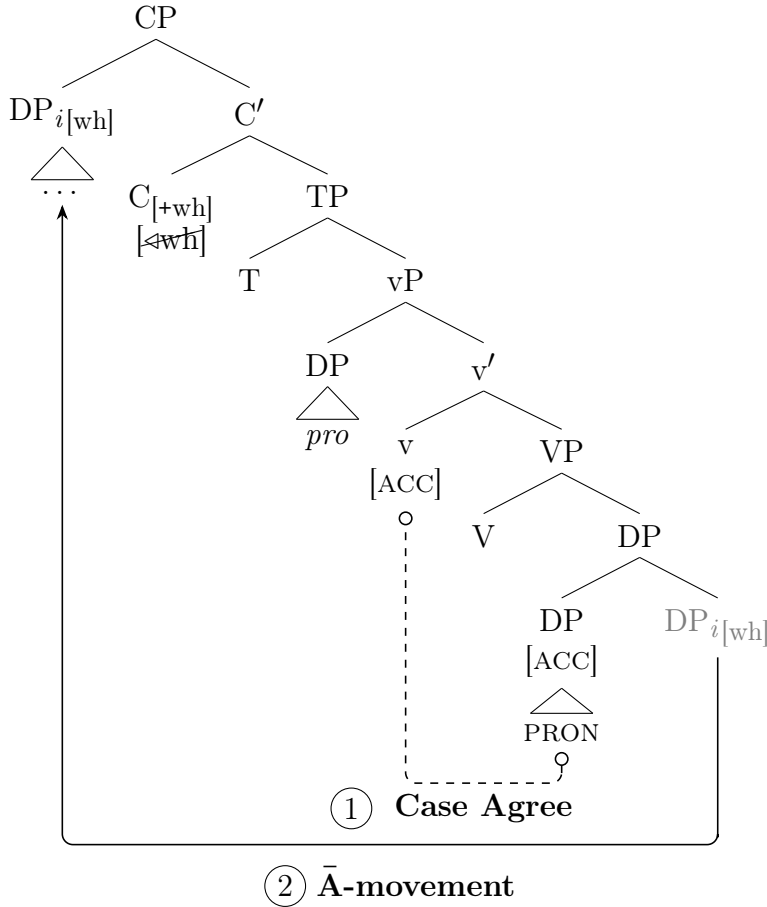
(17)



Iraqi and Tunisian case-marked *wh*-operators, on the other hand, must not be able to be clitic-doubled (see section §5.5 for converging evidence for this conclusion from in situ *wh*-phrases), explaining the impossibility of a doubling pronoun in (4) and (13). I propose that this is due to the selectional requirements of D_{PRON} —namely, that D_{PRON} cannot select a DP bearing [wh] in these varieties of Arabic.⁹ Furthermore, resumptive-binding operators in Arabic never bear (non-default) case because they are base-generated in [Spec, CP] and hence never occupy a Case position. Examples (18) and (19) illustrate base-generated resumption in Iraqi and Tunisian.

9. A similar analysis may be necessary for Bulgarian. Bulgarian has productive clitic doubling (Harizanov, 2014a), but only base-generated resumption (and not clitic doubling resumption) is reported to be available in that language (see Krapova, 2010; Harizanov, 2011).

(20)



However, as I have argued, less controversial cases of clitic-doubled operators as in Spanish and Greek demonstrate that there can be no blanket ban on Case Concord within a Big-DP structure. In order to maintain a Big-DP-*cum*-stranding approach for Arabic-style resumption, it would be necessary to explain why doubled operators in a language like Spanish can be case-marked, but doubled resumptive-binding operators in a language like Iraqi cannot. I am not aware of any existing account of this contrast.

5.4 Clitic-doubled operators can license parasitic gaps, resumptive-binding operators cannot

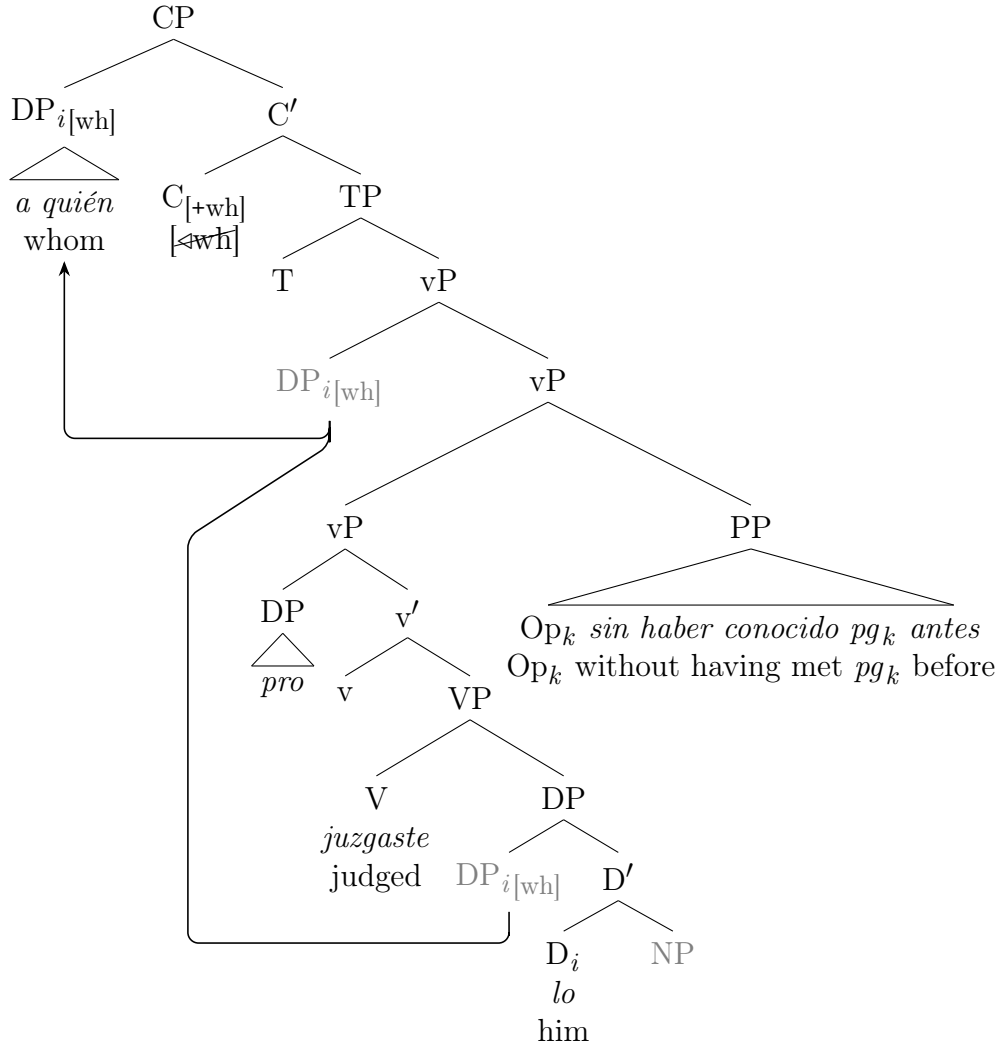
The second diagnostic distinguishing clitic doubling of operators from resumption was already extensively discussed in section §3.4. I showed there that clitics doubling *wh*-operators

in Spanish can cooccur with parasitic gaps, whereas Arabic resumptives cannot (see footnote 31 in chapter 3 for an explanation for the surprising lack of parasitic gap licensing with Greek clitic-doubled *wh*-movement). The following data from Argentinian Spanish and Tunisian Arabic exemplify this contrast:

- (21) ? A *quién_i* **lo_i** juzgaste sin haber conocido *pg_i* antes?
 A *who_i* **CL.3.M.SG.ACC_i** judged.2.SG without to.have met *pg_i* before
 (lit.) ‘Who_i did you judge him_i without having met *pg_i* before?’ (Argentinian Spanish)
- (22) *ʃku:n_i* waððaft-**u_i** mayir ma tqa:bəl {**pg_i* / -u_i}?
 who_i hired.2.SG-**him_i** without C meet.2.SG {**pg_i* / -him_i}
 ‘Who_i did you hire him_i without meeting {**pg_i* / him_i}?’ (Tunisian)

Parasitic gap licensing in clitic-doubled Spanish *wh*-dependencies can be analyzed as follows (I abstract away from clitic movement for simplicity):

(23)



Movement of the doubled *wh*-operator through [Spec, vP] will license a parasitic gap containing adjunct to tuck in just below this intermediate landing site. On the other hand, since resumption in Tunisian Arabic involves base-generation of the operator in [Spec, CP], there will be no intermediate copy of the operator to license a vP-level parasitic gap, accounting for the judgment in (22).

5.5 Operators can be clitic-doubled in situ

The third difference between clitics which double *wh*-operators and resumptive pronouns is that only the former can cooccur with an operator that is not overtly displaced. Consider

Spanish *wh*-questions. Not only can ex situ *wh*-operators be clitic-doubled ((2)), so too can in situ *wh*-operators in multiple *wh*-questions be doubled, as in (24).¹¹

- (24) a. Quién visitó a quién?
 who visited.3.SG A who
 ‘Who visited whom?’ (single pair: ✓; pair list: ✓)
- b. Quién **lo**_{*i*} visitó a **quién**_{*i*}?
 who **CL.3.M.SG.ACC**_{*i*} visited.3.SG A **who**_{*i*}
 ‘Who visited whom?’ (single pair: ✓; pair list: ✗)
 (Argentinian Spanish)

As I have indicated after the free English translation of these examples, however, clitic doubling the in situ *wh*-phrase is not free of interpretive effects; rather, it precludes a pair list answer to the question, and instead requires a single pair answer. This is reminiscent of the cross-linguistic tendency for clitic doubling of direct objects to trigger ‘specificity’ effects, often analyzed in terms of referentiality or D-linking (see especially Suñer, 1988, Dobrovie-Sorin, 1990, Contreras, 1991, Anagnostopoulou, 1994, 2017a, Gutiérrez-Rexach, 1999). I will not dwell further on the issue of specificity here. All that is important is to observe that at least some Spanish *wh*-operators can be clitic-doubled in situ, in the absence of overt \bar{A} -movement. The *wh*-phrase then appears in its low, base-generated position, and the clitic appears in the normal pre-verbal position for clitics in the language.

Next, I turn to consider (direct object) clitic doubling in Arabic varieties. Arabic varieties diverge in whether or not they obey *Kayne’s Generalization* (Kayne, 1975; so named by Jaeggli, 1980, 39), which states that a nominal direct object may only be clitic-doubled if it is immediately preceded by a special preposition (cf. Spanish *a* above) (see also Anagnostopoulou, 2017a, 13, (35)). Among those Arabic varieties which obey Kayne’s Generalization are Baghdadi (including the Christian (Abu-Haidar, 1991, 116), Jewish (Blanc, 1964, 128–130, Bar-Moshe, 2021), and Muslim dialects (Erwin, 1963, 332–334)), Galilean (Levin, 1987),

11. See Ordóñez (1998, 327–328) for similar examples with clitic doubling of in situ dative *wh*-phrases. Furthermore, Karlos Arregi (*pers. comm.*) reports that, in his “animate *leísmo*” variety of Basque Spanish, a variant of (24b) with accusative *le* instead of *lo* is acceptable and allows both a single pair and a pair list reading.

Lebanese (Aoun and Sportiche, 1981; Aoun, 1993, 1999, 2011a), Palestinian (Shlonsky, 1997, 194–203; Mohammed, 2000; Jiries, 2019, 2020), Rural Jordanian (Sahawneh, 2017), and Syrian (Cowell, 1964, 435, Brustad, 2000, 353–358, Hallman and Al-Balushi, 2022b). In these varieties, a clitic-doubled direct object DP is obligatorily marked by the preposition *l-* ‘to, for’.¹² The following examples illustrate for (Muslim Baghdadi) Iraqi and Syrian Arabic:

(25) *Clitic doubling obeys Kayne’s Generalization in (Muslim Baghdadi) Iraqi*

- a. difaʕat (*l-)Matt.
 pushed.3.F.SG (*to-)Matt
 ‘She pushed Matt.’
- b. difaʕat-a_i *(l-)Matt_i.
 pushed.3.F.SG-him_i *(to-)Matt_i
 ‘She pushed Matt.’

(26) *Clitic doubling obeys Kayne’s Generalization in Syrian*

- a. za:ret (*l-)Matt.
 visited.3.F.SG (*to-)Matt
 ‘She visited Matt.’
- b. za:ret-u_i *(l-)Matt_i.
 visited.3.F.SG-him_i *(to-)Matt_i
 ‘She visited Matt.’

By contrast, a number of other Arabic varieties do not obey Kayne’s Generalization; these include Omani (Hallman and Al-Balushi, 2022b), Tunisian (Sellami, 2021, 2022, In progress), and several varieties spoken throughout northern Iraq, including the Jewish dialects of the cities of Erbil and Aqrah (Jastrow, 1990). The following data illustrate for Tunisian Arabic and are adapted from Sellami (2021, 5–6): neither doubled lexical nominals ((27b)) nor

12. There is a slight complication, in that doubled pronouns can often appear without the preposition *l-* (or its strong variant *?il-*), even in varieties which otherwise comply with Kayne’s Generalization. Compare the doubled nominal in (25b) with the doubled pronoun in (i) from Muslim Baghdadi Iraqi:

- (i) difaʕat-a_i {huwwa_i / ?il-a_i} lba:rha kullif qawi.
 pushed.3.F.SG-him_i {he_i / to-him_i} yesterday very hard
 ‘She pushed him yesterday very hard.’

Apparently not all varieties permit a strong doubled pronoun as in (i); for instance, Bar-Moshe (2021, 436–438, especially fn. 23) claims (contra Blanc, 1964, 130) that doubled pronouns in Jewish Baghdadi Arabic, like doubled lexical nominals, must be differentially object-marked via the preposition *l-* (specifically via its allomorph *llə-*).

doubled pronouns ((27c)) can be marked by *l-*.

(27) *Clitic doubling does not obey Kayne's Generalization in Tunisian*

- a. \int oft Sami lberaħ.
saw.1.SG Sami yesterday
'I saw Sami yesterday.'
- b. \int oft- u_i (*l-)Sami $_i$ lberaħ.
saw.1.SG-him $_i$ (*to-)Sami $_i$ yesterday
'I saw Sami yesterday.'
- c. \int oft- u_i {howwa $_i$ / *li:h $_i$ } lberaħ.
saw.1.SG-him $_i$ {he $_i$ / *to-him $_i$ } yesterday
'I saw him yesterday.'

See Souag (2017) for a pan-Arabic perspective on clitic doubling.

Crucially, and in contrast to Spanish, *wh*-phrases in Iraqi, Tunisian, and Syrian cannot be clitic-doubled in situ, presumably for independent reasons.¹³ Consider first Tunisian, which does not obey Kayne's Generalization. In situ direct object *wh*-phrases cannot be clitic-doubled:

- (28) amma tofla be \int tʒi:b(*- u_i) amma hilu $_i$?
which girl FUT bring.3.F.SG(*-it $_i$) which dessert $_i$
'Which girl will bring which dessert?' (Tunisian)

Neither can in situ *wh*-phrases bear dative case and be doubled by a dative clitic on the verb ((29a)). Instead, only the prepositional dative structure is available for in situ *wh*-phrases ((29b)).

- (29) a. * \int kun bʕaθ-l u_i l-taswirra l- \int kun $_i$?
who sent.3.M.SG-3.M.SG.DAT $_i$ the-picture DAT-who $_i$
(int.) 'Who sent the picture to whom?'
- b. \int kun bʕaθ l-taswirra l- \int kun?
who sent.3.M.SG the-picture to-who
'Who sent the picture to whom?' (Tunisian)

Next, consider Syrian, which *does* obey Kayne's Generalization. In situ nominal direct object *wh*-operators which are not marked by the preposition *l-* cannot be clitic-doubled ((30a)).

13. See Sellami (In progress) for additional evidence that *wh*-phrases (along with many other kinds of QPs) can never be clitic doubled in Tunisian and Palestinian Arabic.

Appending *l-* to the *wh*-phrase marginally increases acceptability of the sentence, but it is still judged to be highly deviant ((30b)). This suggests that clitic doubling of *wh*-operators is unavailable in Syrian Arabic, in contrast to non-*wh*-operators as in (26b). Finally, note that direct objects may not be marked by *l-* in the absence of a doubling clitic ((30c)).

- (30) a. *mi:n za:r*(*-**u_i**) ***mi:n_i***?
 who visited.3.M.SG(*-**him_i**) **who_i**
 ‘Who visited whom?’
- b. ?? *mi:n za:r-u_i* ***l-mi:n_i***?
 who visited.3.M.SG-**him_i** **to-who_i**
 (int.) ‘Who visited whom?’
- c. * *mi:n za:r* ***l-mi:n***?
 who visited.3.M.SG **to-who**
 (int.) ‘Who visited whom?’

(Syrian)

Lastly, consider Iraqi Arabic, which like Syrian obeys Kayne’s Generalization. In situ direct object *wh*-operators with or without *?il-* (the strong allomorph of *l-*) cannot be clitic-doubled ((31a)–(31b)). As with both Tunisian and Syrian, then, Iraqi does not permit clitic doubling of *wh*-operators. For reasons I do not fully understand, accusative *?il-man* cannot acceptably appear in situ even without a doubling clitic, as in (31c), despite the fact that *?il-man* is perfectly licit in ex situ direct object questions (see (4)).¹⁴ I must leave this issue unresolved here.¹⁵

- (31) a. *minu difaʕ*(*-**a_i**) ***minu_i***?
 who pushed.3.M.SG(*-**him_i**) **who_i**

14. It is also possible for *?il-man* to remain in situ under its dative parse. The verb *ba:arak* ‘congratulate’ in (i) selects a dative internal argument.

- (i) *minu ba:arak* *?il-man*?
 who congratulated.3.M.SG to-who
 ‘Who congratulated whom?’

15. One might be tempted to relate the fact that accusative *?il-man* cannot appear in situ to the idea that nominals must exit VP to receive differential object marking (for instance to be local enough to a DOM Case assigner; see, e.g., Torrego, 1998 and López, 2012). An account along these lines would, of course, have to explain why *?il-man* differs from other nominals in Iraqi, which are unable to undergo this putative movement step and hence never appear with the DOM marker *?il-*.

- ‘Who pushed whom?’
- b. *minu difaʕ-**a_i** **?il-man_i?**
 who pushed.3.M.SG-**him_i** ACC/**to-who_i**
 (int.) ‘Who pushed whom?’
- c. ??/*minu difaʕ **?il-man?**
 who pushed.3.M.SG ACC-**who**
 (int.) ‘Who pushed whom?’

(Iraqi)

To summarize, in situ *wh*-operators in Spanish can be clitic-doubled in at least some cases (with the aforementioned provisos about the interpretive consequences of clitic doubling), whereas in situ *wh*-operators in Iraqi, Tunisian, and Syrian Arabic cannot be. In Spanish, clitic-doubled operators may either remain in situ ((24b)) or be displaced to the left periphery ((2)), in which case we correctly predict to find the full suite of movement effects (e.g. island-sensitivity, case-matching, and parasitic gap licensing, *inter alia*). In the relevant Arabic varieties, on the other hand, the only pronominal elements which can cooccur with *wh*-phrases are resumptive elements which must be bound by an operator base-generated in an \bar{A} -position.

If my analysis of Spanish ‘resumptive’ dependencies can generalize to other languages which exhibit reflexes of movement under resumption, then I make the following strong prediction: *ceteris paribus*, all languages in which ‘resumptive pronouns’ are actually clitics doubling a moved operator should sanction the appearance of the clitic in the absence of overt \bar{A} -movement. This is not to deny the possible existence of confounding factors. Hence, we might adopt a more cautious formulation of the prediction as follows: clitic doubling of *wh*-operators is compatible with in situ clitic doubling, whereas resumptive pronouns can never cooccur with in situ *wh*-operators.

5.5.1 *Excursus: Deflected agreement and clitic doubling in Arabic*

Additional evidence that resumption in the relevant varieties of Arabic does not launch from a clitic doubling structure comes from a novel observation concerning asymmetries

in the availability of so-called ‘deflected agreement.’ The term ‘deflected agreement’ refers to a pattern of anaphora and agreement in which non-human plural agreement controllers and antecedents to pronouns trigger feminine singular morphology on verbs, adjectives, and pronouns, rather than the expected plural morphology (which is unmarked for gender), regardless of the gender of the nominal in the singular (see Belnap, 1991; Kramer and Winchester, 2018; and Sellami, In progress). Deflected agreement is largely optional (though it has semantic correlates in at least some varieties, see Kramer and Winchester, 2018) and can be found in the domain of subject-verb agreement ((32)), DP-internal concord ((33)), anaphora ((34)), and resumption ((35)).

- (32) l-ʒara:ʒid {ke:nu / ke:nət} ʔa-l-t^ʔa:wla.
the-newspapers {were.3.PL / was.3.F.SG} on-the-table
(lit.) ‘The newspapers {were / was} on the table.’ (Tunisian)
- (33) l-ʒara:ʒid {l-ʒdud / l-ʒdirɔda}
the-newspapers {the-new.PL / the-new.F.SG
‘the new newspapers’ (Tunisian)
- (34) ʒi:ɓ l-ʒara:ʒid_i beʃ naqra: {-hom_i / -ha_i}.
bring.SG the-newspapers_i so.that read.1.SG {-them_i / -it.F.SG_i}
(lit.) ‘Bring the newspapers_i so that I can read {them_i / it_i}.’ (Tunisian)
- (35) l-ʒara:ʒid_i elli qri:t {-hom_i / -ha_i}
the-newspapers_i that read.1.SG {-them_i / -it.F.SG_i}
(lit.) ‘the newspapers_i that I read {them_i / it_i}’ (Tunisian)

Strikingly, however, clitic doubling of a non-human plural DP does not exhibit the same degree of optionality: plural clitics are strongly preferred to feminine singular (i.e. deflected) ones.

- (36) qri:t {-hom_i / ??-ha_i} l-ʒara:ʒid_i.
read.1.SG {-them_i / ??-it.F.SG_i} the-newspapers_i
(lit.) ‘I read the newspapers.’ (Tunisian)

Whatever the correct analysis of the asymmetry in (36) is, its relevance is clear: if resumption as in (35) is derived from a clitic doubling structure, then we have no account for the different acceptability of deflected agreement in resumption versus standard clitic doubling.

Deflected agreement, then, provides another argument that resumption in Arabic must not be derivationally related to clitic doubling of an \bar{A} -operator.

5.6 Clitics doubling an operator cannot simultaneously double a strong pronoun, resumptive clitics can double a strong pronoun

The fourth difference between clitics which double *wh*-operators and resumptive clitics is that only the latter can simultaneously double a strong pronoun. Consider first Argentinian Spanish *wh*-questions. Clitics doubling a moved *wh*-operator cannot also double a strong pronoun:

- (37) A quién_{*i*} **lo**_{*i*} juzgaste ayer?
 A who_{*i*} **CL.3.M.SG.ACC**_{*i*} judged.2SG yesterday
 ‘Whom did you judge yesterday?’ (Argentinian Spanish)
- (38) *A quién_{*i*} **lo**_{*i*} juzgaste **a él** ayer?
 A who_{*i*} **CL.3.M.SG.ACC**_{*i*} judged.2SG **A him** yesterday
 (int.) ‘Whom did you judge him yesterday?’ (Argentinian Spanish)

This is despite the fact that, in examples which remove the *wh*-dependency, strong pronoun direct objects have to be doubled:

- (39) *(**lo**_{*i*}) juzgaste **a él**_{*i*} ayer.
 *(**CL.3.M.SG.ACC**_{*i*}) judged.2SG **A him**_{*i*} yesterday
 ‘You judged him yesterday.’ (Argentinian Spanish)

On the other hand, weak resumptive clitics in \bar{A} -dependencies *can* appear alongside strong pronouns in at least some Arabic varieties.¹⁶ This is illustrated in the following examples with data from Jordanian and Syrian Arabic (and see Aoun et al., 2010, 7, fn. 3, (iii) for similar data from Lebanese Arabic):¹⁷

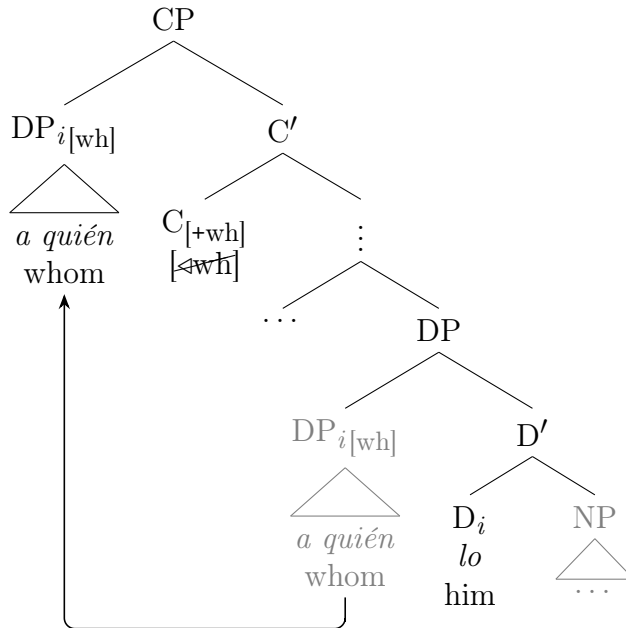
16. Though, Zeineb Sellami (*pers. comm.*) informs me that doubled strong pronouns are not acceptable as resumptive elements in Tunisian Arabic *wh*-questions.

17. See Jassim (2011, 13, fn.2) on the semantic and pragmatic effects of clitic doubling of strong pronoun

- (40) miin_i Mona darbt {-uh_i / -uh_i hu_i / ____i}?
 who_i Mona hit.3.F.SG {-him_i / -him_i he_i / }
 (lit.) ‘Who_i did Mona hit {him_i / ____i}?’ (Jordanian; slightly adapted from
 Malkawi, 2009, 99, (6a))
- (41) ajja liʕbi_i b-titwaqqaʕi innu Matt kassar {-ha_i / ?-ha_i
 which toy.F.SG IND-suspect.2.F.SG that Matt broke.3.M.SG {-it.F.SG_i / ?-it.F.SG_i
 hijja_i} b-l-ħadi:ʔi?
 it.3.F.SG_i} in-the-park
 (lit.) ‘Which toy_i do you suspect that Matt broke it_i in the park?’ (Syrian)

We can explain the contrast between Spanish and Arabic if a clitic can only double a single DP. In Argentinian Spanish, the clitic doubles the moved *wh*-phrase, hence there is no room for a strong pronoun to be generated alongside the clitic and *wh*-operator within the Big-DP:¹⁸

- (42) *Argentinian Spanish clitic doubling of operators leaves no room for strong pronouns*



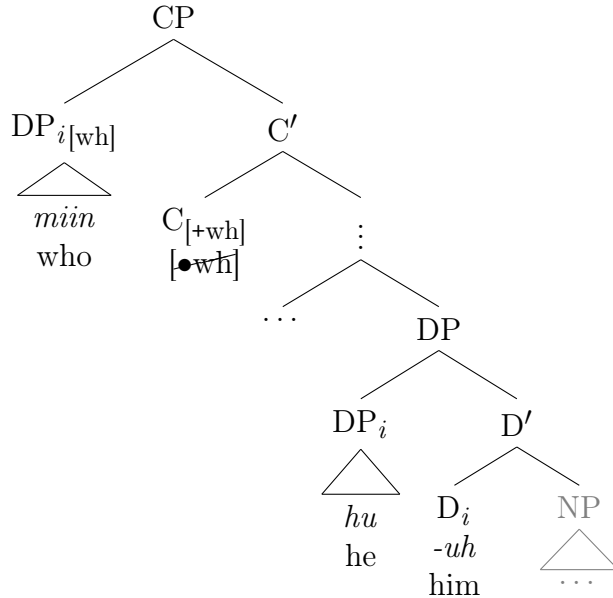
By contrast, in Jordanian and Syrian Arabic, the *wh*-phrase is base-generated in [Spec, CP], and hence the weak clitic resumptive is free to double a strong pronoun. Example (43)

resumptives in Iraqi relative clauses.

18. One way to analyze this restriction is to propose that the clitic D⁰ bears only a single structure-building feature [•D]. In order for a single clitic to simultaneously double more than one DP, it would need to bear as many [•D] features.

illustrates for (40), abstracting away from the surface order between the clitic and the strong pronoun (see Guillot and Malkawi, 2011, 417, (53) who propose a similar structure for clitic doubled resumptives):

(43) *Jordanian Arabic weak resumptive clitics can double strong pronouns*



5.7 Clitic doubling can circumvent weak crossover, resumption cannot

The final diagnostic distinguishing clitic-doubled \bar{A} -chains from resumptive \bar{A} -chains is the amelioration of weak crossover (WCO) effects. The weak crossover effect was first described in Postal (1971) and was later differentiated from strong crossover (SCO) effects (also documented by Postal) by Wasow (1972, 1979). It has since attracted significant attention, sparking a veritable cottage industry of research (see especially Lasnik and Stowell, 1991; Ruys, 2000; Büring, 2004; Safir, 2017; Chierchia, 2020). For the present discussion, I assume the following descriptively adequate definition of weak crossover, though see chapter 7 for a more careful investigation of crossover phenomena:

(44) *The weak crossover restriction*

- a. A variable V cannot covary with a pronoun P if neither V nor P c-commands

- the other.
- b. X is a variable iff:
- i. X is an \bar{A} -bound trace of movement, or
 - ii. X is a resumptive pronoun (i.e. X is an \bar{A} -bound pronoun).

Weak crossover is exemplified with English data by the contrast between the examples in (45).

- (45) *Weak crossover in English wh-questions*
- a. Which actress_{*i*} did you inform ____{*i*} that we picked [her_{*i*} understudy]?
 - b. ?* Which actress_{*i*} did you inform [her_{*i*} understudy] that we picked ____{*i*}?

Although the trace of *wh*-movement can be coindexed with the coindexed pronoun *her* in (45a), coindexation seems much less acceptable (if not totally impossible) in (45b). The key difference is traditionally taken to be structural: in (45a), the \bar{A} -trace c-commands the coindexed pronoun, whereas in (45b), neither of the elements bound by the operator c-commands the other. Thus, according to the definition in (44), the trace cannot covary with the pronoun in (45b).

Let us turn now to clitic doubling. It has long been recognized that clitic doubling of quantifiers in many languages has the potential to create new binding possibilities (e.g., Bulgarian: Harizanov, 2014a,b; Galician: Uriagereka, 1991; Greek: Alexiadou and Anagnostopoulou, 1997, 2000a, Anagnostopoulou, 2003, 208, Mavrogiorgos, 2010, 117; Lebanese Arabic: Aoun and Sportiche, 1981; Aoun, 2011a; Romanian: Cornilescu, 2006, 33, (18), Cornilescu and Dobrovie-Sorin, 2008, 306–307; Spanish: Hurtado, 1984, Suñer, 1988). For instance, a clitic-doubled direct object quantifier in Spanish can bind a pronominal variable inside the subject ((46a)), whereas such inverse binding is impossible in the absence of clitic doubling ((46b)).

- (46) a. Su_{*i*} madre los_{*i*} quiere a todos_{*i*}.
 their_{*i*} mother CL.3.M.PL.ACC_{*i*} likes.3.SG A everybody_{*i*}
 (lit.) ‘His_{*i*} mother likes everybody_{*i*}.’ (Spanish; adapted from Suñer, 1988, 421, (69a))

- b. ?*Su_i madre quiere a todos_i.
 their_i mother likes.3.SG A everybody_i
 (int.) ‘His_i mother likes everybody_i.’ (Spanish; adapted from Suñer, 1988, 421, (68b))

I assume with Chomsky (1976) and volumes of later work that (46b) is a weak crossover violation arising from movement of the quantifier to a sentence initial position at an abstract level of representation (i.e. *Quantifier Raising* (QR) at LF, May, 1977). Example (47) provides the abstract representation of (46b) after QR:

- (47) a todos_i [su_i madre quiere ____i]

This post-QR representation precisely parallels, in relevant respects, that in (45b) with *wh*-movement. The definition of weak crossover in (44) will correctly rule out both examples if we assume that quantifier raising leaves an \bar{A} -bound variable akin to *wh*-movement.

Viewed in this way, we now have an alternative way to characterize (46a)—namely, that clitic doubling obviates the expected weak crossover effect. The same obviation persists when the doubled phrase is a moved *wh*-operator, as shown in (48) for Spanish (see also Hurtado, 1984, 126–128, Suñer, 1988, 421, and Franco, 1993, 149, fn. 22).

- (48) A quién_i *(**IO**_i) adora su_i madre?
 A who_i *(**CL.3.M.SG.ACC**_i) adores.3.SG his_i mother
 (lit.) ‘Whom_i does his_i mother adore him_i?’ (Spanish; slightly adapted from Contreras, 1999, 42, (29))

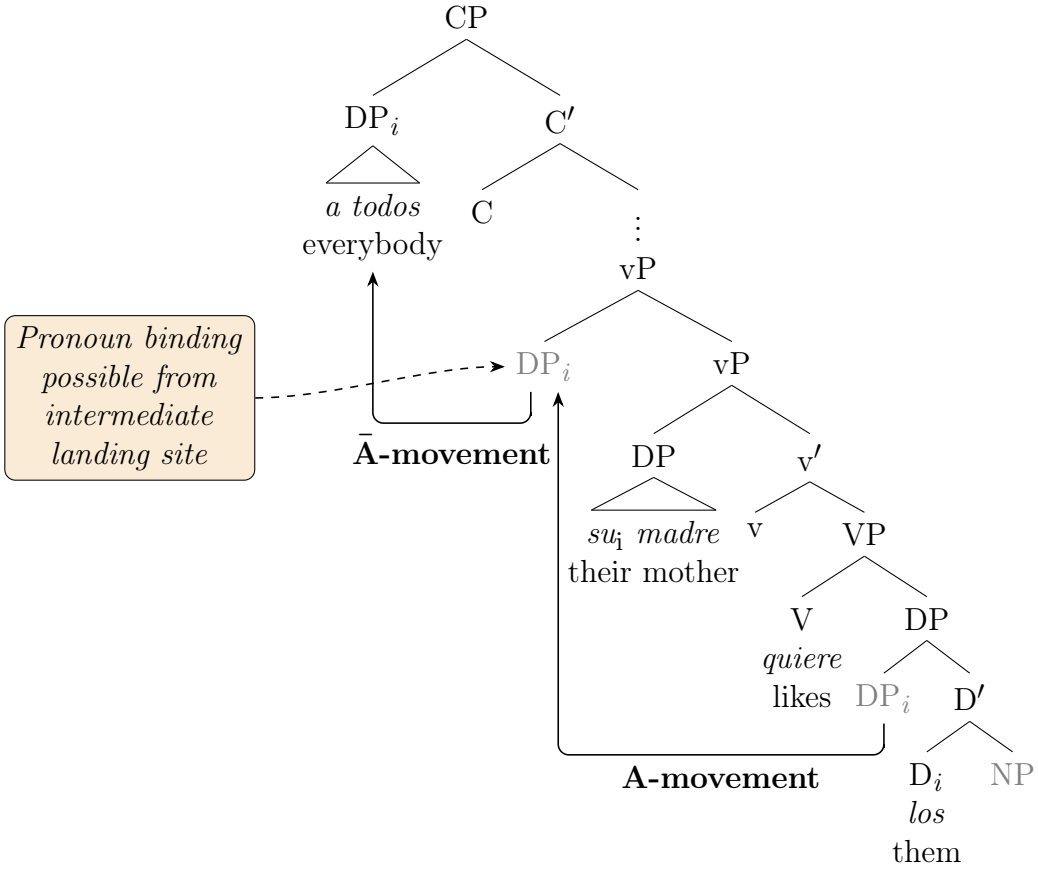
Likewise for clitic-doubled *wh*-movement in other languages, including Greek (Alexopoulou and Kolliakou, 2002, 204–205)¹⁹ and Romanian (Dobrovie-Sorin, 1990, 357–358, (12)–(13), Alboiu, 2000, 217–219).

19. Although Iatridou (1995, 29, (57)), Androulakis (1998, 159, (63)), Alexopoulou (2006, 84, 96), Daskalaki and Mavrogiorgos (2013, 329–330), and Georgiou (2022, 323–324) present data ostensibly showing that Greek resumptive/clitic-doubled \bar{A} -dependencies do not display weak crossover effects, these authors do not control for an alternative parse where the crossed pronoun functions as the resumptive variable. This is either because (i) the case of the operator is formally syncretic with default nominative case, in which case the operator could in principle be alternatively parsed as a true resumptive-binding operator, or (ii) both pronouns and the operator share the same case, hence either pronoun could be the resumptive/doubling clitic. The data in Alexopoulou and Kolliakou (2002) do not suffer from these same issues.

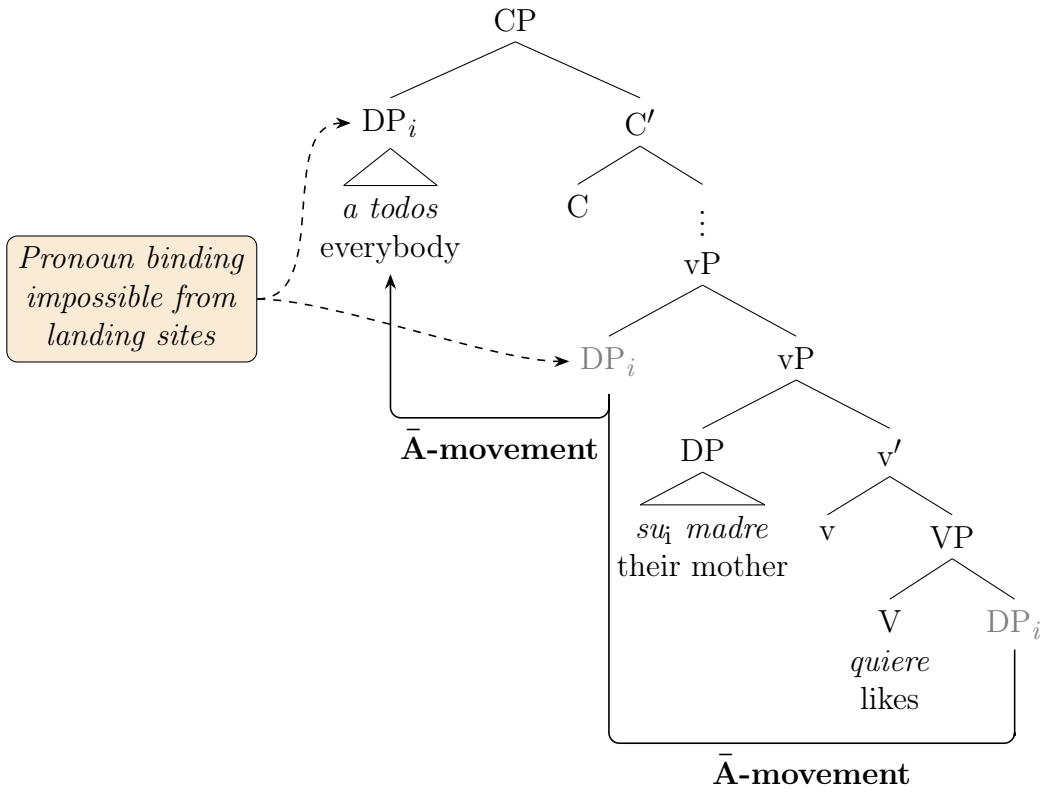
Explaining the amelioration of weak crossover effects under clitic doubling is a hotly debated issue. One prominent view is that clitic doubling is accompanied by A-movement of the doubled object to a position c-commanding the phrase containing the bound variable pronoun (see Alexiadou and Anagnostopoulou, 1997, Alexiadou and Anagnostopoulou, 2000b, Anagnostopoulou, 2003, 206–210, Harizanov, 2014b, 47–55, van Urk, 2015, 207; see also Angelopoulos and Sportiche, 2021). In (46)–(48), the c-commanded phrase is the (predicate-internal) subject. A-movement does not give rise to weak crossover effects, hence the pronominal variable *su* ‘their’ can be bound from the (intermediate) landing site of the doubled element in (49), which I take to be [Spec, vP]. The quantifier can then undergo \bar{A} -movement to [Spec, CP] without triggering weak crossover.²⁰ By contrast, QR of the undoubled object quantifier in (50)—which I analyze as \bar{A} -movement—will trigger a standard weak crossover effect under the assumption that the WCO-circumventing step of A-movement is not possible in the absence of clitic doubling. What exactly the nature of this correlation might be will be set aside here, as it is tangential to the main topic of discussion.

20. A largely overlooked prediction of the A-movement account of clitic doubling is that (primary and secondary) *strong* crossover too ought to be circumventable via clitic doubling, given the assumption that A-movement does not display strong crossover effects (on which see e.g. Tada, 1993, §2.2.3). It is imperative that future work on clitic doubling explore this possibility, as it has clear implications for the correct analysis of clitic doubling and for determining the source of weak crossover amelioration under clitic doubling.

(49)



(50) *



This analysis makes a clear and testable prediction. Assuming that long-distance *wh*-movement and QR are \bar{A} -movement, and assuming that \bar{A} -movement cannot feed A-movement (per the *Ban on Improper Movement*, see Chomsky, 1973—and *pace* Kobayashi, 2020), weak crossover effects should resurface in long-distance dependencies where the (lowest trace of the) doubled quantifier and the pronoun are separated by one or more clause boundaries. Unfortunately, the empirical picture is not particularly clear. Suñer (1988) reports that clitic doubling of an embedded direct object *wh*-phrase (followed by overt cross-clausal displacement of that phrase) obviates weak crossover effects with non-c-commanding bound pronouns in higher clauses. In (51), the crossed pronoun is *su* ‘their.’^{21,22}

- (51) a. [A cuáles de ellos]_i dijo su_i madre que no *(**los**_i) aguanta
 [A which of them]_i said their_i mother that not *(**CL.3.M.PL.ACC**_i) can.stand
 ____i?

(lit.) ‘[Which of them]_i did their_i mother say that she can’t stand (them_i)?’

- b. A quiénes_i dijo su_i madre que no *(**les**_i) dejaría ningún
 to whom_i said their_i mother that not *(**CL.3.PL.DAT**_i) would.leave any
 dinero ____i?
 money
 (lit.) ‘To whom_i did their_i mother say that she would not leave any money
 (to them_i)?’

(Spanish; slightly adapted from Suñer, 1988, 422, (74))

I have found that the same is true with accusative direct object clitic doubling of in situ non-*wh*-quantifiers ((52)) and ex situ *wh*-phrases ((53)) in Greek for at least some speakers

21. However, Di Tullio et al. (2019, 228–229) observe that clitic doubling of an ex situ focused phrase does not obviate weak crossover with respect to a non-c-commanding pronoun one or more clauses above the lowest trace of the focused phrase. They propose that Suñer’s examples in (51) are more akin to clitic left dislocation in showing long-distance weak crossover amelioration.

22. As Karlos Arregi and Erik Zyman (*pers. comm.*) point out to me, Suñer’s examples might suffer from an independent confound: the matrix verb *decir* ‘say/tell’ in both (51a) and (51b) can itself select an *a*-phrase. It is therefore difficult to determine with certainty the launching site of the *wh*-phrases *a cuáles de ellos* and *a quiénes*. To be sure, if these *a*-phrases were parsed as arguments of matrix *decir* and not as arguments of the embedded verbs *aguantar* or *dejar*, respectively, they would be preferentially doubled by a dative clitic in the matrix clause in many dialects, and without matrix dative doubling, we would not necessarily expect to find weak crossover amelioration in the main clause. Nevertheless, example (57) below controls for this by using the verb *creer* ‘think/believe’ which does not select an *a*-phrase.

(see also Paparounas and Salzmänn, 2022, 34, fn. 31):²³

- (52) a. I mitera tu*_{i/k} ipe oti sinodhepses to kathe pedhi_i sto
 the mother his*_{i/k} said.3.SG that accompanied.2.SG the each child_i to.the
 sholio.
 school
 ‘His*_{i/k} mother said that you accompanied each child_i to school.’
- b. I mitera tu_i ipe oti to_i sinodhepses to kathe
 the mother his_i said.3.SG that CL.3.N.SG.ACC_i accompanied.2.SG the each
 pedhi_i sto sholio.
 child_i to.the school
 (lit.) ‘His_i mother said that you accompanied each child_i to school.’
- (53) a. Pjon_i ipe i mitera tu*_{i/k} oti sinodhepses sto sholio?
 who.ACC_i said.3.SG the mother his*_{i/k} that accompanied.2.SG to.the school
 ‘Who_i did his*_{i/k} mother say that you accompanied to school?’
- b. Pjon_i ipe i mitera tu_i oti **ton**_i sinodhepses
 who.ACC_i said.3.SG the mother his_i that **CL.3.M.SG.ACC**_i accompanied.2.SG
 sto sholio?
 to.the school
 (lit.) ‘Who_i did his_i mother say that you accompanied him_i to school?’

This finding is unexpected under the A-movement analysis of weak crossover obviation under clitic doubling (see Baker and Kramer, 2018, 1079–1080, Georgiou, 2022, 170–184, and Paparounas and Salzmänn, 2022, 31–35 for related discussion).

On the other hand, it has also been reported for some languages that clitic doubling does not obviate weak crossover in long-distance dependencies. (54) illustrates with a clitic-doubled *wh*-question in Romanian, and (55) with a clitic-doubled in situ universal quantifier in Lebanese Arabic.

- (54) * Pe care baiat_i crede mama lui_i că-**1**_i iubeste Ioana
 PE which boy_i thinks.3SG mother.the his_i that-**CL.3.M.SG.ACC** loves.3SG Ioana

23. Thanks to Anastasia Giannakidou (*pers. comm.*) for these judgments. Lefteris Paparounas (*pers. comm.*) also finds the clitic-doubled examples in (52b) and (53b) to be more acceptable than their counterparts without doubling—(52a) and (53a)—but he reports that even the non-doubled examples are relatively acceptable (either ‘(?)’ or ‘?’). This contrasts sharply with mono-clausal \bar{A} -dependencies without doubling, which robustly show weak crossover effects.

—_{*i*}?

(int.) ‘Which of the boys_{*i*} does his_{*i*} mother think Ioana loves him_{*i*}?’ (Romanian; slightly adapted from Alboiu, 2000, 218, (85b))

- (55) * ʔemm-o_{*i*} žarrabit tiderb-o_{*i*} la-kill walad_{*i*}.
mother-his_{*i*} tried.3.F.SG hit.3.F.SG-him_{*i*} to-every boy_{*i*}
(int.) ‘His_{*i*} mother tried to hit every boy_{*i*}.’ (Lebanese; adapted from Aoun and Sportiche, 1981, 49, (30a))

Furthermore, not all Spanish speakers I have consulted find examples similar to (51) to be well-formed with clitic doubling. For instance, clitic doubling does not seem to ameliorate the weak crossover effect in the Argentinian Spanish example in (56) (due to Laura Stigliano, *pers. comm.*) or in the Basque Spanish example in (57) (due to Karlos Arregi, *pers. comm.*) (see Sportiche, 1996, 266–267, esp. (72) for potentially related discussion).

- (56) ?? A quién_{*i*} dijo su_{*i*} madre que (lo_{*i*}) reconociste?
A who_{*i*} said their_{*i*} mother that (CL.3.M.SG.ACC_{*i*}) recognized.2.SG
(int.) ‘Who_{*i*} did his_{*i*} mother say that you recognized (him_{*i*})?’ (Argentinian Spanish)
- (57) * A quién_{*i*} cree su_{*i*} madre que no (le_{*i*}) aguanta Susana?
A who_{*i*} thinks their_{*i*} mother that not (CL.3.SG.ACC_{*i*}) can.stand Susana
(int.) ‘Who_{*i*} does their_{*i*} mother think Susana can’t stand (them_{*i*})?’ (Basque Spanish)

Providing an account of this variation and of weak crossover obviation under clitic doubling in general would take us beyond the scope of this work, so a more detailed analysis must be left for future research (though see section §5.9 below for some additional discussion).

Whatever the correct analysis of weak crossover amelioration under clitic doubling is, we can still use weak crossover amelioration as a diagnostic tool. In contrast to clitic doubling, weak crossover effects are robustly present under resumption in *wh*-questions in Arabic. To demonstrate this fact, however, we must construct the relevant examples with some care, since it is not possible to tease apart the resumptive pronoun and the crossed (non-resumptive) pronoun in standard examples like (58)—an issue recognized since at least Borer (1984a, 124–125, n. 6) (see also McCloskey, 1990).

- (58) minu_i ixtarat-a_i $\text{s}^{\text{f}}\text{adi:qt-a}_{i/j}?$
 who_i chose.3.F.SG- him_i friend.F.SG- $\text{his}_{i/j}$
 (lit.) ‘Who $_i$ did his $_{i/j}$ friend (f.sg.) choose him $_i$?’ (~‘Who $_i$ was chosen by his $_{i/j}$
 friend?’) (Iraqi)

As discussed extensively in chapter 7, there are at least two ways to determine which among multiple bound variables is the resumptive element. The first is to replace the ‘crossed’ pronoun with an epithet, following McCloskey (1990). Epithets cannot function as bound variables (i.e. as resumptive elements) in non-island contexts in Arabic *wh*-questions (Aoun et al., 2001; Malkawi, 2009; Demirdache and Percus, 2011). Thus, once we replace the crossed pronoun with an epithet, weak crossover effects emerge. The examples in (59) illustrate:

- (59) *Weak crossover effects emerge in wh-questions with crossed epithets in Arabic*
- a. * ari:d $\text{a}\text{ʕrif}$ minu_i (min-hum) $\text{ta}\text{ʕtaqidi:n}$ umm **ha-l-xibil $_i$**
 want.1.SG know.1.SG who $_i$ (from-them) think.2.F.SG mother **this-the-idiot $_i$**
 $\text{ra}\text{ḥ}$ tixtar { $__i$ / **-a $_i$** }.
 FUT pick.3.F.SG { / **-him $_i$** }
 (int.) ‘I want to know who $_i$ (of them) you think the idiot $_i$ ’s mother will pick
 (him $_i$).’ (Iraqi)
- b. * bidd-i $\text{a}\text{ʕrif}$ min_i bi-tfakkiri umm **ha-l-hmar $_i$**
 want-1.SG know.1.SG who $_i$ IND-think.2.F.SG mother **this-the-idiot $_i$**
 b-titmanna $\text{nwaz}^{\text{f}}\text{z}^{\text{f}}\text{if}$ { $__i$ / **-u $_i$** }.
 IND-hopes.3.F.SG hire.1.PL / **-him $_i$**
 (int.) ‘I want to know who $_i$ you think the idiot $_i$ ’s mother hopes we hire
 (him $_i$).’ (Syrian)
- c. * $\text{n}\text{ḥəbb}$ $\text{na}\text{ʕrəf}$ ʃku:n_i omm **ha-l-bhi:m $_i$** tətmanna { nxaddmu
 want.1.SG know.1.SG who $_i$ mother **this-the-idiot $_i$** hopes.3.F.SG {hire.1.PL
 $__i$ / nxaddmu:-h_i }.
 / hire.1.PL-**him $_i$** }
 (int.) ‘I want to know who $_i$ the idiot $_i$ ’s mother hopes we hire (him $_i$).’ (Tunisian)
- d. * miin_i xabbarto ʔəmm **ha-l-mazduub $_i$** ʔənnə $\text{ra}\text{ḥ}$ yzittu-u_i
 who $_i$ told.2.PL mother **this-the-idiot $_i$** that FUT throw.3.PL-**him $_i$**
 b-l-ḥabs ?
 in-the-prison
 (int.) ‘Who $_i$ did you tell this idiot $_i$ ’s mother that they will throw him $_i$ in
 prison? (Lebanese; adapted from Aoun and Choueiri, 2000, 26, (43b))

Additionally, as demonstrated here for the first time, *secondary* weak crossover effects

(on the label ‘secondary’, see Postal, 1993; see also Higginbotham, 1980b, Barss, 1986, §2.2, Safir, 1984, 1986, 1996, 1999, 2004b, ch. 4, 2017, and Postal, 2004, ch. 7) are robustly present under resumption. Secondary weak crossover arises when the *wh*-operator is contained in a phrase which binds a variable v_1 (i.e. a trace or a resumptive pronoun) and the embedded *wh*-operator binds a pronominal variable v_2 , and neither v_1 nor v_2 c-commands the other. As the data in (60) illustrate, both gapped and resumptive *wh*-questions in Iraqi, Syrian, and Tunisian Arabic display secondary weak crossover effects. In all cases, binding of the lower trace/resumptive pronoun by the pied-piped phrase in [Spec, CP] prohibits simultaneous binding of the possessor pronominal variable ‘his’ contained inside the (embedded) subject by the embedded *wh*-phrase ‘who.’

(60) *Secondary weak crossover effects are present in gapped and resumptive wh-questions in Arabic*

- a. ?? [as^ʕdiqai? minu_i]_k taʕtaqidi:n s^ʕa:ħibt-a_i raħ tixtar {___k /
 [friends who_i]_k think.2.F.SG girlfriend-his_i FUT choose.3.F.SG {___k /
 -**hum**_k} li-l-liʕba?
 -**them**_k} for-the-game
 (int.) ‘[Whose_i friends]_k do you think his_i girlfriend will choose {___k / them_k}
 for the game?’ (Iraqi)
- b. * [fari:? min_i]_k bi-taʕtaʕidi uxt-u_i raħ tixtar {___k / -**u**_k}
 [team who_i]_k IND-think.2.F.SG sister-his_i FUT choose.3.F.SG {___k / -**it**_k}
 li-l-liʕbi?
 for-the-game
 (int.) ‘[Whose_i team]_k do you think his_i sister will choose {___k / it_k} for the
 game?’ (Syrian)
- c. * [taswirət]kum_i]_k joðhor-lək omm-u_i bej təxtar
 [picture.F.SG who_i]_k seems.3.M.SG-to.you mother-his_i FUT choose.3.F.SG
 {___k / -**ha**_k} fə-l-muse:bqa?
 {___k / -**it.F.SG**_k} in-the-competition
 (int.) ‘[Whose_i picture]_k do you think his_i mother will choose {___k / it_k} in
 the competition?’ (Tunisian)

The divergence between clitic doubling and resumption is therefore clear: clitic doubling can ameliorate weak crossover effects, while base-generated resumption cannot. The fact that ‘resumptive’ dependencies in Spanish and Greek display weak crossover amelioration

strongly suggests that ‘resumption’ in these languages is actually clitic doubling, because clitic doubling has independently been shown to obviate weak crossover. While I have not yet explained *why* base-generated \bar{A} -chains display crossover effects (see chapter 7 for my account), we can nonetheless conclude that resumption in Arabic is not clitic doubling, hence cannot plausibly be derived via the Big-DP-*cum*-stranding approach (contra Boeckx, 2003).

5.8 Extending the Big-DP analysis of movement-derived resumption to languages without clitic doubling

The preceding sections have argued that ‘resumptive pronouns’ in Spanish and Greek \bar{A} -dependencies are profitably analyzed as clitics doubling a moved *wh*-operator. I developed a stranding account of clitic-doubled \bar{A} -movement which launches from a Big-DP structure in line with proposals by Rouveret (1994), Aoun et al. (2001), and Boeckx (2003). Note, however, that none of these prior approaches explicitly accounted for the empirical contrasts discussed here. This conclusion raises an important question: are all island-sensitive resumptives to be derived from a clitic doubling structure? Clearly not, since many of the languages which deploy island-sensitive resumptives do not regularly employ clitic doubling. These include at least Swedish and Romani (on the latter, see McDaniel, 1986, 29). Despite this apparent hurdle, I will argue in this section that all island-sensitive resumption can plausibly be accounted for under the Big-DP-*cum*-stranding approach to resumption. I will propose that the extant differences between island-sensitive resumption in Spanish/Greek-type languages, on the one hand, and in Swedish/Romani-type languages, on the other, can plausibly be attributed to independent properties of the Big-DP structures in the two types of language (§5.8.1). Finally, I will argue that alternative accounts of island-sensitive resumptive pronouns as ‘spelled-out traces’ face numerous non-trivial issues which have not yet been explained by proponents of this approach (§5.8.2).

5.8.1 Two types of island-sensitive resumptives

There are at least two ways in which island-sensitive resumption in languages like Swedish and Romani differs from resumption in clitic doubling languages like Spanish and Greek: (i) operators can be clitic-doubled in situ, but, to the best of my knowledge, *wh*-operators in Swedish and Romani cannot cooccur with pronominal elements in situ; and (ii) clitic-doubled operators do not trigger weak crossover under \bar{A} -movement, but resumption in languages like Vata, among others, famously displays weak crossover effects (see Koopman and Sportiche, 1982, 143–147 and Sportiche, 1983, 123).²⁴ This difference among island-sensitive resumptives has not been recognized previously and could in principle be taken as evidence against a unificatory analysis of island-sensitive resumption.

I believe that such a conclusion would be too hasty. The relevant differences do not necessarily rule out a ‘Big-DP-*cum*-stranding’ approach to island-sensitive resumption in languages like Swedish, Romani, and Vata, but arguably point to differences between two types of Big-DP constructions. First, the inability of operators to cooccur with doubling pronouns in situ in Swedish-type languages closely parallels a puzzle from Italian Clitic Left Dislocation (CLLD) as analyzed by Cecchetto (2000). To account for certain movement effects present in CLLD, Cecchetto proposes that Italian CLLD launches from a clitic doubling structure—specifically, from a Big-DP. However, Italian crucially lacks Spanish-style clitic doubling of unmoved elements, as the following example from Cinque (1990) demonstrates:

- (61) *Lo conosciamo (a) Gianni.
him we.know (A) Gianni
(int.) ‘We know Gianni.’ (Italian; adapted from Cinque, 1990, 60, (2b))

Rather than take (61) as evidence that Italian lacks clitic doubling altogether, Cecchetto argues that what differentiates Italian from Spanish is that clitic doubling obligatorily feeds CLLD in the former, but does so only optionally in the latter. See Sportiche (1996, 242ff.)

24. The status of weak crossover in resumptive dependencies in Swedish is unclear. See Asudeh (2012, 245) for discussion of idiolectal variation in this respect.

and Cecchetto (2000, 116–121) for explicit proposals to this effect (though see Anagnostopoulou, 2017a for an overview of properties distinguishing CLLD and clitic doubling). If such an analysis is tenable, then we might pursue a similar account for Swedish-type languages: generation of a Big-DP in these languages must feed \bar{A} -movement.

It is also possible to account for the difference in weak crossover amelioration between Spanish-type resumption and Swedish-type resumption by locating the source of the amelioration in independent information-structural properties of the two types of doubling. Recently, Baker and Kramer (2018, 1078–1080) and Paparounas and Salzmann (2022, 31–35) have suggested that weak crossover amelioration under clitic doubling should be attributed to the information-structural conditions required for clitic doubling, and not necessarily to any syntactic operation accompanying clitic doubling (e.g. A-movement of the doubled quantifier; see the discussion in section §5.7 above). This hypothesis is supported by the observation that, in the absence of clitic doubling, the manipulation of information-structural properties alone can alleviate expected weak crossover effects. For example, Eilam (2011, 150–175) and Safir (2017, 23–25), among others, note that D-linking—namely, restricting the quantifier to select from a familiar set of individuals given in the discourse (Pesetsky, 1987)—and the use of focus-associated particles such as *even* and *only* to modify the phrase containing the bound pronoun can temper weak crossover in English. Relatedly, Bruening (2022b, 751–754, esp. 753) argues that adding focal stress to the NP restriction associated with the crossed, bound possessor pronoun in secondary weak crossover configurations with topicalized PPs containing quantifiers alleviates expected crossover effects. Paparounas and Salzmann (2022, 34) propose that the source of weak crossover amelioration in such contexts is set restriction: each manipulation restricts the reference set denoted by the quantifier. Crucially, they argue, clitic doubling ameliorates weak crossover because clitic doubling also restricts the reference set—specifically, clitic doubling in Greek requires the doubled element to be discourse-given. This correlation can be accounted for in the syntax if, as I pro-

posed in section §5.2, clitics obligatorily select a DP bearing a discourse-related feature like [+topic]. To account for Swedish-type resumption which *does* display weak crossover effects, then, we might propose that the doubling pronoun does not impose such a requirement on its DP double. This discussion is admittedly quite speculative, but it is meant simply to show that the differences identified here between two classes of island-sensitive resumptives cross-linguistically do not require that we abandon a unified Big-DP account of movement-derived resumption. Rather, it seems highly plausible that the differences can be attributed to independent properties of the Big-DP structures in the two types of resumption.

I therefore make the following strong conjecture:

(62) **A strong conjecture about movement-derived resumption**

Resumptives in movement dependencies are always either (i) agreement elements (see Borer, 1981), or (ii) elements doubling the moved operator. There is no such thing as a ‘spelled-out trace resumptive’.

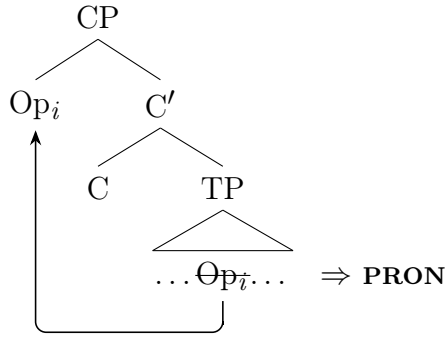
In the next section, I present a battery of arguments against spelled-out trace analyses of island-sensitive resumption and in support of the unified Big-DP approach proposed here.

5.8.2 *Problems for ‘spelled-out trace’ analyses of island-sensitive resumption*

A prominent approach to island-sensitive resumption views resumptive pronouns as exceptionally realized lower (or lowest) copies of movement, as shown in (63).²⁵

(63) *A spell-out analysis of resumptive pronouns*

25. Spell-out analyses of island-*ins*sensitive resumption in languages like Arabic fail for the reasons discussed in chapter 3 (see Korsah and Murphy, 2020 for one such proposal). See Salzmann (2017b, 377–380) for additional arguments particular to Swiss German that (island-insensitive) resumptive pronouns in that language are not spelled-out traces.



The motivation for this exceptional spell-out has been attributed to various factors. Some argue that exceptional spell-out is driven by the requirement that inherent (or ‘oblique’ or ‘morphological’) case must be recoverable at PF, hence must be overtly realized (see Broihier, 1995; Pesetsky, 1998; Toman, 1998; Bianchi, 2004; and Hladnik, 2015). Others argue that exceptional spell-out acts as a phonological repair in certain well-defined prosodic contexts. This is for instance what Hoekstra (1995, 111–114) proposes for (Standard) German resumptive complements to vowel-initial postpositions. Martinović (2015, 123–124) proposes a similar explanation for Wolof embedded subject resumptives. Embedded subject resumptives act as hosts for the clause initial particle *a*, which cannot stand alone and must attach to an element to its left. Scott (2021b) proposes that copies of extracted complements of monosyllabic prepositions in Swahili restrictive relatives are overtly realized as resumptive pronouns to comply with a two-unit minimal word requirement in the language, which would not be met if the copy was not realized overtly. Finally, Georgi and Amaechi (2022, esp. Appendix B) proffer a heterogeneous set of prosodic and other phonological triggers for the overt realization of the lowest copy in Igbo focus fronting constructions, all of which can be related to the prosodic prominence of the position in question which forces resumption (see also Georgi and Amaechi, 2020). Other works which have pursued a spell-out analysis of island-sensitive resumption include Zaenen et al. (1981), Koopman (1982, 1984), Engdahl (1985), Tellier (1988, 1991), Reintges (2000), Alexandre (2009), Baier (2018b), Hein and Georgi (2020), Chung and Wagers (2021), Martinović (To appear), and Yip and Ahenkorah (To appear) (and see Sichel, 2021, 2022 for a spell-out analysis of resumptive pronouns

outside islands in Hebrew).

The basic intuition underlying most spell-out approaches (especially those which analyze resumption as a phonological repair) is that pronouns are the minimal elements which can satisfy the relevant constraint driving overt realization. For instance, building on the proposal that pronouns realize Ds with silent NP complements (Postal, 1966; Elbourne, 2001), many authors have argued that spelled-out-trace resumptives realize a proper subpart of the structure of the lower copy of the extractee (e.g. van Urk, 2018, Hein and Georgi, 2021, Scott, 2021b, Georgi and Amaechi, 2022, Martinović, To appear, and Yip and Ahenkorah, To appear). If overt realization is independently forced in some position, and if the grammar seeks to minimize overt realization where possible (e.g. the ‘Silent Trace’ constraint of Pesetsky, 1998, 361, (53)), then lexicalizing the trace as a (prosodically weak) pronoun is argued to be the optimal way to meet both requirements (see also Sichel, 2014).

There are numerous problems facing spelled-out-trace analyses of resumption. I will cite seven, some of which are novel, and some of which have been pointed out in previous work. Because the details vary considerably from analysis to analysis, and because the putative triggering environments and constraints also vary from language to language, I will focus primarily on challenges to this general type of proposal, and not on challenges to any one analysis in particular.

Problem with spell-out approaches #1: Failure to lexicalize a [wh] feature

The first problem was raised already by Asudeh (2011b, 134–135) (and by McCloskey, 2006, 110–111 in his brief explication of a spell-out analysis of Swedish resumption). Asudeh’s launching point is the generalization in (64):

(64) **The Doron–Engdahl–McCloskey Generalization**²⁶

26. Asudeh attributes this generalization to Doron (1982) and McCloskey (2002, 192, 2017, 4). I have added Engdahl’s name in light of a similar observation she made for Swedish data in Engdahl (1982, 172, n. 5).

Resumptive pronouns are ordinary pronouns. (adapted from Asudeh, 2015, 10, (36))

What (64) is intended to capture is the fact that resumptive pronouns are universally coopted from the regular morphological paradigms of pronouns in the language—that is, resumptive pronouns are never formally idiosyncratic. Asudeh and McCloskey argue that this generalization can only be accounted for if resumptive pronouns are underlyingly (i.e. in the syntax and/or the lexicon) non-distinct from other pronouns. This entails that the grammar must not include a feature like $[\pm\text{resumptive}]$ to distinguish resumptive pronouns from non-resumptive pronouns. If such a feature *did* exist, we would predict that some language should draw a distinction at PF between elements bearing $[\text{+resumptive}]$ and those bearing $[\text{-resumptive}]$, contrary to fact.²⁷

With that in mind, we can now turn to Asudeh’s challenge. As Asudeh (2011b, 134) observes, the claim from proponents of the spell-out approach that (all) pronouns are determiners is not equivalent to the claim that all determiners are pronouns.²⁸ Indeed, there are many determiners which are lexically distinct from ordinary pronouns. For instance, *wh*-determiners like English *which* plausibly bear a $[\text{wh}]$ feature which is lacking in ordinary pronouns like *it*. If this is the case, however, then spell-out analyses of resumptive pronouns in *wh*-questions in languages like Swedish, Vata, and Romani must explain why the $[\text{wh}]$ feature on the lower copy fails to be exponed. Example (66) is modeled after McCloskey (2006, 110, (41)) and illustrates the problem, using English lexical items for convenience, for the Swedish example in (65): the resumptive pronoun *it* does not lexicalize the $[\text{wh}]$ feature of the underlying *wh*-determiner *which*, despite realizing this node. Nor is the resumptive

27. As Karlos Arregi (*pers. comm.*) points out to me, positing a resumptive-discriminating feature like $[\pm\text{resumptive}]$ could be made compatible with (64) if this feature could be shown to never affect overt form. I am not aware of any principled reason why the feature $[\pm\text{resumptive}]$ would be effectively invisible at PF, so I set aside this alternative.

28. See Sommerstein (1972), though, for arguments for a claim partially similar to the latter—namely, that “the so-called definite article *the* is really (that is, in remote structures) a pronoun” (p. 197) (thanks to Erik Zyman *pers. comm.* for directing my attention to this work). I am not aware of any work that extends such a claim to *wh*-determiners, however.

element a full copy of the *wh*-determiner *which* (*vilket* in Swedish).

- (65) Vilket ord_i visste ingen hur_k **det**_i stavas ____k?
 which word_i knew no.one how_k **it**_i is.spelled
 ‘Which word_i did nobody know how_k it_i is spelled ____k?’ (Engdahl, 1985, 8, (11))

- (66) [CP [DP which_[wh] [NP word]] did nobody know [CP how [DP which_[wh] [NP word]]
 is spelled]]
- ↓
it

There is no current explanation to my knowledge as to why the mechanism of partial copy spell-out can ignore the [wh] feature on the lower copy of D, yielding an element which is identical to the exponent of an ordinary pronoun, and thus differing from familiar *wh*-copying constructions (see Bayer, 1996; Fanselow and Ćavar, 2001; Fanselow and Mahajan, 2000; Höhle, 2000; Felser, 2004; Nunes, 2004) where there is higher fidelity in multiple copy spell-out. Furthermore, Asudeh observes, spell-out approaches fail to explain the Doron–Engdahl–McCloskey Generalization in (64), because, in examples like (65), resumptive pronouns *qua wh*-determiners *are* featurally distinct from ordinary pronouns in the syntax: the former bear a [wh] feature, and the latter do not.²⁹ By contrast, Big-DP approaches straightforwardly

29. Asudeh’s objection actually clarifies what is necessary to render spelled-out trace analyses empirically adequate. It is insufficient to simply partially realize the lower *wh*-copy (as has been proposed by Kandybowicz, 2008; Alexandre, 2009, 2012; Hein and Georgi, 2021; Scott, 2021b; Georgi and Amaechi, 2022; and Martinović, To appear); instead, *wh*-determiners must be structurally transformed into (non-*wh*) pronouns prior to their exponence. This putative transformation is highly reminiscent of Fox’s (1999; 2002) LF mechanism of *Trace Conversion*, though it differs from it in one significant way: simply transforming the *wh*-determiner into a definite determiner still will not yield a resumptive pronoun if pronouns are only a subset of definite determiners (i.e. they are D⁰’s bearing a distinguishing feature like [+pron] to account for, among others, their unique Binding Theoretic profile). Spell-out analyses could instead propose, contra Fox, that Trace Conversion manipulates syntactic representations in the narrow syntax, and that Trace Conversion produces a pronoun; accordingly, we would predict that a lower copy of movement should not only be interpreted as a pronoun *qua* definite description at LF but that a lower copy could also be realized as a pronoun at PF, assuming that independent constraints force realization in the position of the converted copy (though see subsequent sections in the main text for arguments that such constraints are neither necessary nor sufficient to account for island-sensitive resumption in many languages). One could then attempt to explain the differences between resumptive pronouns, which typically only appear at the bottom of A-dependencies, and *wh*-copies in *wh*-copying constructions, which typically appear in derived/intermediate positions in A-dependencies, by restricting Trace Conversion to the bottom-most copy in a *wh*-chain (though see Poole, 2017 and Branam and Erlewine, 2021 for arguments that intermediate traces can also be subject to Trace Conversion).

Note that Korsah and Murphy (2020, 860–862) make a related proposal for resumption in Asante Twi:

account for the (ordinary) pronominal nature of resumptives if doubling elements in Big-DPs are always pronouns, as seems to be the case.³⁰

Problem with spell-out approaches #2: Failure to extend to optional resumption

The second problem with spell-out approaches to resumption is novel and concerns undergeneration: spell-out approaches are largely tailored towards accounting for obligatory resumption (e.g. Sichel, 2014; Scott, 2021b; Georgi and Amaechi, 2022). If a resumptive *qua* spelled-out \bar{A} -trace occupies a position which requires an overt exponent at PF, then we expect, *ceteris paribus*, that a gap should be forbidden in the same position. Resumptive pronouns in languages like Romani counter-exemplify this prediction. I showed in chapter 3 that Romani resumptive pronouns are accompanied by the hallmarks of \bar{A} -movement, in particular island-sensitivity and case-connectivity. However, direct object resumptive pronouns in embedded clauses in the Priština dialect (and all resumptive pronouns in monoclausal relativization with a relative pronoun in the Skopje dialect) also alternate with gaps (McDaniel, 1986; Manetta, 2020). In order to account for the movement properties of optional resumptives in Romani, spell-out analyses would be forced to claim that the relevant positions only optionally require overt realization. Without independent evidence in favor of

rather than capture the LF and PF effects together with a unified conversion mechanism, they leave Trace Conversion as an LF rule and propose an analogous rule of *Pronoun Conversion* in the PF branch which replaces the lowest copy in a movement chain with a corresponding pronoun. See also Yip and Ahenkorah (To appear) for the proposal that Copy Deletion—the algorithm that determines which elements in movement chains are (in)visible at the interfaces—can crucially delete features specified on heads. They argue that φ -mismatching resumptive pronouns in Cantonese and Akan are the default exponents inserted to match the D of a lower copy of \bar{A} -movement, all of whose other features have been deleted by Copy Deletion (and see Alexandre, 2012, ch. 5 for an important predecessor).

30. Kayne (2002, 134), who pursues a movement analysis of pronoun-antecedent relations in general (i.e. not just in resumption), makes a similar argument against the ‘spell-out-a-trace-as-a-pronoun’ analysis of bound pronouns put forth by Hornstein (2001, 176–184). Kayne (2002) argues instead that all pronoun-antecedent relations can be analyzed as involving extraction out of a doubling structure (see also Zwart, 2002).

this optionality at PF, however, this conclusion is merely a stipulation lacking insight.³¹

Problem with spell-out approaches #3: No predicted categorial restrictions on resumption

The third problem is also novel and concerns overgeneration: proponents of spell-out approaches have almost exclusively considered extraction of nominal constituents relating to pronouns, which as stated above are arguably of category D. However, if the constraints driving exceptional spell-out are phonological/prosodic in nature (and not based on Case, as in some approaches), then we predict that extraction of phrases of other categories (e.g. PPs, VPs, CPs) should trigger exceptional spell-out in the same environments. While we might not expect lower copies of non-nominal extractees to occur prolifically where resumptives do in languages like Swedish and Vata (whose resumptives are restricted to the subject position), Georgi and Amaechi (2022) document two triggering environments for resumption in Igbo which should in principle host non-nominal phrases: (i) the phrasal associate of a focus-sensitive particle (see also Sichel, 2014) and (ii) conjuncts. Although the ‘overgeneration’ prediction has not yet been tested to my knowledge, I suspect that there are no resumptive P, V, and C exponents inserted as PF repairs in contexts which otherwise trigger the appearance of movement-derived resumptive pronouns. This absence is predicted under the Big-DP approach if only DPs can be (clitic) doubled cross-linguistically (Anagnostopoulou, 2017a; see footnote 8 for pertinent discussion). Nonetheless, this objection remains an important open issue for future research.³²

31. However, see Harizanov and Mikkelsen (2018) for a movement analysis of optional resumption in Danish VP left dislocation. Rather than merely locally encode spell-out requirements on particular positions to enforce resumption, they instead derive optional resumption from interactions between the landing site of the movement involved and general and language-specific principles governing the pronunciation of particular positions.

32. See Harizanov and Mikkelsen (2018) for the claim that extraction of VPs in Danish left dislocation can trigger resumption, though interestingly the resumptive proform is the (categorially underspecified) element *det*, which they claim simply spells out the information that the extracted element (i.e. VP) is a maximal

Problem with spell-out approaches #4: Strict commitment to phonological placement of resumptives

The fourth problem, noted by a number of previous authors (e.g. Daskalaki and Mavrogiorgos, 2013, 326–328, Klein, 2016, 16, Salzmann, 2017b, 211–212), is that, by delaying the generation of resumptive pronouns to PF, spell-out analyses are also committed to phonological explanations of the overt positioning of resumptive pronouns. All else being equal, spell-out approaches predict that resumptives *qua* partially spelled-out copies ought to be restricted to the set of positions where non-pronominal copies of the extractee occur. Hence, if resumptive pronouns occur in positions inaccessible to phrasal DPs (e.g. within a complex head), this positional mismatch must have arisen at PF. Daskalaki and Mavrogiorgos (2013) argue that such an approach is empirically insufficient for Greek, where (resumptive) clitic placement is not strictly phonologically governed. Thus, spell-out analyses bear the burden of explaining not just the *form* of resumptive pronouns, but also their surface distribution. On the other hand, if movement-derived resumptives are simply doubling pronouns, then they are correctly predicted to appear in whatever positions pronouns normally occur in in the language in question.

Problem with spell-out approaches #5: Resumptives are predicted to behave like non-pronominal, non-clitic DPs in the syntax

The fifth problem facing spell-out analyses is novel and concerns the syntactic behavior of resumptive pronouns. As remarked above, spell-out analyses posit no underlying difference between pronouns and non-pronominal DPs in the syntax.³³ Thus, syntactic processes or constraints known to differentiate pronouns from other DPs are expected to treat resumptive

projection (2018, 18, esp. fn. 4).

33. And if they did posit a difference, they would fail to account for the Doron–Engdahl–McCloskey Generalization ((64)).

pronouns as non-pronominal under spell-out approaches. Person Case Constraint (PCC) effects may be relevant in this respect. Many researchers have argued that PCC effects have a *syntactic* source—namely, in the mechanics of Agree (Rezac, 2008, 2011; Preminger, 2019; Deal, 2021). Furthermore, in many languages, PCC restrictions only apply when both elements (typically a direct and an indirect object) are phonologically weak, i.e. clitics. Deal (2021) calls this property *Double Weakness* and accounts for it by proposing that Agree underlies all instances of cliticization (on which see also Anagnostopoulou, 2003; Béjar and Rezac, 2003; Preminger, 2019; Stegovec, 2020; and Coon and Keine, 2021). Thus, if certain PCC-violating Agree relations are precluded, then clitics will never be generated in those environments, accounting for the Double Weakness condition. Spell-out analyses of resumption therefore predict that phonologically weak resumptive elements should be able to circumvent otherwise expected PCC effects. I will illustrate this prediction with data from Tunisian Arabic, where all other available evidence points to resumption being exclusively formed via base-generation (chapter 3). In short, resumptive pronouns in Tunisian display PCC effects, hence they must be generated as pronouns in the syntax; this finding militates against any attempt at a spelled-out trace analysis of (Tunisian) Arabic resumption. If resumption is never formed via exceptional spell-out of a lower copy in any language, in line with my strong hypothesis in (62), then I predict that island-*sensitive* resumptives in other languages should, like regular pronouns, exhibit PCC effects subject to Double Weakness.

Accusative and dative clitics can cluster on the verb in Tunisian, in which case they obligatorily appear in the order ‘ACC < DAT’:

- (67) ACC < DAT order in Tunisian clitic clusters
- a. qaddmu: -hu -lha.
introduced.3.PL -3.M.SG.ACC -3.F.SG.DAT
‘They introduced him to her.’
 - b. *qaddmu: -lha -h.
introduced.3.PL -3.F.SG.DAT -3.M.SG.ACC
(int.) ‘They introduced him to her.’

Such combinations of clitics obey the Strong PCC: accusative clitics must be third person when they cooccur with a dative clitic (see, e.g., Perlmutter, 1971; Bonet, 1991; Laka, 1993; Anagnostopoulou, 2003, 2017b on the Strong PCC). Contrast (67a) with the examples in (68), all of which are unacceptable because they combine a non-third person accusative clitic with a dative clitic.

(68) *Strong PCC in Tunisian clitic clusters*

- | | | |
|----|--|------|
| a. | *qaddmu: -ni -lək.
introduced.3.PL -1.SG.ACC -2.SG.DAT
(int.) ‘They introduced me to you (sg.).’ | *1>2 |
| b. | *qaddmu: -k -li.
introduced.3.PL -2.SG.ACC -1.SG.DAT
(int.) ‘They introduced you (sg.) to me.’ | *2>1 |
| c. | *qaddmu: -ni -lha.
introduced.3.PL -1.SG.ACC -3.F.SG.DAT
(int.) ‘They introduced me to her.’ | *1>3 |
| d. | *qaddmu: -k -lha.
introduced.3.PL -2.SG.ACC -3.F.SG.DAT
(int.) ‘They introduced you (sg.) to her.’ | *2>3 |

The typical repair in Tunisian is to deploy a strong (i.e. non-clitic) PP in place of the dative clitic. This is a manifestation of the Double Weakness condition on the Strong PCC.

(69) *Non-clitic PPs repair PCC violations in Tunisian*

- | | | |
|----|---|-----|
| a. | qaddmu: -ni li:k.
introduced.3.PL -1.SG.ACC to-2.SG
‘They introduced me to you (sg.).’ | 1>2 |
| b. | qaddmu: -k li:jjja.
introduced.3.PL -2.SG.ACC to-1.SG
‘They introduced you (sg.) to me.’ | 2>1 |
| c. | qaddmu: -ni li:ha.
introduced.3.PL -1.SG.ACC to-3.F.SG
‘They introduced me to her.’ | 1>3 |
| d. | qaddmu: -k li:ha.
introduced.3.PL -2.SG.ACC to-3.F.SG
‘They introduced you (sg.) to her.’ | 2>3 |

Crucially, resumptive uses of these clitics also obey the Strong PCC, whether the re-

sumptive is the accusative clitic as in (70) or the dative clitic as in (71).

- (70) a. ʔe:na l-təlmi:ð_i elli qaddamt **-hu_i** -lha.
 1.SG the-student.M_i that introduced.2.SG **-3.M.SG.ACC_i** **-3.F.SG.DAT**
 (lit.) ‘I’m the student_i that you introduced him_i to her.’ 3>3
- b. * ʔe:na l-təlmi:ð_i elli qaddamt **-ni_i** -lha.
 1.SG the-student.M_i that introduced.2.SG **-1.SG.ACC_i** **-3.F.SG.DAT**
 (int.) ‘I’m the student_i that you introduced me_i to her.’ *1>3
- (71) a. hijja l-təlmi:ð_{a_i} elli qaddamt -hu **-lha_i**.
 3.F.SG the-student.F_i that introduced.2.SG **-3.M.SG.ACC** **-3.F.SG.DAT_i**
 (lit.) ‘She’s the student_i that you introduced him to her_i.’ 3>3
- b. *hijja l-təlmi:ð_{a_i} elli qaddamt -ni **-lha_i**.
 3.F.SG the-student.F_i that introduced.2.SG **-1.SG.ACC** **-3.F.SG.DAT_i**
 (int.) ‘She’s the student_i that you introduced me to her_i.’ *1>3

As in the non-resumptive cases, use of a PP in place of the dative clitic circumvents the PCC violation:

- (72) a. ʔe:na l-təlmi:ð elli qaddamt **-ni** li:-ha.
 1.SG the-student.M that introduced.2.SG **-1.SG.ACC** to-3.F.SG
 (lit.) ‘I’m the student that you introduced me to her.’ 1>3
- b. hijja l-təlmi:ð_a elli qaddamt -ni li:-ha.
 3.F.SG the-student.F that introduced.2.SG **-1.SG.ACC** to-**3.F.SG**
 (lit.) ‘She’s the student that you introduced me to her.’ 1>3

The data in (70)–(72) illustrate that resumptive pronouns behave just like ordinary pronouns for the purposes of PCC evaluation, in line with the Doron–Engdahl–McCloskey Generalization ((64)).

We can now articulate the potential puzzle for spell-out approaches to resumption. If the dative resumptive clitic *-lha* ‘3.F.SG.DAT’ in (71b) were a partially spelled-out copy of the moved (non-pronominal) relative operator (or the relative head under a raising analysis of relative clauses, see Kayne, 1994; Bianchi, 1999; Sichel, 2014, 2018), and not a pronominal clitic generated as such in the syntax via Agree, there would be no reason to expect a Strong PCC violation to occur. This is because the pronominal exponent of a non-clitic, non-pronominal DP is expected to behave like a strong DP in the syntax, and non-clitic phrases

do not trigger Strong PCC effects in languages subject to the Double Weakness condition (see (69), (72)). Additionally, note that unpronounced lower copies of *wh*-movement fail to trigger PCC effects, paralleling the behavior of non-clitic phrases:

- (73) l-ʃku:n jħəbbu jqaddmu: {-ni / -k} <l-ʃku:n>?
 to-who want.3.PL introduce.3.PL {-1.SG.ACC / -2.SG.ACC} <to-who>
 (lit.) ‘To whom do they want to introduce {me / you}?’ (Tunisian)

Spell-out approaches therefore make the following strong prediction: languages with island-sensitive resumption which also exhibit PCC effects subject to Double Weakness should permit PCC obviation with resumptive pronouns. This prediction must be tested in future work, though I suspect that it will not be borne out and that movement-derived resumptive pronouns will behave like all other pronouns with respect to PCC effects. If that is the case, then spell-out approaches must abandon a unified syntactic analysis of PCC effects. By contrast, Big-DP approaches to island-sensitive resumption argue that resumptives are pronouns *in the syntax* and hence predict PCC-compliant behavior.

Problem with spell-out approaches #6: Resumptives are predicted to behave like non-pronominal, non-clitic DPs prior to exponence in the postsyntax

Independent evidence from the morphological behavior of resumptives reinforces the conclusion that the cliticness of resumptive elements must be determined early—arguably earlier than many partial copy spell-out approaches to resumption predict. If we adopt the hypothesis from the previous section that Agree underlies all instances of cliticization, and if we assume that Agree relations are established in the syntax (see e.g. Chomsky, 2000, 2001b; Arregi and Nevins, 2012; Preminger, 2014, 2019), then the mere existence of clitic resumptives in some languages militates against generating those resumptives from lower copies of non-clitic, non-pronominal DPs purely at PF. Consider why. If syntactic Agree is a precondition on the generation of clitics, and if a resumptive pronoun is the spell-out of

a trace of an \bar{A} -moved DP, then, in order to generate a resumptive clitic, the lower copy of the \bar{A} -moved DP must be agreed with prior to partial copy spell-out. All else being equal, we expect that a non- \bar{A} -moved DP³⁴ should also be agreed with, assuming that the Agree probe and the trigger for \bar{A} -movement are independent properties of a head (when they are not properties of different heads altogether). There are now two possible results, neither of which is expected under a spell-out approach to clitic resumption. If syntactic Agree with a non-overtly moved DP results in the appearance of a clitic (see section §5.5 for data from Spanish roughly meeting this description), then the appearance of that clitic (and by extension, the parallel appearance of a clitic under overt \bar{A} -movement) cannot have solely resulted from partial copy spell-out.³⁵ On the other hand, if syntactic Agree with a non-overtly moved DP does not trigger the appearance of a clitic, then there will be no overt reflex of Agree in violation of Preminger’s (2019) *no-null-agreement generalization*, which states that “there is no such thing as morpho-phonologically undetectable φ -feature agreement” (p. 11, (22)). Thus, the claim that syntactic Agree is a precondition on all instances of cliticization appears to be incompatible with partial copy spell-out approaches to resumption.

A defender of the spell-out approach might therefore abandon the unificationist analysis of clitics and propose that some clitics (i.e. resumptive ones) come into being in the postsyntax, purely via copy reduction during exponence. The potential challenge for this alternative proposal comes from examining how postsyntactic rules treat resumptive clitics. In a nutshell, if postsyntactic rules which apply before Vocabulary Insertion treat resumptive and non-resumptive clitics alike, then all clitics must be generated prior to the application of said rules (and hence prior to exponence). By contrast, if resumptive pronouns are generated by minimally realizing a lower copy of \bar{A} -movement, then pre-exponence postsyntactic rules

34. Including a DP with \bar{A} -features that fails to move overtly for independent reasons, e.g. the lower of two or more *wh*-phrases in a multiple *wh*-question in a language without multiple *wh*-movement.

35. This objection would lose its force if, along with Agree, *all* cliticization required movement of the doubled DP (for the latter proposal, see Harizanov, 2014a).

are not expected to treat all clitics on a par. In other words, spell-out approaches do not predict the morphological behavior of resumptive pronouns to parallel the morphological behavior of non-resumptive pronouns. I will demonstrate in this section, contra the predictions of spell-out approaches, that at least one kind of postsyntactic rule treats resumptive and non-resumptive pronominal clitics alike—namely, *impoverishment*. The reader should bear in mind that all of the data in this section come from base-generated resumption in Iraqi Arabic. It remains to be seen whether similar results can be obtained for movement-derived resumptives.

Iraqi Arabic, like many other Arabic varieties, permits clusters of enclitic pronouns on the verb in ditransitive constructions. In addition to the basic series of accusative and dative pronouns listed in (74) (see also Erwin, 1963, 142, 272), accusative direct object clitics take on a special form containing the pleonastic stem augment *-jja:* in clitic clusters (Erwin, 1963, 144). For the remainder of this section, I will gloss augmented accusative clitics as ‘AUG.ACC.’ Certain forms of the unaugmented accusative clitics predictably appear after consonants, and others after vowels, as indicated in (74); if only one variant is given, that form appears in all contexts.³⁶

(74) *Iraqi Arabic accusative and dative pronominal clitics*

	Accusative clitic		Augmented accusative clitic	Dative clitic
	C__	V__		
1.SG	-ni		-jja:ja	-li
2.M.SG	-ak	-k	-jja:k	-lak
2.F.SG	-itʃ	-tʃ	-jja:tʃ	-litʃ
3.M.SG	-a	-∅	-jja:	-la
3.F.SG	-ha		-jja:ha	-lha
1.PL	-na		-jja:na	-lna
2.PL	-kum		-jja:kum	-lkum
3.PL	-hum		-jja:hum	-lhum

36. The epenthetic vowel /i/ is also regularly inserted before dative clitics beginning with the cluster *-lC*, where ‘C’ is a consonant, when the verb ends in a consonant. I do not represent this vowel in what follows, opting for a more abstract phonological representation.

When clustering, these clitics strictly appear in the order “indirect object \prec direct object,” regardless of whether the indirect object is morphologically realized as a dative clitic ((75a)) or as an unaugmented accusative clitic ((75b)). The choice between a dative or accusative indirect object is an idiosyncratic lexical property of the verb.

(75) *Clitic clusters in Iraqi Arabic: indirect object \prec direct object*

- a. DAT \prec AUG.ACC
 dazzer:t -li -jjax:ha.
 sent.2.M.SG -1.SG.DAT -3.F.SG.AUG.ACC
 ‘You sent me it.’
- b. ACC \prec AUG.ACC
 nt^hext -ni -jja:ha.
 gave.2.M.SG -1.SG.ACC -3.F.SG.AUG.ACC
 ‘You gave me it.’

In the presence of a [+participant] (i.e. first or second person) indirect object clitic or in the absence of an indirect object clitic, third person singular direct object clitics predictably display a two-way gender contrast and the features of the clitic match those of its antecedent (see also Erwin, 1963, 144–145). Thus, the third person direct object clitics in (76a)–(76c) are marked for feminine gender, matching their antecedent *l-s^hurra* ‘the picture (F.SG).’

(76) ?il-man dazzer:t l-s^hurra?

to-who sent.1.SG the-picture.F.SG
 ‘Who did I send the picture (F.SG) to?’

- a. dazzer:t -li {-jjax:ha / *-jjax:h}.
 sent.2.M.SG -1.SG.DAT {-3.F.SG.AUG.ACC / *-3.M.SG.AUG.ACC}
 ‘You sent it (= the picture.F.SG) to me.’
- b. dazzer:t {-ha / *-a} l-axu:k.
 sent.2.M.SG {-3.F.SG.ACC / *-3.M.SG.ACC} to-brother-2.M.SG.GEN
 ‘You sent it (= the picture.F.SG) to your brother.’
- c. dazzer:t {-ha / *-a} ?il-a.
 sent.2.M.SG {-3.F.SG.ACC / *-3.M.SG.ACC} to-3.M.SG
 ‘You sent it (= the picture.F.SG) to him.’

(Iraqi)

However, the combination of two third person clitics—a context I will refer to as ‘3>3’—triggers two gender neutralization effects (see Erwin, 1963, 146–147; Erwin, 2004, 348; and

Leitner et al., 2021, 149). First, dative and non-augmented accusative third person singular indirect object clitics appear with the special gender syncretizing allomorphs in (77).

(77) *Iraqi gender syncretizing third person singular indirect object clitics in 3>3 contexts*

	ACC	DAT
SG	-h	-lh

Second, gender is also neutralized to masculine on the augmented accusative clitic, yielding the invariant form *-jja:* for both genders. These two effects are illustrated in the 3>3 clitic cluster in (78): the dative and the augmented accusative clitic are neutralized for gender, despite both having feminine singular antecedents (note that the name *Joni* refers to a female individual in these examples).^{37,38}

37. The vowel /i/ which I parse as part of the augmented accusative clitic is epenthetic (Erwin, 1963, 33–35, 144).

38. Erwin (1963, 2004) characterizes both neutralizing processes as obligatory. However, my consultant also judges examples like (i)—where both clitics are fully marked for gender—to be acceptable.

- (i) A: dazze:t l-s^fu:ra li-Joni?
 sent.2.M.SG the-picture.F.SG to-Joni
 ‘Did you send the picture (F.SG) to Joni?’
 B: e:, dazze:t -lha -jja:ha.
 yes sent.1.SG -3.F.SG.DAT -3.F.SG.AUG.ACC
 ‘Yes, I sent it (= the picture.F.SG) to her.’

Furthermore, although it is impossible to neutralize gender only on the direct object clitic ((ii)), it appears that neutralizing gender only on the indirect object clitic is relatively acceptable ((iii)), though further investigation is necessary to understand all the parameters contributing to the (idiolectal or other) variation in this domain.

- (ii) A: dazze:t l-s^fu:ra li-Joni?
 sent.2.M.SG the-picture.F.SG to-Joni
 ‘Did you send the picture (F.SG) to Joni?’
 B: *e:, dazze:t -lha -jja:
 yes sent.1.SG -3.F.SG.DAT -3.M.SG.AUG.ACC
 (int.) ‘Yes, I sent it (= the picture.F.SG) to her.’
 (iii) A: dazze:t l-s^fu:ra li-Joni?
 sent.2.M.SG the-picture.F.SG to-Joni
 ‘Did you send the picture (F.SG) to Joni?’
 B: ?e:, dazze:t -lh -ijja:ha.
 yes sent.1.SG -3.SG.DAT -3.F.SG.AUG.ACC
 ‘Yes, I sent it (= the picture.F.SG) to her.’

(78) *Iraqi gender neutralization in 3>3 clitic clusters*

- A: dazze:t l-s^ʕu:ra li-Joni?
sent.2.M.SG the-picture.F.SG to-Joni
'Did you send the picture (F.SG) to Joni?'
- B: e:, dazze:t -lh -ijja:.
yes sent.1.SG -3.SG.DAT -3.M.SG.AUG.ACC
'Yes, I sent it (= the picture.F.SG) to her.'

Gender is unmarked in plural clitics (see (74)), which consequently remain morphologically unchanged in clitic clusters.

Iraqi gender neutralization in 3>3 clitic clusters is highly reminiscent of the spurious *se* phenomenon from Spanish: third person dative clitics in Spanish are exceptionally realized as *se* (rather than expected *le* or *les*) in the context of a third person accusative clitic (Perlmutter, 1971; Bonet, 1991; and Nevins, 2007; see also Arregi and Nevins, 2012, 209–211 and Deal, 2020 on other types of 3>3 effects). I propose that gender neutralization in Iraqi clitic clusters, like spurious *se* effects, arises postsyntactically as the result of an *impoverishment* rule (on which see Bonet, 1991; Noyer, 1992; and Halle, 2000):

(79) *Iraqi 3>3 gender impoverishment*

- Delete gender features in a third person clitic when immediately local to another third person clitic.

The rule in (79) deletes gender features from clustered third person clitics prior to Vocabulary Insertion. Note that clitics are referenced in the structural description of this rule; this is because there is no gender neutralization when the dative pronoun appears in its strong form, as illustrated by the following examples.

(80) *No gender neutralization in Iraqi 3>3 contexts without two clitics*

- A: dazze:t l-s^ʕu:ra li-Joni?
sent.2.M.SG the-picture.F.SG to-Joni
'Did you send the picture (F.SG) to Joni?'
- B: e:, dazze:t -ha ?il-ha.
yes sent.1.SG -3.F.SG.ACC to-3.F.SG
'Yes, I sent it (= the picture.F.SG) to her.'

- B': # eɪ, dazzeɪt -ha ʔil-a.
 yes sent.1.SG -3.F.SG.ACC to-3.M.SG
 (int.) 'Yes, I sent it (= the picture.F.SG) to her.'
- B'': * eɪ, dazzeɪt -a ʔil-ha.
 yes sent.1.SG -3.M.SG.ACC to-3.F.SG
 (int.) 'Yes, I sent it (= the picture.F.SG) to her.'
- B''': * eɪ, dazzeɪt -a ʔil-a.
 yes sent.1.SG -3.M.SG.ACC to-3.M.SG
 (int.) 'Yes, I sent it (= the picture.F.SG) to her.'

Furthermore, when either of the third person objects is clitic-doubled, only the clitic—and not its double—displays gender neutralization. In example (81), it is infelicitous for the doubled dative pronoun to mismatch in gender with its antecedent 'Joni' despite the fact that the clitic appears in its special gender syncretizing form. Likewise, example (82) shows that it is impossible for the doubled direct object pronoun to mismatch in gender with 'the picture,' again despite the fact that the doubling clitic *-jja:* can display gender neutralization.³⁹

(81) *No gender neutralization of clitic-doubled indirect objects*

- A: dazzeɪt l-s^fu:ra li-Joni?
 sent.2.M.SG the-picture.F.SG to-Joni
 'Did you send the picture (F.SG) to Joni?'
- B: eɪ, dazzeɪt -lh_i -ijja:_i ʔil-ha_i.
 yes sent.1.SG -3.SG.DAT_i -3.M.SG.AUG.ACC DAT-3.F.SG_i

39. Doubling the fully matching direct object pronoun in (82) was judged independently to be less than fully acceptable. What's more, the related example in (i), in which the antecedent for the direct object pronoun is *l-s^fu:ra* 'the picture,' rather than *hazj l-s^fu:ra* 'this picture,' was judged to be virtually completely unacceptable with direct object clitic doubling.

- (i) A: dazzeɪt l-s^fu:ra li-Joni?
 sent.2.M.SG the-picture.F.SG to-Joni
 'Did you send the picture (F.SG) to Joni?'
- B: ??/* eɪ, dazzeɪt -lh -ijja:_i hijsa_i.
 yes sent.1.SG -3.SG.DAT -3.M.SG.AUG.ACC_i 3.F.SG_i
 'Yes, I sent it (= the picture.F.SG) to her.'
- B': * eɪ, dazzeɪt -lh -ijja:_i huwwa_i.
 yes sent.1.SG -3.SG.DAT -3.M.SG.AUG.ACC_i 3.M.SG_i
 (int.) 'Yes, I sent it (= the picture.F.SG) to her.'

I do not have an explanation for either of these facts.

‘Yes, I sent it (= the picture.F.SG) to her.’

B': # eɪ, dazzeɪt -lh_i -ijjaː ʔil-a_i.
 yes sent.1.SG -3.SG.DAT_i -3.M.SG.AUG.ACC DAT-3.M.SG_i
 (int.) ‘Yes, I sent it (= the picture.F.SG) to her.’

(82) *No gender neutralization of clitic-doubled direct objects*

A: dazzeɪt haːj l-s^ʔuɾa li-Joni?
 sent.2.M.SG this.F.SG the-picture.F.SG to-Joni
 ‘Did you send this picture (F.SG) to Joni?’

B: ʔ eɪ, dazzeɪt -lh -ijjaː_i hijja_i.
 yes sent.1.SG -3.SG.DAT -3.M.SG.AUG.ACC_i 3.F.SG_i
 ‘Yes, I sent it (= this picture.F.SG) to her.’

B': * eɪ, dazzeɪt -lh -ijjaː_i huwwa_i.
 yes sent.1.SG -3.SG.DAT -3.M.SG.AUG.ACC_i 3.M.SG_i
 (int.) ‘Yes, I sent it (= this picture.F.SG) to her.’

Crucial for our purposes, resumptive clitics are subject to gender neutralization per (79) just like non-resumptive clitics. Example (83) illustrates with a gender neutralized dative resumptive, and example (84) with a gender neutralized augmented accusative resumptive.

(83) A: inti l-t^ʔaːliba lli dazzeɪt -lha l-s^ʔuɾa?
 you the-student.F.SG that sent.1.SG -3.F.SG.DAT the-picture.F.SG
 ‘Are you the student (F.SG) that I sent the picture (F.SG) to?’

B: eɪ, aːni l-t^ʔaːliba lli dazzeɪt -lh -ijjaː.
 yes 1.SG the-student.F.SG that sent.2.M.SG -3.SG.DAT -3.M.SG.ACC
 (lit.) ‘Yes, I’m the student (F.SG) that you sent it (= the picture.F.SG) to her.’

(84) A: haːj hijja l-s^ʔuɾa lli dazzeɪt -ha li-Joni?
 this.F.SG 3.F.SG the-picture.F.SG that sent.1.SG -3.F.SG.ACC to-Joni
 ‘Is this the picture (F.SG) that I sent to Joni?’

B: eɪ, haːj hijja l-s^ʔuɾa lli dazzeɪt -lh
 yes this.F.SG 3.F.SG the-picture.F.SG that sent.2.M.SG -3.SG.DAT
 -ijjaː.
 -3.M.SG.AUG.ACC
 (lit.) ‘Yes, this is the picture (F.SG) that you sent it to her.’

This similarity between resumptive and non-resumptive pronouns is explained if both are structurally represented as clitics prior to impoverishment. Spell-out approaches are harder pressed to explain this parallelism if resumptive pronouns are actually non-pronominal, non-

clitic DPs at every step of the derivation prior to Vocabulary Insertion.⁴⁰ Compare silent lower copies of *wh*-movement, which fail to trigger gender neutralization:

- (85) l-ja: bnajja dazze:t {-ha / *-a} <l-ja: bnajja>?
to-which girl.F.SG sent.2.M.SG {-3.F.SG.ACC / *-3.M.SG.ACC} <to-which girl.F.SG>
‘Which girl did you send it to?’ (where ‘it’ refers to *l-s^fu:ra* ‘the picture (F.SG)’)
- (86) ja: s^fu:ra dazze:t {-lha / *-lh} <ja: s^fu:ra>?
which picture.F.SG sent.2.M.SG {-3.F.SG.DAT / *-3.SG.DAT} <which picture.F.SG>
‘Which picture did you send to her?’ (where ‘her’ refers to *Joni*)

Like the PCC effects discussed in the previous section, these spurious *se* style effects have not been investigated in any detail in the context of movement-derived resumption, though the predictions for the various approaches are clear. For spell-out approaches which produce resumptives during exponence, island-sensitive resumptives are not predicted to exhibit spurious *se* style effects (i.e. to behave like clitic pronouns before Vocabulary Insertion in the postsyntax). For Big-DP approaches, on the other hand, island-sensitive resumptive pronouns ought to behave morphologically like all other pronouns.

Problem with spell-out approaches #7: Failure to account for interpretive differences between gaps and movement-derived resumptives

The seventh and final problem for spell-out approaches to be discussed here regards the interpretation of movement-derived resumptives. To reiterate, spell-out approaches hold that resumptives and \bar{A} -bound gaps differ only at PF, as both structurally correspond to a lower copy of the antecedent. Consequently, these approaches do not predict any difference in interpretation between gaps and resumptives. Contrary to expectation, then,

40. However, see the discussion in footnote 29. Spell-out approaches could be made compatible with the morphologically regular behavior of resumptive pronouns if lower copies of movement could be structurally converted into clitic pronouns before impoverishment and Vocabulary Insertion (see e.g. Korsah and Murphy, 2020). Note that analyses which rely on an algorithm like Copy Deletion (e.g. Alexandre, 2012; van Urk, 2018; Hein and Georgi, 2021; Scott, 2021b; Georgi and Amaechi, 2022; Martinović, To appear; Yip and Ahenkorah, To appear) do not, all else being equal, predict that minimizing the lower copy’s structure should generate a clitic, hence still fail to capture the cliticness of some resumptives.

Asudeh (2012) and Manetta (2020) show that (some) resumptive pronouns in Swedish and Romani, respectively, have a more limited range of interpretations than do gaps in the same or similar positions.⁴¹ Asudeh reports three interpretive differences between embedded subject resumptive pronouns and gaps in Swedish: (i) resumptive pronouns in relative clauses and *wh*-questions ameliorate weak crossover effects for at least some speakers, despite the fact that weak crossover is robust with gaps in other positions (2012, 244–245); (ii) resumptive pronouns in *wh*-questions are refractory to pair-list answers, unlike gaps in other positions and in the same positions in a related dialect, suggesting that subject resumptives do not license scope reconstruction (2012, 249–252); and (iii) resumptive pronouns in relative clauses do not license reconstruction for *de dicto* readings for at least some speakers, again in contrast to gaps in other positions and in the same positions in a related dialect (2012, 251–252). Turning to reconstruction in Romani, Manetta reports that only gaps and obligatory resumptive pronouns in relative clauses license reconstruction for *de dicto* readings of the relative head; optional resumptive pronouns ban *de dicto* readings, permitting instead only *de re* readings (2020, 78–80).⁴² These interpretive asymmetries between gaps and (some) resumptive pronouns in Swedish and Romani cannot be explained if gaps and resumptive pronouns are structurally identical, as spell-out approaches posit. Furthermore, given that all other available evidence points to the conclusion that resumption in these languages involves \bar{A} -movement (see chapter 3), we cannot resolve this issue by positing exceptional base-generation of resumptives to account for the differences in interpretation.⁴³ By contrast, we can account for these interpretive differences under the Big-DP approach if the resumptive D within the Big-DP imposes lexical or featural restrictions on the doubled

41. On specificity effects under resumption more broadly, see Bianchi (2011).

42. Manetta reports that obligatory resumptives occur in oblique positions (i.e. not nominative or accusative), while optional resumptives occur in (at least) direct object positions.

43. Moreover, in light of the evidence presented in chapter 6 that resumptive pronouns *do* have access to the same range of interpretations as gaps in Iraqi, Tunisian, and Syrian Arabic, even this analysis would fail to generalize.

element via selection (e.g. selecting for a DP specified as [+specific]), as proposed in previous sections.

Summary

In summary, I have presented seven arguments against spelled-out trace analyses of resumptive pronouns: (i) existing approaches do not satisfactorily explain the Doron–Engdahl–McCloskey Generalization ((64)), nor in particular why the exponent of the partially realized lower copy of a *wh*-operator fails to lexicalize the [wh] feature; (ii) existing approaches do not provide a non-stipulative, PF-driven account of island-sensitive resumptives which alternate with gaps (i.e. optional resumptives); (iii) spell-out approaches do not predict any categorial restrictions on the extractee and resumptive pronoun, though in the majority of reported cases of island-sensitive resumption, both appear to be nominal; (iv) spell-out approaches predict that the *position* of island-sensitive resumptives must be determined at PF, contrary to the available evidence in at least some languages; (v) spell-out approaches predict that resumptive pronouns should behave like non-clitic, non-pronominal DPs for the evaluation of syntactic constraints like the PCC, an unlikely (though as yet unexplored) possibility; (vi) some spell-out approaches predict that resumptive pronouns should behave like non-clitic, non-pronominal DPs with respect to postsyntactic (but pre-insertion) rules like impoverishment, another unlikely (though yet to be investigated) possibility; and (vii) spell-out approaches predict that gaps and island-sensitive resumptive pronouns should have access to the same set of interpretations, again contrary to the available evidence in at least some languages. None of these challenges appears to present a hurdle to a Big-DP-*cum*-stranding approach to island-sensitive resumption, though I must leave a more precise exposition of such an approach to future research.

5.9 Conclusion

In this chapter, I have argued that ‘resumptive pronouns’ in Spanish and Greek \bar{A} -dependencies are profitably analyzed as clitics doubling a moved *wh*-operator. The basis for this argument was the observation that ‘resumptive’ \bar{A} -dependencies in Spanish and Greek simultaneously exhibit the hallmarks of both \bar{A} -movement and clitic doubling. These were: case-matching between the operator and doubling element, parasitic gap licensing, doubling the *wh*-operator in situ without overt displacement, no simultaneous clitic doubling of a *wh*-operator and a strong pronoun, and obviation of expected weak crossover effects. By contrast, resumptive pronouns in Arabic varieties were shown to behave differently in all relevant respects—they behaved as base-generated pronominal elements bound by their operators from an \bar{A} -position. The findings of this chapter support an approach to ‘resumption’ in Spanish and Greek which involves clitic doubling of the *wh*-phrase, followed (in many cases) by \bar{A} -movement. I developed a stranding account of clitic-doubled \bar{A} -movement which launches from a Big-DP structure in line with proposals by Rouveret (1994), Aoun et al. (2001), and Boeckx (2003). The end of the chapter was more speculative in nature. I laid out the strong hypothesis that *all* island-sensitive resumption is derived via stranding from a Big-DP structure. I argued that hitherto unnoticed differences between island-sensitive resumption in Spanish-type languages and Swedish-type languages can plausibly be accounted for by positing differences in the formation of Big-DPs in the two types of language. Finally, I laid out seven important challenges to spelled-out trace analyses of resumption—the obvious alternative to the Big-DP analysis—arguing instead that a Big-DP-*cum*-stranding approach provides a better account where evidence is available. This chapter has thus sketched an important research program for future investigations into island-sensitive resumption—namely, determining whether some or all of the predictions enumerated in section §5.8.2 are borne out.

CHAPTER 6

DIAGNOSING RECONSTRUCTION UNDER RESUMPTION: E-TYPE PRONOUNS AND RECONSTRUCTION WITHOUT MOVEMENT

6.1 Introduction

A naïve theory of base-generated resumptive \bar{A} -dependencies predicts the absence of all connectivity effects under resumption. In this chapter, I argue that this prediction is not borne out: base-generated resumptive *wh*-questions and restrictive relatives in Iraqi, Tunisian, and Syrian Arabic display semantic connectivity by licensing reconstruction for scope and binding phenomena. The Iraqi Arabic examples in (1)–(2) are representative:

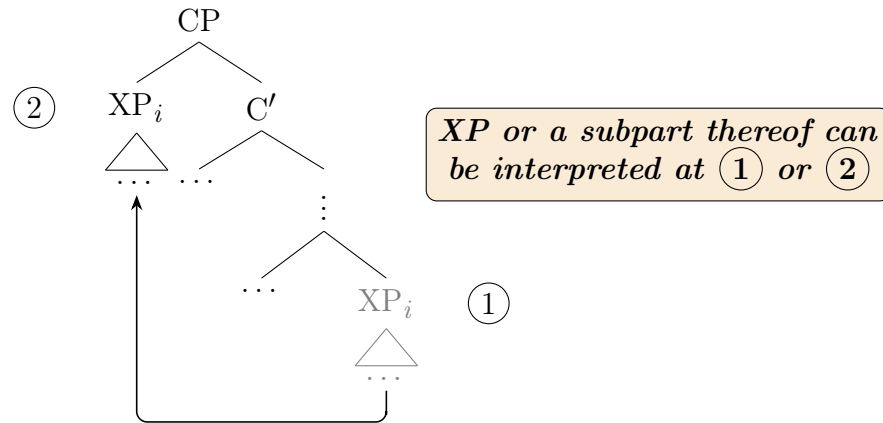
- (1) *Resumptive relative clauses (a) and wh-questions (b) license reconstruction for variable binding in Iraqi*
- a. l-[fatra min ĥaja:t-a_i]_k lli inti mitʔakkida maħħad
the-[period.F.SG from life-his_i]_k that you.F.SG certain.F.SG nobody
jħibb jitðakkar-**ha**_k hijja l-mura:haqa.
likes.3.M.SG remember.3.M.SG-**it.F.SG**_k 3.F.SG the-teenagehood
(lit.) ‘The [period of his_i life]_k that you are certain nobody_i likes to remember
it_k is teenagehood.’
- b. [ja: fatra min ĥaja:t-a_i]_k inti mitʔakkida maħħad jħibb
[which period.F.SG from life-his_i]_k you.F.SG certain.F.SG nobody likes.3.M.SG
jitðakkar-**ha**_k?
remember.3.M.SG-**it.F.SG**_k
(lit.) ‘[Which period of his_i life]_k are you certain that nobody_i likes to re-
member it_k?’
- (2) *Resumptive relative clauses (a) and wh-questions (b) license scope reconstruction with respect to a verb of creation in Iraqi (see Heycock, 1995)*
- a. l-arbaʕ taqa:rir_i lli Noha lazim tiktib-**ha**_i ĥatta taxuð
the-four reports_i that Noha need write.3.F.SG-**it.F.SG**_i in.order take.3.F.SG
tarqijja lazim tku:n ʕan mawa:ð¹_i:ʕi ɖɖirda.
promotion need be.3.F.SG on topics new.F.SG
(lit.) ‘The four reports_i that Noha needs to write them_i in order to get a
promotion need to be on new topics.’ (write > 4)

- b. Q: kam taqrir_i lazim tiktib {-a_i / ?-hum_i} Noha
 how.many report.M.SG_i need write.3.F.SG {-it.M.SG_i / ?-them_i} Noha
 ħatta ta:xuḏ tarqijja?
 in.order take.3.F.SG promotion
 (lit.) ‘How many reports_i does Noha need to write them_i in order to get
 a promotion?’
 (=‘For what *n*, Noha needs to write *n* many reports in order to get a
 promotion?’)
- A: arbaʿ taqarir.
 four reports
 ‘Four reports.’

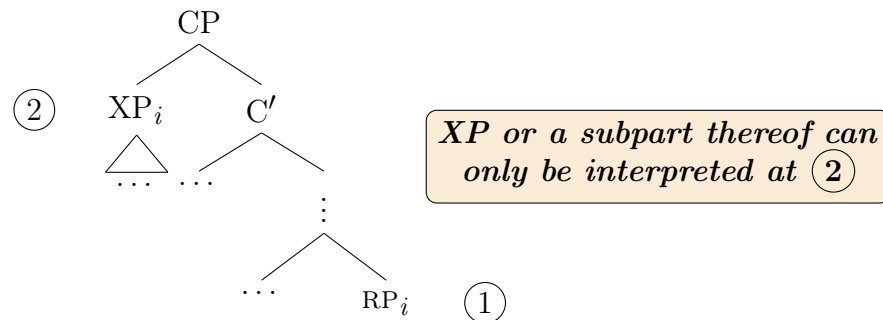
The observation that reconstruction effects can be sanctioned under resumption is not a new one. Many previous authors have made a similar discovery for resumption in non-island contexts in other Arabic varieties (see e.g. Aoun and Benmamoun, 1998; Aoun and Choueiri, 1999; Aoun, 2000; Aoun and Choueiri, 2000; Aoun et al., 2001; Choueiri, 2002; Aoun and Li, 2003; Aoun et al., 2010; Aoun, 2011b; Choueiri, 2017) and in several non-Arabic languages (see e.g. Bianchi, 2004; Sichel, 2014, 2021, 2022; Rasin, 2017; and Panitz, 2018, among many others). The aforementioned authors have taken this finding to indicate that resumptive chains in the relevant languages must be (able to be) formed via \bar{A} -movement, under the assumption that reconstruction is exclusively a property of \bar{A} -movement dependencies (see Chomsky, 1993; Sportiche, 2017a). Reconstruction, under this view, results from interpreting an overtly moved phrase XP, in part or in whole, in XP’s base position or in a position through which XP has moved—a possibility made available by the Copy Theory of Movement (Chomsky, 1993), which posits fully fledged copies of XP in all lower positions in a movement chain, as shown by (3a). On the other hand, this approach predicts that base-generated binding dependencies should never permit reconstruction of an XP base-generated in [Spec, CP] since there will be no copy of XP in the variable site; for instance, in (3b), there is only a resumptive pronoun in the variable site.

- (3) *The movement theory of reconstruction predicts that reconstruction should be licensed in movement-derived, but not base-generated, \bar{A} -dependencies*

- a. *Reconstruction is expected in a movement-derived dependency*



- b. *No reconstruction is expected in a base-generated dependency*

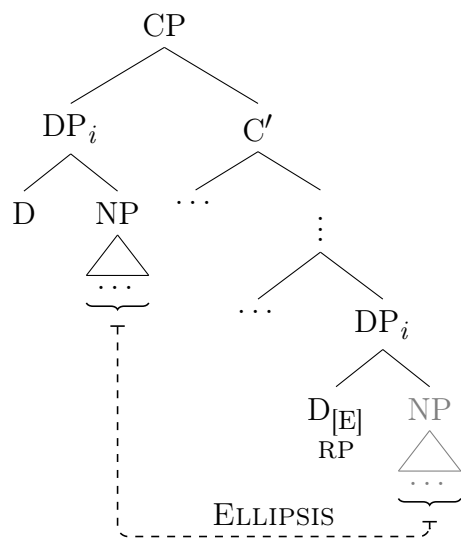


Extending the movement theory of reconstruction to account for reconstruction effects under resumption in Iraqi, Tunisian, and Syrian Arabic, however, gives rise to a contradiction. I argued in chapters 3 and 5 that several independent syntactic diagnostics for movement demonstrate that Arabic only has access to base-generated resumption and not to movement-derived resumption. But, if reconstruction is exclusively a property of \bar{A} -movement dependencies along the lines of (3), then the availability of reconstruction under resumption in Arabic (as shown in (1)–(2)) suggests that some resumptive dependencies in Arabic *are* formed via movement. Thus, the syntactic diagnostics and semantic connectivity effects seem to point towards two opposed analyses of resumption in Arabic.

I consequently reject the hypothesis in (3) that reconstruction is exclusively a property of movement dependencies and I argue instead for a non-movement analysis of reconstruction effects under resumption, building on proposals made by Guillot (2006a, 2008, 2011); Guillot and Malkawi (2006, 2007, 2009, 2011); Malkawi and Guillot (2007); and Malkawi

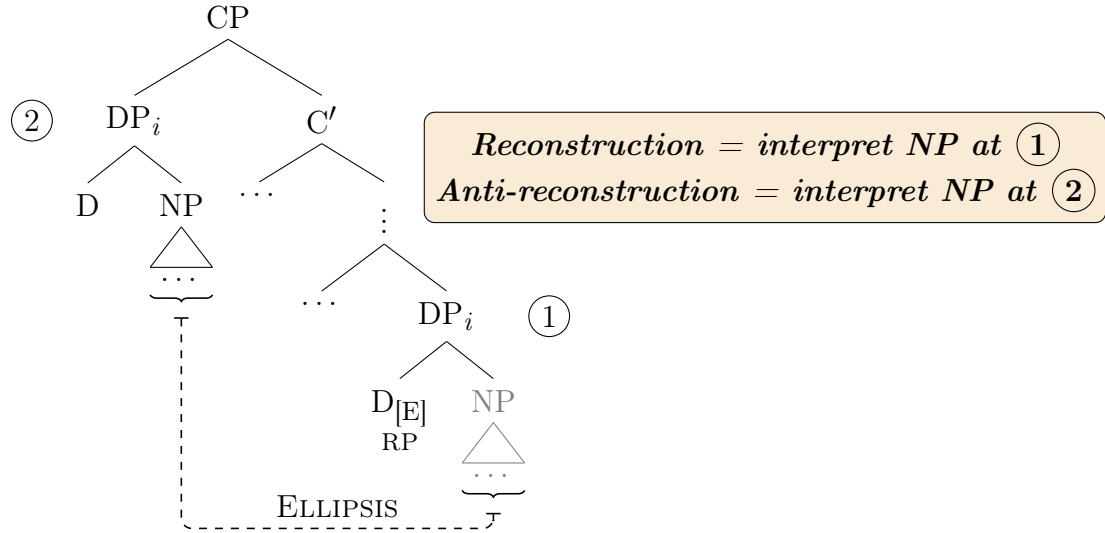
(2009, 2015) for Jordanian Arabic and Colloquial French and by Salzmann (2017b) for Swiss German. I propose that reconstruction in Arabic arises from an articulated representation of resumptives—specifically, resumptive pronouns, like all pronouns (see Elbourne, 2001, 2005, 2008, 2013; and see Postal, 1966 for an important predecessor) are (definite) determiners with elided NP content. The antecedent for ellipsis of the NP complement of the resumptive D is the NP contained inside the resumptive-binding operator. Identity between the two NPs is enforced by the mechanisms that enforce identity in ellipsis in general: ellipsis is licensed by an [E]-feature (see Merchant, 2001; Stigliano, 2022) occurring on pronominal D⁰'s which (i) triggers non-pronunciation of the complement of D and (ii) requires strict syntactic identity between the elided NP and the antecedent NP. Example (4) provides a schematic illustration of the NP-ellipsis theory of resumption (RP = ‘resumptive pronoun’).

(4) *NP-ellipsis theory of resumption*



By positing hidden NP content in the variable site of the \bar{A} -dependency which can be interpreted at LF, we straightforwardly account for the presence of reconstructed readings which require that (some portion of) the operator phrase be interpreted in the variable site:

(5) *NP-ellipsis theory of resumption predicts reconstruction without movement*



My analysis of resumptive NP-ellipsis via an [E]-feature on D^0 is detailed in section §6.2. Whereas previous support for the NP-ellipsis account of pronouns has largely come from semantic connectivity facts, both in the realm of classical E-type anaphora and in resumption, I provide novel evidence in favor of this account coming from morphosyntactic connectivity in grammatical gender and number features: (resumptive) pronouns contain a hidden copy of the nominal content of the antecedent, predicting φ -featural connectivity with their antecedents.

I then adduce three strands of evidence in favor of the NP-ellipsis theory of reconstruction under resumption in (5) and against the strict movement account in (3). First, I demonstrate in section §6.3.1 that there is no reconstruction for Condition C in *wh*-questions and restrictive relatives with clitic resumptive pronouns in Iraqi, Tunisian, or Syrian Arabic. I argue that Condition C anti-connectivity is predicted by the NP-ellipsis account due to the availability of vehicle change under ellipsis. Crucially, the lack of Condition C reconstruction persists even when reconstruction for scope or binding is independently forced (section §6.4), paralleling similar findings for resumption in other languages. In other words, reconstruction under resumption in Iraqi, Tunisian, and Syrian Arabic does not give rise to reconstruction conflicts of the type identified by Heycock (1995); Romero (1998b); Sauerland (1998); and Fox (1999), among others, contrary to what the strict movement theory of reconstruction in

(3) predicts.

Second, I show that reconstruction under resumption does not pattern with constraints on the locality of movement: reconstruction for scope and binding is licensed with in-island resumption (section §6.5), again paralleling similar findings for resumption in other languages. This is despite the fact that (gap-leaving) \bar{A} -movement cannot escape islands in Arabic. Therefore, reconstruction cannot exclusively characterize movement dependencies. Instead, we can account for reconstruction into islands with the NP-ellipsis theory of resumption since ellipsis and base-generated binding are island-insensitive.

Third, I show for the first time (for any language, to my knowledge) that the availability of reconstruction does not pattern with parasitic gap licensing (section §6.6). As I argued extensively in chapter 3.4, parasitic gaps are only licensed by gaps in Arabic \bar{A} -dependencies, not by resumptive pronouns. This asymmetry persists even when reconstruction is independently forced for scope or binding: reconstruction with gaps is compatible with simultaneous parasitic gap licensing, but reconstruction with resumptive pronouns is not. I argue that we can make sense of these facts if parasitic gap licensing, but not reconstruction, unambiguously diagnoses an \bar{A} -movement dependency.

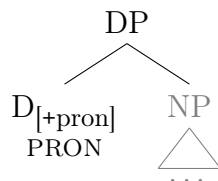
Finally, in a brief excursus at the end of the chapter (section §6.7), I touch on previously reported asymmetries between optional and obligatory resumptive pronouns with respect to reconstruction licensing. Specifically, in many languages, obligatory resumptives (which do not alternate with gaps) license reconstruction, while optional resumptives do not (see especially Bianchi, 2004; Sichel, 2014). This has led many scholars to propose that only obligatory resumptive pronouns can be accompanied by \bar{A} -movement (e.g. Sichel, 2014, 2021, 2022; Rasin, 2017). I proffer two challenges to this general type of approach: (i) optional resumptive pronouns in Arabic (which are base-generated) license reconstruction, as documented throughout this chapter; and (ii) movement-derived resumptives in a number of other languages (e.g. Romani and Swedish) bar reconstruction in at least some cases. This

section paves the way for future work to develop an account of reconstruction asymmetries which does not primarily rely on distinct derivational histories for optional and obligatory resumptives. Section §6.8 concludes.

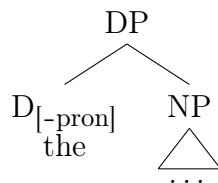
6.2 NP-ellipsis theory of resumption

Reconstruction effects licensed under base-generated resumption, as illustrated in (1)–(2) above, can be accounted for with the NP-ellipsis theory of pronouns (section §6.2.1). This analysis was originally proposed by Elbourne (2001, 2005, 2013) (see Postal, 1966 for an important antecedent) and was extended to resumption by Guillot and Malkawi (e.g. Guillot, 2006a; Guillot and Malkawi, 2006, *et seq.*), Rouveret (2008, 2018), and Salzmänn (2017b). The NP-ellipsis approach holds that pronouns are, underlyingly, structurally identical in relevant respects to full, non-pronominal DPs. Compare the structure in (6) for a pronoun (where non-pronounced material is set in gray text) with that in (7) for a non-pronominal DP; I assume that a feature like $[\pm\text{pron(ominal)}]$, borne by D, is necessary to account for the differing statuses of pronouns and R-expressions with respect to the Binding Theory.

(6) *Structure of a pronoun*



(7) *Structure of a non-pronominal DP*



My account—to be detailed below—goes beyond previous proposals in at least two ways:

1. I propose an explicit account of ellipsis licensing under resumption via an [E]-feature, following a prominent approach in the ellipsis literature (e.g. Merchant, 2001; Stigliano,

2022). 2. I demonstrate in section §6.2.2 that the NP-ellipsis analysis of resumption accounts for connectivity in grammatical φ -features between resumptive pronouns and their binders due to the fact that resumptives contain a hidden copy of the NP content of their antecedents.

6.2.1 NP ellipsis and semantic connectivity

The primary evidence for the NP-ellipsis approach to pronouns outside the realm of resumption comes from the observation that many pronouns have the same interpretations as definite descriptions. For instance, Elbourne points out that the interpretation of the pronoun *it* in (8a)—an E-type pronoun (Evans, 1977, 1980), and more specifically, a donkey pronoun (Geach, 1962; Brasoveanu and Dotlačil, 2021)—is parallel to the interpretation of the definite description *the donkey* in the minimally different example in (8c).¹ The NP-ellipsis theory of pronouns accounts for this parallelism by proposing that *it* is a definite determiner (parallel to *the*) whose NP complement *donkey* has been elided, as in (8b).

- (8) a. Every man who owns a donkey takes care of it.
 b. Every man who owns a donkey takes care of [it ~~donkey~~].
 c. Every man who owns a donkey takes care of [the donkey].

(8b) and (8c) are thus virtually structurally identical under the assumption that pronouns are (a subset of) definite determiners, perhaps only differentiated by the value of the feature $[\pm\text{pron}]$ and the presence vs. absence of an $[\text{E}]$ -feature triggering ellipsis of NP. To account for their matching interpretations, pronouns are claimed to have the same meaning as definite articles, abstracting away from the semantic contribution of φ -features (see Elbourne, 2001, 243; 2005, 135–136, esp. (155)–(156); 2013, 193, (4)):

- (9) $\llbracket \text{it} \rrbracket$ in (8b) = $\llbracket \text{the} \rrbracket$ in (8c)

1. Henceforth, I will often use the label “E-type” when referring to any pronoun with elided NP content. I do not attempt to differentiate between the various subtypes of E-type anaphora which have been identified in the literature (e.g. donkey pronouns, paycheck pronouns, and pronouns of laziness; see Nouwen, 2021 for an overview).

This approach can be extended to account for covariation in the apparent absence of c-command, as in paycheck sentences (Karttunen, 1969; Cooper, 1979). For instance, the E-type pronoun *them* in (10a) can be interpreted with a bound reading roughly as *her glasses* (cf. (10c)), despite the fact that there is no overt variable *her* c-commanded by the quantifier *every other woman* in (10a). The NP-ellipsis theory of pronouns accounts for this covariation by positing hidden descriptive content in the elided complement of the pronoun *them qua* determiner which crucially contains the variable *her*. This variable can then be bound under c-command by *every other woman* ((10b)). Note that it must be assumed that a prenominal possessor D(P) in the antecedent (e.g. *her*) can be matched by an NP internal possessor (see Elbourne, 2001, 273–274 for discussion).

- (10) a. Hilary put her glasses on the counter, but every other woman put them in the drawer.
 b. Hilary put her glasses on the counter, but every other woman_{*i*} put [them ~~glasses of her_{*i*}~~] in the drawer.
 c. Hilary put her glasses on the counter, but every other woman_{*i*} put her_{*i*} glasses in the drawer.

I follow Elbourne (2005, 2013) in claiming that all pronouns have hidden descriptive content. Resumptive pronouns, being pronouns, must also have hidden descriptive content. I propose that NP-ellipsis is licensed by an [E]-feature (Merchant, 2001) on D_[+pron] which I dub [E^{pron}]. Following Merchant, I propose that [E^{pron}] has a phonology and a syntax, as shown in (11). On the semantics of [E]-features, see Merchant (2001).

(11) **NP-ellipsis [E^{pron}]-feature in Arabic**

- a. **Phonology:** [E^{pron}] forces the complement of the head that bears it (in this case, D) to go unpronounced.²
 b. **Syntax:** [E^{pron}] may occur on a head X of category D iff X is [+pronominal].³

2. See Stigliano (2022, 22ff.) for an account of non-pronunciation under ellipsis as the featurally-triggered non-insertion of exponents at PF, following earlier proposals by Saab (2008); Aelbrecht (2010); Murphy (2016); and Saab and Lipták (2016).

3. Alternatively, the restricted distribution of [E^{pron}] could be derived via *selectional* features as proposed by Aelbrecht (2010, esp. 95) (who attributes the idea to Jason Merchant, *pers. comm.*) and developed by Stigliano (2022, esp. 141–142). Under that analysis, [E^{pron}] would bear the selectional feature [SEL: D_[+pron]].

This raises the important question of how the antecedent for NP-ellipsis under resumption is determined—a question which has to my knowledge not been explicitly acknowledged or addressed in the previous literature. Establishing this link is important because the generalization in (12) appears to be largely exceptionless:⁴

- (12) Resumptive pronouns always identify the operators which bind them as their antecedents for NP-ellipsis.

4. I am aware of two types of exceptions to this generalization. The first comes from resumptive pronouns which only partially overlap in reference with their antecedents; see Salzmann (2017b, 448, (166c)) for an example of a resumptive whose referent properly contains that of its antecedent (which is the head noun in a relative clause). Anticipating the discussion which immediately follows in the main text, note that a potentially related puzzle arises in the context of gapped relative clause extraction: relative operators may have split antecedents (Perlmutter and Ross, 1970), as in (i).

- (i) Mary met [a man] and John met [a woman] [who know each other well]. (Salzmann, 2017b, 175, fn. 135, (i))

Salzmann (2017b, 175, fn. 35; 291–292, fn. 43) suggests that these sorts of mismatches can be accommodated by the NP-ellipsis theory of resumption and by a particular version of the matching analysis of relative clauses (one which involves obligatory NP-ellipsis of the complement of the relative operator) since, as discussed by Elbourne (2001, 276–281), E-type pronouns and various species of ellipsis (e.g. VP-ellipsis and NP-ellipsis) permit split antecedents.

The second type of apparent exception to (12) comes from resumptive pronouns in restrictive relative clauses which do not match the φ -features of the head of the relative clause, but rather match those of another nominal in the clause. In all the cases I am familiar with, the nominal antecedent of the resumptive is the subject of a copular or verbless clause whose predicate nominal is the DP containing the relative clause; consequently, the DP headed by the external head (and containing the resumptive relative CP) is predicated of the antecedent of the resumptive. The following examples are representative:

- (ii) ?e:na l-təlmi:ð elli qaddamt-**nī** li:-ha.
1.SG the-student.M.SG that introduced.2.SG-**me** to-her
(lit.) ‘I am the student that you introduced me to her.’ (Tunisian)
- (iii) Is sinne an bheirt ghasúr a-r dhíol tú **ár** lóistín.
COP.PRES we the two boy C-PAST paid you **our** lodging
(lit.) ‘We are the two boys that you paid our lodging.’ (Irish; McCloskey, 2002, 193, (20b))
- (iv) h^a-lō? ?ānōkī ?^atōn-^akā ?^ašer rākabtā ?āl-**ay?**
Q-NEG 1.SG donkey.3.F.SG-your that rode.2.M.SG on-**1.SG**
(lit.) ‘Am I not your donkey that you have ridden on me?’ (Biblical Hebrew, Numbers 22.30; Hewett, 2019, 80, (200))

I cannot offer a robust account of these facts at the moment, though one wonders whether the null relative operator (which I have argued is the antecedent of resumptive NP-ellipsis) might be able to inherit the features of the subject of the matrix predication, thereby predicting the apparent mismatch. In other words, it may be the case that the (null) relative, resumptive binding operator is a true indexical bearing 1st/2nd person features. This issue is also fundamentally related to the question whether resumptive pronouns are only (or perhaps most locally) bound by an \bar{A} -operator, or whether binding by the ultimate antecedent (see Safir’s 1986 “R-binding”) is either necessary or sufficient (see also McCloskey, 1990).

Unfortunately, I cannot provide a detailed explanation of this fact at present; instead, I will simply stipulate (12), pending future work.⁵

Note, as an aside, that (12) is highly reminiscent of a similar puzzle facing the matching analysis of relative clauses proposed by Sauerland (1998, 2003); Citko (2001); and Salzmann (2017b, 2019), among others.⁶ According to the matching analysis, relative clauses do not involve extraction out of the relative clause (contra head raising/promotion analyses such as Schachter, 1973; Vergnaud, 1974; Kayne, 1994; Bianchi, 1999; Bhatt, 2002; and de Vries, 2002, among many others) but rather involve movement of a relative operator distinct from the relative head to the left periphery of the relative CP (and no further). Unlike pure head-external approaches to relative clauses, which do not posit any representation of the relative head internal to the relative CP (see, e.g., Chomsky, 1977), the matching analysis holds that relative operators/pronouns are determiners whose NP complements are deleted under identity with the external head. A matching analysis of (13a) is given in (13b) (where I abstract away from representing verbal head movement); I also take relative CPs to be adjuncts to NP.⁷

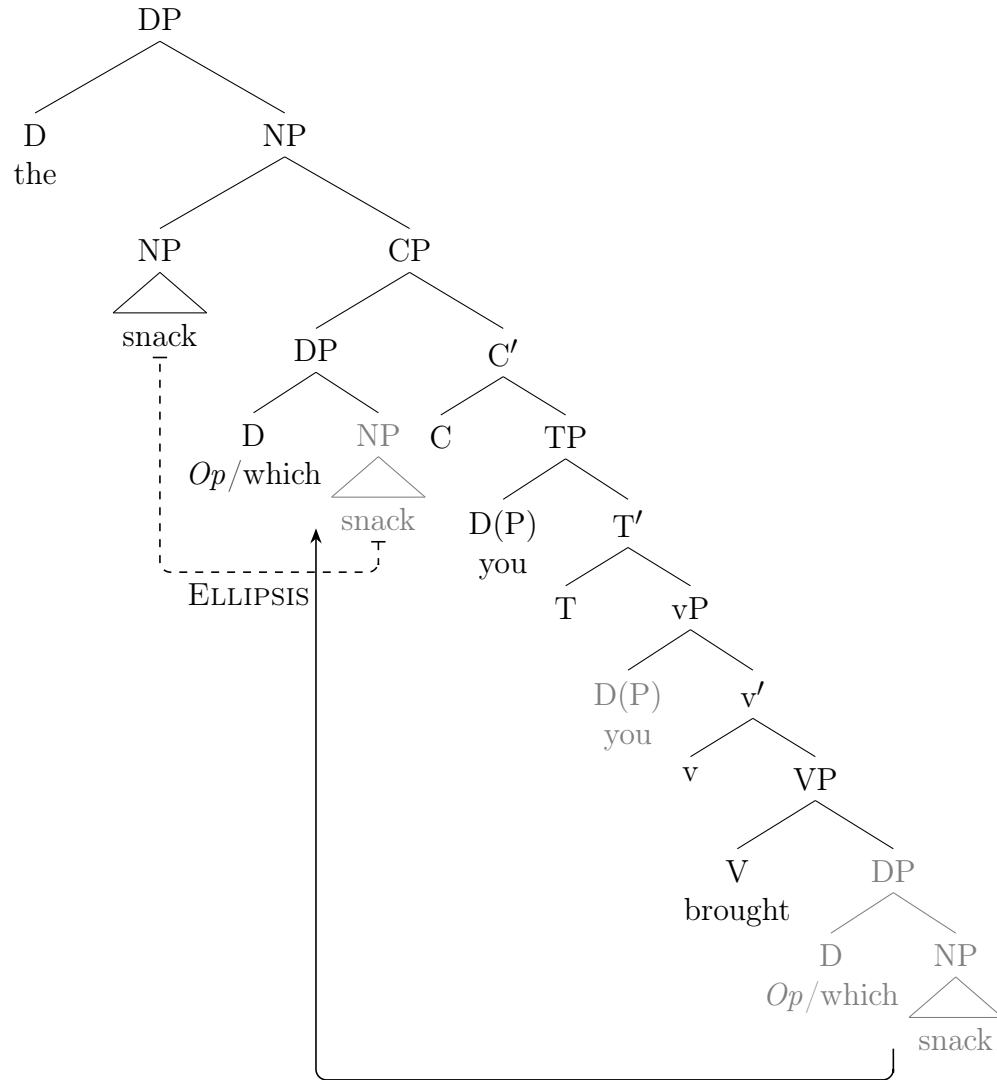
(13) *A matching analysis of relative clauses*

- a. I love the snack {*Op*/which} you brought.
- b. I love ...

5. A potential avenue forward might build on the proposal in section §7.6.3 that indices and variables are structurally represented within DP. If these indices/variables are included in the NP-ellipsis site under resumption ((12)) and if vacuous \bar{A} -binding is not permitted (Heim and Kratzer, 1998, 126–128), then the strict syntactic identity requirements of ellipsis will force the antecedent of NP-ellipsis to be the resumptive-binding operator. If the antecedent of NP-ellipsis were not the NP complement of the \bar{A} -operator, the indices of the operator and the pronoun generated by NP-ellipsis would not obligatorily match and (assuming that there is no meaningless coindexing, see Heim, 1997, 202, (24)) the pronoun would not be \bar{A} -bound (i.e. it would not be resumptive). However, because I have not yet explored all the implications of such an analysis, I must leave it aside for the remainder of the thesis.

6. The matching analysis has its roots in proposals by Lees (1960, 1961) and Chomsky (1965).

7. See Salzmann (2017b, 46ff.) for a critical assessment of complementation versus adjunction analyses of relative clauses.



Identity between the external head and the relative-internal NP is enforced by a stipulation of the deletion mechanism. Sauerland suggests the constraint in (14), the last clause of which is tantalizingly similar to the problem of identifying the antecedent for resumptive NP-ellipsis in (12):

- (14) **Relative deletion:** In matching relatives, the internal head must not be pronounced. Furthermore, the external head must be the antecedent of the internal head. (Sauerland, 2003, 221, (46))

I leave it to future research to determine whether there is a unified solution to the problem of establishing antecedence in both relative deletion and NP-ellipsis in resumption.

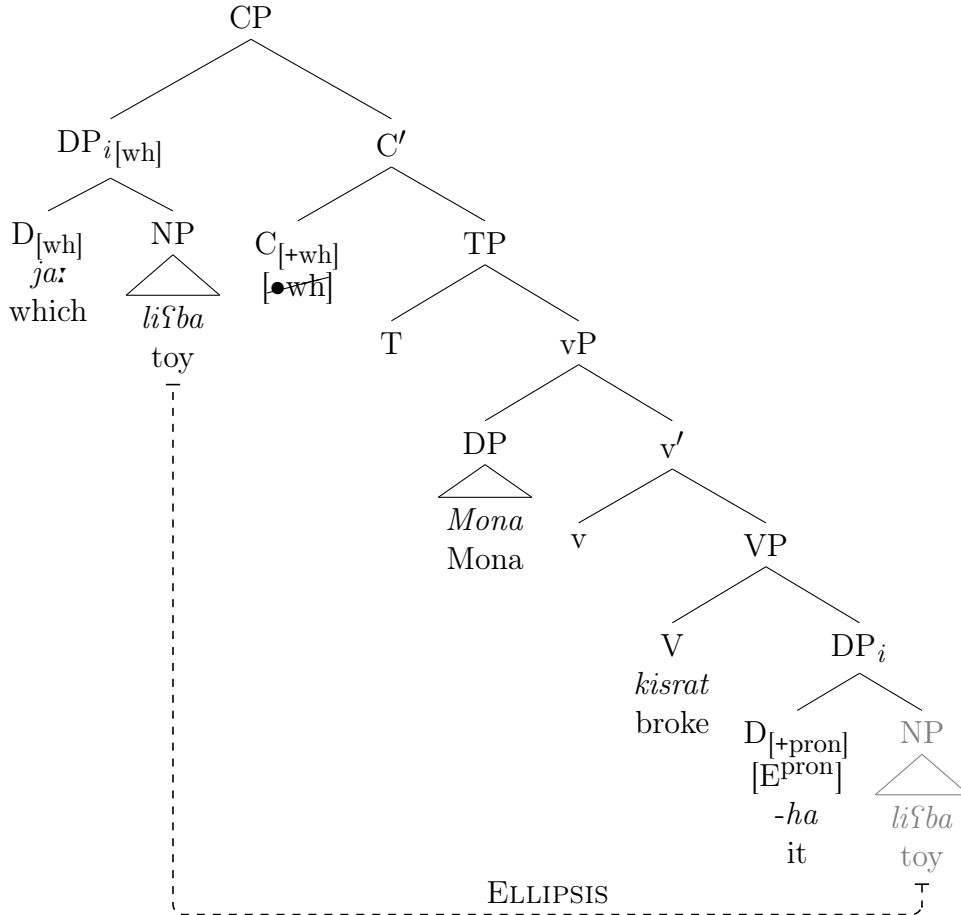
We are now in a position to see how the NP-ellipsis theory of resumption works. Consider

first the Iraqi Arabic resumptive *wh*-question in (15):

- (15) *ja:* *liʕba_i* *kisrat-ha_i* *Mona b-l-ħadi:qa?*
 which toy.F.SG_i broke.3.F.SG-it.F.SG_i Mona in-the-park
 (lit.) ‘Which toy_i did Mona break it_i in the park?’

Under the NP-ellipsis analysis of resumption, the resumptive pronoun *-ha* ‘it’ is a D_[+pron] head with an NP complement *liʕba* ‘toy.’ This resumptive DP is externally merged as the internal argument of the V *kisrat* ‘broke.’ It is bound by the operator *ja: liʕba* ‘which toy,’ which is base-generated in the matrix [Spec, CP] position to satisfy the [\bullet wh] feature on C_[+wh] (see section §3.2). The NP complement of the resumptive determiner *-ha* ‘her’ is then elided under identity with the NP complement of the operator’s determiner *ja:* ‘which’ in accordance with (12); this ellipsis is licensed by the [E^{pron}] feature on the resumptive D_[+pron]. Example (16) illustrates how the resumptive pronoun in (15) is derived through NP-ellipsis; I abstract away from orthogonal details of the derivation such as head movement of the verb to a high position, subject movement to [Spec, TP] (on the preferred V-S order in (15), see section §3.5.2), and the position of the locative adjunct *b-l-ħadi:qa* ‘in the park,’ which I omit from the tree.

(16)



Next, consider the derivation of a resumptive relative clause as in (17):

- (17) l-liʕba_i lli Mona kisrat-**ha**_i b-l-ħadi:qa
 the-toy.F.SG_i that Mona broke.3.F.SG-**it.F.SG**_i in-the-park
 (lit.) ‘the toy_i that Mona broke it_i in the park’ (Iraqi)

I propose that resumptive relative clauses in Iraqi, Tunisian, and Syrian Arabic only have access to a matching structure (*pace* Aoun, 2000, 37ff.; Choueiri, 2002, ch. 4; Aoun and Li, 2003, 126–129; Darrow, 2003; and Sichel, 2014, 664–665, who discuss Lebanese and Syrian Arabic).⁸ Following Salzmann (2017b, 2019), I claim that the relative-internal operator *Op* (which is null in Arabic) takes an NP complement which is elided under identity with the

8. In particular, I intend this claim to cover relative clauses with weak/clitic resumptive elements. I leave it as an open question whether the matching analysis should be extended to relatives with non-clitic resumptive elements. See Malkawi (2009, ch. 5, esp. 197–199) for arguments that relative clauses with strong (i.e. non-clitic pronominal or epithetic) resumptive elements in non-island contexts in Jordanian Arabic are derived via head-raising à la Vergnaud (1974), Kayne (1994), and Bianchi (1999).

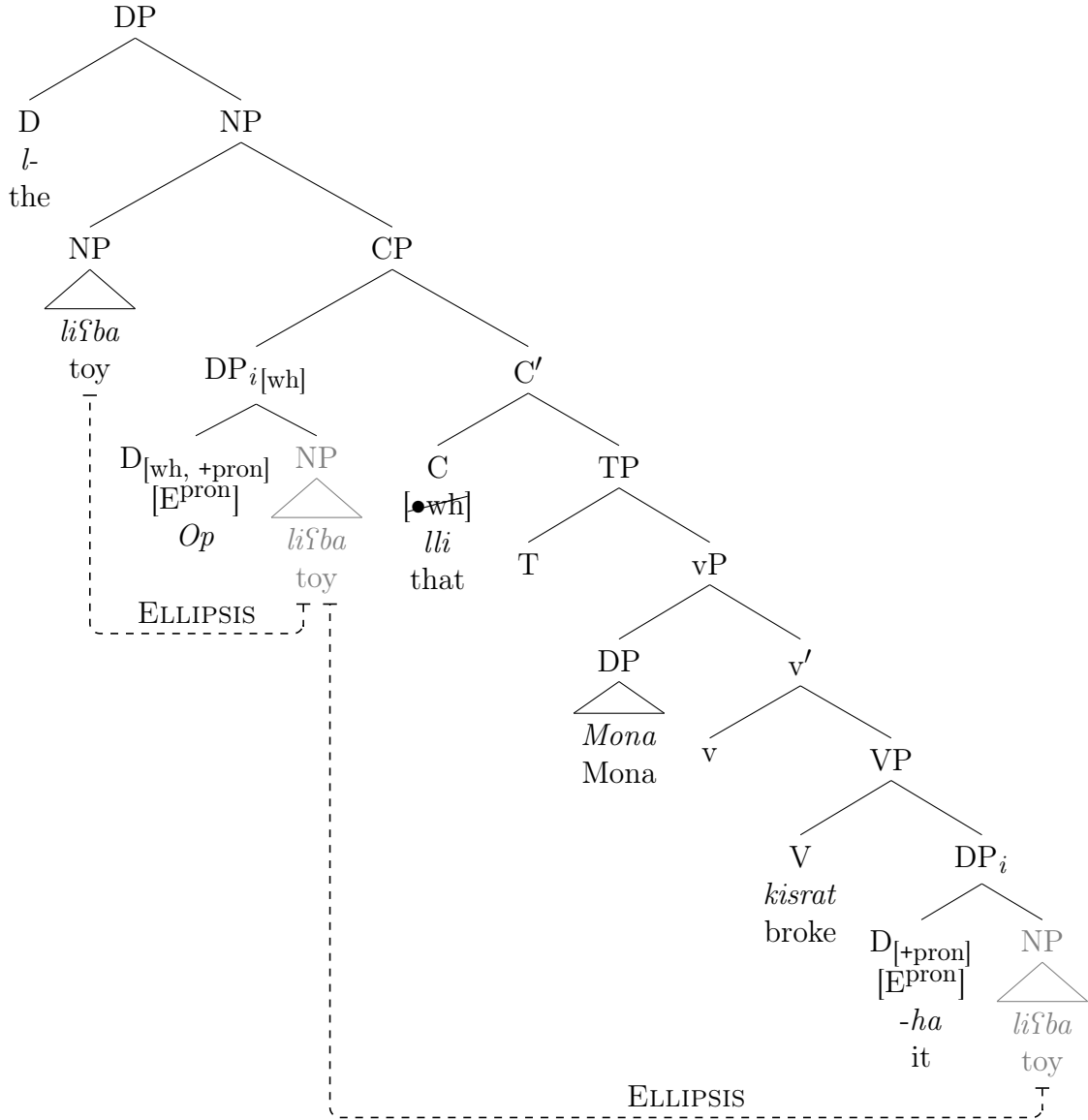
external head (cf. Sauerland’s *relative deletion*, (14)). Like NP-ellipsis with (resumptive) pronouns, I propose that NP-ellipsis of *Op*’s complement is licensed by an $[E^{pron}]$ feature on *Op*. Given that $[E^{pron}]$ can only occur on $D_{[+pron]}$ heads per (11b), *Op* must be a species of $D_{[+pron]}$.⁹ Thus, there are two separate ellipsis operations that apply in Arabic resumptive relatives: one deleting the NP complement of the resumptive under identity with that of the relative operator, and one deleting the NP complement of the relative operator under identity with the external head (see also Salzmann, 2017b, 441–443). As with *wh*-questions, resumption involves base-generation of an operator phrase bearing a $[wh]$ ¹⁰ feature in $[Spec, CP]$ to satisfy a $[\bullet wh]$ feature on C; from this position, the operator binds a resumptive pronoun base-generated in the variable site. Example (18) illustrates my analysis of (17).¹¹

9. A similar conclusion, based on different data, was reached by McCloskey (2002), who suggests that null operators are *pro* (and see Browning, 1987 for an important predecessor).

10. For simplicity, I do not distinguish between various types of \bar{A} -features, e.g. $[(\bullet)wh]$, $[(\bullet)rel]$, etc.

11. An alternative would be to develop the head external analysis of relative clauses (see e.g. Montague, 1973; Partee, 1975; Chomsky, 1977; Jackendoff, 1977) for base-generated resumptive relatives in Arabic. Under the classical head external approach, there is only a simplex operator *Op* in the highest specifier of relative CPs. I do not pursue such an analysis for two reasons: 1. The antecedent for resumptive NP ellipsis (i.e. the relative head) would be necessarily distinct from the \bar{A} -binder (i.e. the null *Op* in $[Spec, CP]$), breaking the parallelism between my analysis for resumptive *wh*-questions and resumptive relative clauses in Arabic. 2. Salzmann (2019) argues that the head external analysis of relative clauses fails to account for reconstruction effects in *gapped* relative clauses involving movement in languages like English, opting instead for a matching analysis. If we accept Salzmann’s arguments against a head external analysis of gapped relatives, then pursuing a head external analysis of resumptive relatives would leave us with a non-unified analysis of relative clauses.

(18)



Beginning with section §6.3, I will present evidence that resumptive \bar{A} -dependencies license reconstruction in Iraqi, Tunisian, and Syrian Arabic and I will argue that the NP-ellipsis theory of resumption provides a better account of the reconstruction facts than does the strict movement theory of reconstruction in (3). Before doing so, however, I will adduce a novel argument in favor of the NP-ellipsis approach to pronouns based on grammatical φ -feature connectivity.

6.2.2 NP ellipsis and φ -feature connectivity

Although the NP-ellipsis theory of (resumptive) pronouns has primarily been supported by semantic connectivity facts in the previous literature, semantic connectivity has also been argued to be achievable through higher-type readings. For instance, Cresti (1995); Rullmann (1995); Sharvit (1997, 1998, 1999b,c); Lechner (1998); and Sternefeld (2001a) argue that reconstruction effects in gapped \bar{A} -dependencies can be derived through the use of higher-type traces (and see Lechner, 2013, 2019; Ruys, 2015; Poole, 2017, 2022a; and Keine and Poole, 2018 for additional proposals along these lines). For instance, scope reconstruction can be achieved by assigning a type $\langle\langle e, t \rangle, t\rangle$ interpretation to the \bar{A} -trace (Cresti, 1995; Rullmann, 1995; Lechner, 1998), while functional readings can be achieved with an \bar{A} -trace of type $\langle e, e \rangle$ (Sharvit, 1999b,c; see Jacobson, 1998 for a related idea in variable-free semantics). If (resumptive) pronouns also have access to higher-type meanings, then it may be that semantic connectivity in both E-type anaphora and in resumption could be derived without NP ellipsis, contrary to what I argued above.¹²

However, we can provide an additional, independent argument in favor of the NP-ellipsis theory of (resumptive) pronouns—namely, connectivity in (potentially arbitrary) φ -features which cannot be analyzed simply in terms of ‘semantic agreement.’ Consider first the E-type pronoun *them* in (19), repeated from (10b).

- (19) Hilary put her glasses on the counter, but every other woman_{*i*} put [them glasses of her_{*i*}] in the drawer.

12. Some authors refer to the use of higher-type traces to derive reconstruction as *semantic reconstruction*, in contrast to approaches invoking *syntactic reconstruction* (see, e.g., Romero, 1997, 1998a,b; Sauerland, 1998; Fox, 1999, 2000; and see Heycock, 1995 for an important predecessor), which derive reconstruction effects solely through the compositional interpretation of syntactic representations generated using the Copy Theory of Movement.

Arad (2014, chs. 4–5) takes advantage of both syntactic and semantic reconstruction in her analysis of Hebrew resumptive relative clauses. In order to account for differences in the availability of reconstruction with optional and obligatory resumptive pronouns (on which see also Doron, 1982; Sharvit, 1999c; Sichel, 2014, 2021, 2022; and Rasin, 2017), Arad proposes that the grammar has two distinct methods for yielding reconstruction effects and that these two methods compete, with syntactic reconstruction being preferred over semantic reconstruction where both are possible (Arad, 2014, ch. 4).

By positing a representation of the noun *glasses* in the elided complement of the pronoun *them* in (19), we correctly account for arbitrary number connectivity between the pronoun and its antecedent, which in this case is a *plurale tantum* noun. This connectivity is obligatory: compare (19) with (20).

(20) * Hilary put her glasses on the counter, but every other woman put it in the drawer.

NP ellipsis straightforwardly derives connectivity with grammatical (i.e. semantically otiose) φ -features from the syntactic representation.

Similar arguments can be made for resumptive pronouns: the Iraqi resumptive *-ha* ‘it (F.SG)’ in (21) and (22) (repeated and slightly modified from (15) and (17), respectively) bears grammatical feminine gender features, matching its antecedent *liʕba* ‘toy (F.SG)’, because there is an elided representation of *liʕba* ‘toy (F.SG)’ in the complement of the pronoun.

(21) ja: liʕba_i kisrat-[**ha**_i [liʕba]] Mona b-l-ħadi:qa?
 which toy.F.SG_i broke.3.F.SG-[**it.F.SG**_i [tɔy.F.SG]] Mona in-the-park
 (lit.) ‘Which toy_i did Mona break [it_i [tɔy]] in the park?’ (Iraqi)

(22) l-liʕba_i lli Mona kisrat-[**ha**_i [liʕba]] b-l-ħadi:qa
 the-toy.F.SG_i that Mona broke.3.F.SG-[**it.F.SG**_i [tɔy.F.SG]] in-the-park
 (lit.) ‘the toy_i that Mona broke [it_i [tɔy]] in the park’ (Iraqi)

In fact, nothing more needs to be said to account for *all* instances of φ -feature connectivity between pronouns and their antecedents if all pronouns involve NP ellipsis à la Elbourne (2005, 2013).¹³

13. I do not adopt the proposal in Guillot (2006a); Guillot and Malkawi (2006, 2007); Malkawi and Guillot (2007); Rouveret (2008); Malkawi (2009); and Pan (2016) that pronouns *qua* definite determiners are ambiguous between an extended structure identical to definite descriptions (e.g. ‘[the/it [NP]]’) and a truncated structure lacking NP which is also often proposed to include an individual variable—the index *i* (e.g. ‘[the/it *i*]’). Guillot and Malkawi attribute the idea that pronouns are structurally ambiguous to Elbourne (2001). These authors utilize the extended structure to account for E-type readings of pronouns and for reconstruction effects under resumption, while the truncated structure is claimed to account for the absence of Condition C reconstruction under resumption in Jordanian Arabic, Literary Welsh, and Mandarin Chinese. I reject the structural ambiguity analysis for two reasons. First, because the truncated structure lacks a representation of the antecedent NP, we do not expect pronouns with this structure to exhibit connectivity for non-semantically motivated φ -features (e.g. grammatical gender and number). The structural ambiguity account therefore predicts that putatively non-E-type pronouns (e.g. resumptives blocking Condition C reconstruction) should display φ -feature mismatches. This is not borne out empirically: whether Condition

Since NP ellipsis is independently needed to account for arbitrary φ -feature connectivity between pronouns and their antecedents, I will pursue an NP-ellipsis account of semantic connectivity under resumption as outlined in section §6.2.1. This does not rule out a higher-type account of reconstruction effects; indeed, such an analysis may well be necessary to account for the lack of reconstruction conflicts in resumptive *wh*-questions in Arabic and in \bar{A} -dependencies in many other languages (see section §6.4). However, in pursuit of the simplest analysis of reconstruction, I will focus on the NP-ellipsis analysis and set aside semantic reconstruction for future research.

6.3 Reconstruction under resumption in Iraqi, Tunisian, and Syrian Arabic

Reconstruction involves interpreting an overtly displaced XP, in part or in whole, in a position in the chain which is asymmetrically c-commanded by the position where XP is realized. The position to which XP reconstructs is normally taken to be a position which XP has moved from (see e.g. Lebeaux, 1988, 1991; Chomsky, 1993, 34–43; Bianchi, 1999; Aoun and Li,

C reconstruction is ((i)) or is not ((ii)) at stake has no effect on the φ -features realized by the resumptive pronoun. In both cases, the resumptive obligatorily matches its antecedent in grammatical gender.

- (i) Layla_i ga:lat-lna [ja: manħo:ta li-Nour_j]_k titwaqqaʕim innu pro_j fa:fat
 Layla_i told.3.F.SG-1.PL.DAT [which sculpture.F.SG to-Nour_j]_k suspect.2.F.SG that saw.3.F.SG
 {-ha_k / *-a_k} b-l-maʕrað^ʕ.
 {-it.F.SG_k / *-it.M.SG_k} in-the-exhibit
 (lit.) ‘Layla_i told us [which sculpture of Nour_j]_k you suspect that she_j saw {it_k (F.SG) / *it_k (M.SG)} at the exhibit.’ (Iraqi)
- (ii) Layla_i ga:lat-lna [ja: manħo:ta li-Nour_j]_k titwaqqaʕim innu pro_i fa:fat
 Layla_i told.3.F.SG-1.PL.DAT [which sculpture.F.SG to-Nour_j]_k suspect.2.F.SG that saw.3.F.SG
 {-ha_k / *-a_k} b-l-maʕrað^ʕ.
 {-it.F.SG_k / *-it.M.SG_k} in-the-exhibit
 (lit.) ‘Layla_i told us [which sculpture of Nour_j]_k you suspect that she_i saw {it_k (F.SG) / *it_k (M.SG)} at the exhibit.’ (Iraqi)

My second reason for rejecting the structural ambiguity account is that it cannot explain the absence of Condition C effects under resumption in Iraqi Arabic when reconstruction is independently required for scope or for variable binding. See section §6.4 for more details.

2003, 2; Sportiche, 2017a, 2018, 310; Schenner, 2019, 6, (19)), though I will conclude that movement is not criterial for reconstruction (see also Barss, 1986, 17, esp. fn. 1, Cinque, 1990, esp. 59, 95, Bianchi, 2011, 340–342). I provide a more formal definition for reconstruction in (23):

- (23) **Reconstruction:** Given an expression E , a chain C with links c_1, c_2, \dots, c_n in a phrase marker P , and an interpretive principle R , E displays a *reconstruction effect* with respect to R iff there are c_i and c_k , such that ...
- a. E is phonologically realized at or within c_k ,
 - b. E is visible to R at or within c_i but not at or within c_k , and
 - c. c_k asymmetrically c-commands c_i .

In this section, I report novel data showing that resumptive *wh*-questions and restrictive relative clauses license reconstruction for scope and binding in Iraqi, Tunisian, and Syrian Arabic. This finding parallels what has been reported for other Arabic varieties, including Lebanese (Aoun and Benmamoun, 1998; Aoun, 2000; Aoun et al., 2001; Choueiri, 2002; Aoun and Li, 2003) and Jordanian (Guilliot, 2006a, 2008, 2011; Guilliot and Malkawi, 2006, 2007, 2009, 2011; Malkawi and Guilliot, 2007; Malkawi, 2009), and for a number of other languages which employ resumption. Crucially, Condition C effects are absent under resumption, demonstrating that reconstruction effects do not all pattern together. My findings are summarized in the following table:

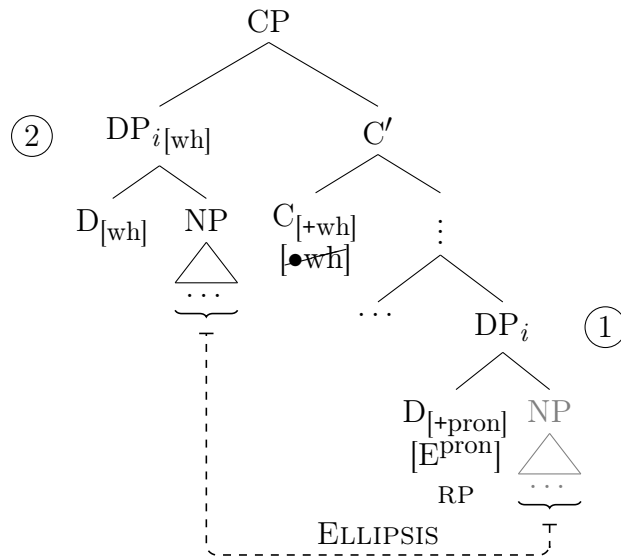
- (24) *Summary of reconstruction effects in Iraqi, Tunisian, and Syrian \bar{A} -dependencies*

	... with gaps?	... with resumptives?
Is reconstruction for variable binding licensed...	Yes	Yes
Is reconstruction for scope licensed...	Yes	Yes
Is reconstruction for Condition C forced...	Sometimes	No

I argue that the NP-ellipsis account of reconstruction under resumption accounts for this array of facts without invoking \bar{A} -movement in Arabic resumptive dependencies. Recon-

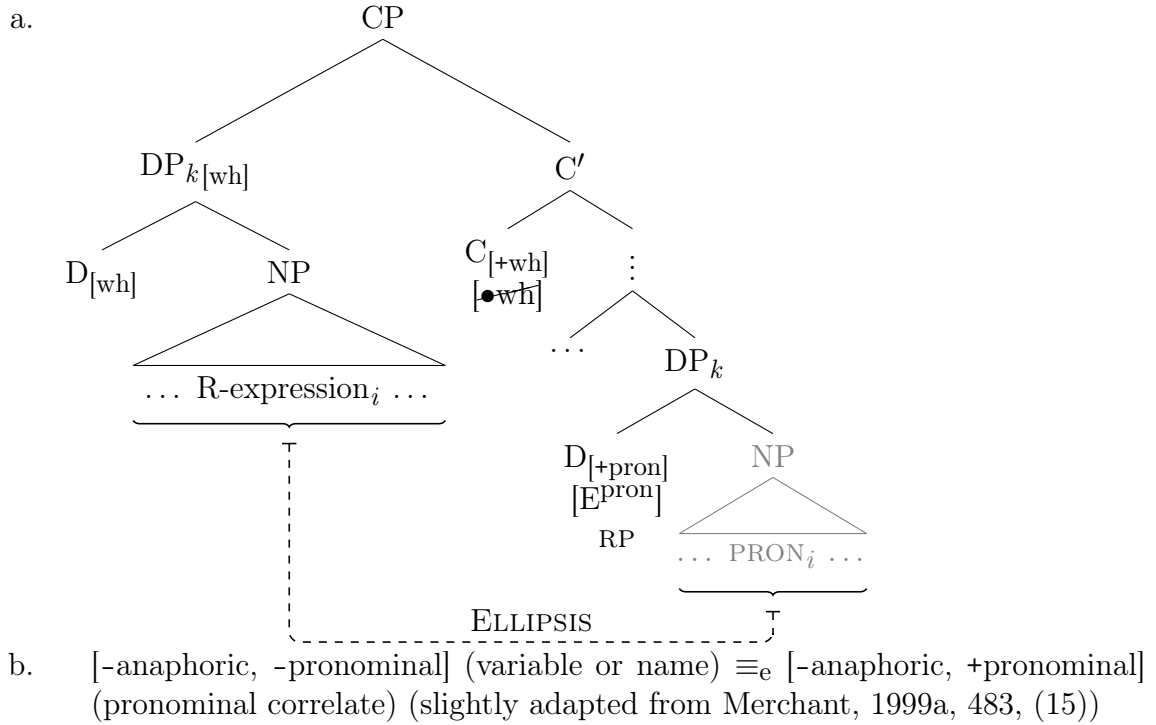
struction for scope and binding is licensed by interpreting the elided NP complement of the resumptive pronoun, which is located in the variable site of the \bar{A} -dependency. See just below on why the NP restriction of the operator can go uninterpreted.

- (25) *NP-ellipsis account of reconstruction under resumption*: interpret NP at ① and not at ②



The absence of Condition C effects under resumption is accounted for by the general availability of *vehicle change* under ellipsis (Fiengo and May, 1994). Specifically, an R-expression correlate in the antecedent (i.e. the external head) can match a pronoun bearing identical φ -features in the elided NP complement of the resumptive pronoun (Fiengo and May, 1994, 218ff.), despite the lack of strict syntactic identity between the two. I adopt Merchant’s (1999a) formulation of this equivalence class, reproduced in (26b), where \equiv_e is to be read ‘forms an equivalence class under ellipsis with.’

- (26) *NP-ellipsis account of Condition C obviation under resumption*: R-expressions contained in the antecedent’s NP are equivalent to pronouns in the NP complement of the resumptive under ellipsis



Now, it is not enough to simply say that the lower, elided NP can be interpreted to account for reconstruction effects under base-generation. We must also ensure that the NP restriction of the operator can fail to be interpreted in case it contains material which is not licensed or cannot be interpreted in that position. For instance, pronominal variables contained in the NP restriction of the operator would be interpreted as free outside the c-command domain of a coindexed quantifier contained in C' .¹⁴ Furthermore, elements within the *wh*-phrase would necessarily take high scope with respect to other scope-taking elements in C' , precluding scope reconstruction. To address this issue, I propose the following principle of LF interpretation of \bar{A} -chains which allows certain material to be deleted at LF:

- (27) **Principle of LF interpretation of \bar{A} -chains**
 NP restrictions in \bar{A} -chains can be deleted at LF up to recoverability and up to interpretability.

A brief note on (27) is in order: I assume that \bar{A} -operators must form chains (called \bar{A} -chains) with \bar{A} -variables, the latter defined as in (28) (for similar definitions, see Koopman

14. Bhatt (2002, 52) notes a similar issue facing the matching analysis of relative clauses.

and Sportiche, 1982, 147, (21); Safir, 1996, 317, (10); and McCloskey, 1990, 199–200).

- (28) *Definition of an \bar{A} -variable*
 α is an \bar{A} -variable iff the (most local) binder of α occupies an \bar{A} -position.¹⁵

Crucially, operator–variable chains can be established representationally through base-generated binding as well as through movement (see Cinque, 1990; McCloskey, 1990; Safir, 1996, 318; and Aoun and Li, 2003, 35–36). Reconstruction in base-generated dependencies as in (25) is now accounted for: the NP complement of the resumptive pronoun (i.e. the NP at ①) can be interpreted, licensing a low, reconstructed reading of the relevant material (e.g. a bound variable pronoun or a scope-taking element within NP) and the NP restriction of the operator (i.e. the NP at ②) can be deleted at LF in accordance with (27) because the content of NP is recoverable at the variable site. This concludes my introduction to the NP-ellipsis account of reconstruction under resumption. As I will show throughout this section, my analysis correctly predicts that ‘reconstructed’ readings should not be limited to resumptive pronouns: non-resumptive, E-type pronouns, which are structurally identical to resumptive pronouns, share the same readings.

Before moving on, I will briefly note that principles similar to (27) have been suggested by other authors in the previous literature. Sportiche (2016) proposes *Neglect*, which allows any material to be ignored at any interface up to a crash (corresponding to my “up to recoverability and up to interpretability”). *Neglect* is constrained by a version of Chomsky’s (1993; 1995b) *Principle of Full Interpretation* which requires every syntactic object to be interpreted. Crucially, *chains* (and not occurrences of syntactic objects within chains) are subject to Full Interpretation; thus, *Neglect* permits material within an \bar{A} -chain to be ig-

15. I have hedged somewhat by including “most local” in parentheses. If we assume that the type of binding relevant to the definition of \bar{A} -variable in (28) is binding of an \bar{A} -variable (or index) by the structurally represented binder prefix μ introduced by Buring (2004, 2005) and discussed in section §7.6, and if we adopt the Bijection Principle of Koopman and Sportiche (1982) (see section §7.7 for additional arguments in favor of Bijection), then there will only ever be a single binder of α at LF. In that case, we could dispense with “most local.” The optional presence of “most local” in (28) is intended to also accommodate binding as *syntactic* binding in the sense of Buring (2005, 112, (5.27)): a syntactic binder of an \bar{A} -variable α_i is a c-commanding, coindexed DP.

nored, similar to what I propose in (27), so long as at least one occurrence of each syntactic object in a chain is interpreted. One major difference between Sportiche’s account and my own is that he restricts Neglect to \bar{A} -movement chains (Sportiche, 2020, 22).

In a similar vein, Salzmann (2017b, 150–151; 2019, 197ff.) proposes to restrict the interpretation of NPs in (gapped and resumptive) restrictive relatives to account for reconstruction effects as follows: 1. Relative clauses are formed according to a version of the *matching* analysis of relative clauses. 2. NP restrictions of operator phrases in \bar{A} -positions must be minimized at LF in accordance with Chomsky’s (1993, 41) *Preference Principle*, leaving full representations of NP in the variable site (predicting reconstruction) and in the external head position (predicting high interpretations of the relative head). 3. Elements with a *positive licensing requirement* (i.e. elements which depend on other elements, including anaphors, bound variables, and idiom chunks) either inside the NP in the variable site or inside the external head can trigger exceptional LF deletion of their container NPs (subject to a recoverability requirement) when not licensed in their positions. In analyzing resumptive relative clauses, I will follow Salzmann (2017b, 198) (as well as Munn, 1994 and Citko, 2001) in taking LF deletion of the external head NP to be possible just in case its content is recoverable from an NP inside the relative (and vice versa), despite the fact that the two do not form an \bar{A} -chain.

The remainder of this section is organized as follows. In section §6.3.1, I show that resumptive pronouns in *wh*-questions and restrictive relatives in Iraqi, Tunisian, and Syrian Arabic license reconstruction for variable binding and provide an account with the NP-ellipsis theory of pronouns. I also demonstrate in this section that Condition C reconstruction effects are absent under resumption, though they reemerge under gapped predicate extraction. Section §6.3.2 then turns to treat scope reconstruction in resumptive *wh*-questions and restrictive relatives. Specifically, I show that resumption licenses reconstruction for inverse scope with respect to a low QP as well as reconstruction for low scope amount readings with

verbs of creation (Heycock, 1995).

6.3.1 *Resumption licenses reconstruction for binding*

Resumption in Iraqi, Tunisian, and Syrian Arabic licenses reconstruction for variable binding but does not exhibit reconstruction for Condition C. I leave aside reconstruction for anaphor binding, which I have not been able to document well enough at this stage. In particular, I have not yet been able to determine whether reflexives or reciprocals in Iraqi, Tunisian, or Syrian Arabic have logophoric uses which could potentially confound the results.¹⁶ See Malkawi (2009) for the claim that Jordanian Arabic resumptive clitic left dislocation, definite and indefinite relatives, and *wh*-questions permit reconstruction for anaphor binding with reflexives inside picture NPs.

Variable binding reconstruction

In Iraqi, Tunisian, and Syrian Arabic, pronominal variables can only be bound by a quantifier that c-commands them ((29); see Reinhart, 1983a, 122, (32); Déchaine and Wiltschko, 2017, 2).¹⁷ The data in (30) are illustrative, where the (ii) examples arguably instantiate primary weak crossover violations under QR of the direct object quantifier.

(29) *Condition on bound variable anaphora*

A pronoun *P* can behave as a variable bound by a quantifier *Q* only if *Q* c-commands *P*.

(30) *Bound variable anaphora in Arabic requires c-command*

- a. i. kull t^fa:lib_i xa:bar uxt-a_i.
every student_i called.3.F.SG sister-his_i

16. English anaphors (especially in the complements of picture nominals) permit logophoric binding (Pollard and Sag, 1992; Reinhart and Reuland, 1993), though anaphors in many other languages do not; see Salzmann (2019, 190, fn. 3) for references.

17. See Safir (2004a,b) and Barker (2012) for arguments against the c-command generalization, and see Déchaine and Wiltschko (2017, 8–13) for arguments that reported counterexamples involve E-type pronouns instead of true bound variable pronouns. Chapter 7 provides an analysis of binding with E-type pronouns using *situation variables*, following Elbourne (2001, 2005, 2013) and Büring (2004).

- ‘Every student_i called his_i sister.’ (Iraqi)
- ii. * uxt-a_i xa:barat kull t^ʕa:lib_i.
sister-his_i called.3.F.SG every student_i
‘His_i sister called every student_i.’ (Iraqi)
- b. i. wala bint_i bi-tħibb titðakkar ħabi:b-ha_i l-axi:r.
no girl_i IND-like.3.F.SG remember.3.F.SG boyfriend-her_i the-last
‘No girl_i likes to remember her_i last boyfriend.’ (Syrian)
- ii. * ħabi:b-ha_i l-axi:r bi-jħibb jitðakkar wala bint.
boyfriend-her_i the-last IND-like.3.M.SG remember.3.M.SG no girl_i
(int.) ‘Her_i last boyfriend likes to remember no girl_i.’ (Syrian)
- c. i. koll tfol_i jħəbb omm-u_i.
every boy love.3.M.SG mother-his_i
‘Every boy_i loves his_i mother.’ (Tunisian)
- ii. * omm-u_i tħəbb koll tfol_i.
mother-his_i love.3.F.SG every boy_i
(int.) ‘His_i mother loves every boy_i.’ (Tunisian)

Interestingly, in apparent violation of (29), a pronoun contained inside a *wh*-phrase in [Spec, CP] ((31)) or a pronoun contained inside the head of a restrictive relative clause ((32)) can covary with a quantifier which does not c-command it but which does c-command the \bar{A} -bound resumptive pronoun:

(31) *Resumptive wh-questions license reconstruction for variable binding in Arabic*

- a. [ja: fatra min ħaja:t-a_i]_k inti mitʔakkida maħħad jħibb
[which period.F.SG from life-his_i]_k you.F.SG certain.F.SG nobody_i likes.3.M.SG
jitðakkar-**ha**_k?
remember.3.M.SG-**it.F.SG**_k
(lit.) ‘[Which period of his_i life]_k are you certain nobody_i likes to remember it_k?’ (Iraqi)
- b. [ajja fatri min ħaja:t-u_i]_k inti mitʔakkidi inno ma ħada_i
[which period.F.SG from life-his_i]_k you.F.SG certain.F.SG that NEG one_i
bidd-o jitðakkar-**ha**_k?
want-3.M.SG remember.3.M.SG-**it.F.SG**_k
(lit.) ‘[Which period of his_i life]_k are you certain that nobody_i wants to remember it_k?’ (Syrian)
- c. [amma taswi:ra mtaʕ wle:d-ha_i]_k joðhor-lək ħatta omm_i
[which picture.F.SG of children-her_i]_k seems-to.you no mother_i
ma:hi bej təxta:r-**ha**_k?
NEG-3.F.SG FUT choose.3.F.SG-**it.F.SG**_k
(lit.) ‘[Which picture of her_i children]_k do you think that no mother_i will

- choose it_k?’ (Tunisian)
- (32) *Resumptive relative clauses license reconstruction for variable binding in Arabic*
- a. l-[fatra min ĥaja:t-a_i]_k lli inti mitʔakkida maħħad_i
 the-[period.F.SG from life-his_i]_k that you.F.SG certain.F.SG nobody_i
 jħibb jitðakkar-**ħa**_k hijja l-mura:haqa.
 likes.3.M.SG remember.3.M.SG-**it.F.SG**_k it the-teenagehood
 (lit.) ‘The [period of his_i life]_k that you are certain nobody_i likes to remember
 it_k is teenagehood.’ (Iraqi)
- b. l-[fatri min ĥaja:t-u_i]_k lli inti mitʔakkidi inno ma ĥada_i
 the-[period.F.SG from life-his_i]_k that you.F.SG certain.F.SG that NEG one_i
 bidd-o jitðakkar-**ħa**_k hijja l-mura:haqi.
 want-3.M.SG remember.3.M.SG-**it.F.SG**_k it the-teenagehood
 (lit.) ‘The [period of his_i life]_k that you are certain nobody_i wants to remember
 it_k is teenagehood.’ (Syrian)
- c. l-[taswira mtaʕ wle:d-ha_i]_k elli joðhor-li ĥatta omm_i
 the-[picture.F.SG of children-her_i]_k that seems-to.me no mother_i
 ma:hi beʃ tæxta:r-**ħa**_k hijja l-nwar e blā.
 NEG-3.F.SG FUT choose.3.F.SG-**it.F.SG**_k it the-black and white
 (lit.) ‘The [picture of her_i children]_k that I think no mother_i will choose it_k
 is the black and white one.’ (Tunisian)

Crucially, if the resumptive pronoun *c*-commands the quantifier, the reconstructed reading is unavailable, as illustrated by the following pair of Syrian examples:¹⁸

- (33) a. *Resumptive wh-questions license reconstruction for variable binding in Syrian*
 [ajja waħid min aħba:b-ha_i]_k bi-tfakkiri inno wala bint_i
 [which one from boyfriends-her_i] IND-think.2.F.SG that no girl_i
 bi-tħibb titðakkar-**u**_k?
 IND-like.3.F.SG remember.3.F.SG-**him**_k
 (lit.) ‘[Which one of her_i boyfriends]_k do you think no girl_i likes to remember
 him_k?’ (Syrian)
- b. *No reconstruction for variable binding when the variable site c-commands the
 quantifier*
 *[ajja waħid min aħba:b-ha_i]_k bi-tfakkiri inno (**ħuwwe**_k)
 [which one from boyfriends-her_i] IND-think.2.F.SG that (**he**_k)
 ma-bi-jħibb jitðakkar wala bint_i?
 NEG-IND-like.3.M.SG remember.3.M.SG no girl_i
 (int.) ‘[Which one of her_i boyfriends]_k do you think he_k doesn’t like to re-
 member any girl_i?’ (Syrian)

18. See Choueiri (2002, 138–141) for data illustrating the same point in Lebanese Arabic.

Thus, the availability of the bound reading of the pronoun contained in the *wh*-phrase or relative head depends on the position of the quantifier with respect to the resumptive pronoun:

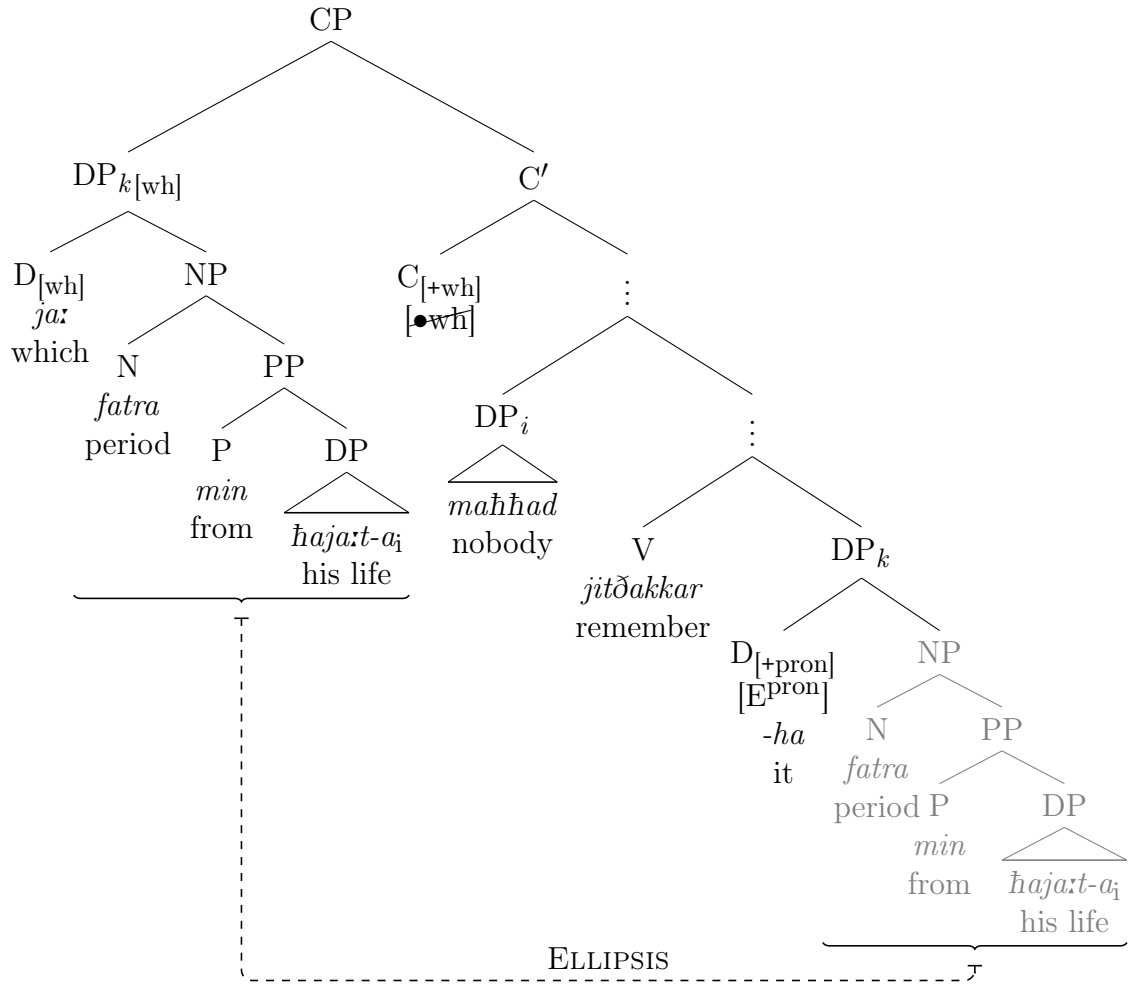
- (34) *Reconstruction for bound variable anaphora is possible when the QP asymmetrically c-commands the resumptive pronoun*
 $[_{CP} [_{DP} \dots \text{PRON}_i \dots]_k [_{C'} \dots \text{QP}_i [\dots \text{RP}_k \dots]]]$
- (35) *Reconstruction for bound variable anaphora is impossible when the resumptive pronoun asymmetrically c-commands the QP*
 $*[_{CP} [_{DP} \dots \text{PRON}_i \dots]_k [_{C'} \dots \text{RP}_k [\dots \text{QP}_i \dots]]]$

What this suggests is that a pronoun contained inside the antecedent of a resumptive pronoun can behave as though it occupied a position at or within the resumptive pronoun for the purposes of variable binding; in other words, resumptive \bar{A} -dependencies in Arabic license reconstruction for bound variable anaphora.¹⁹

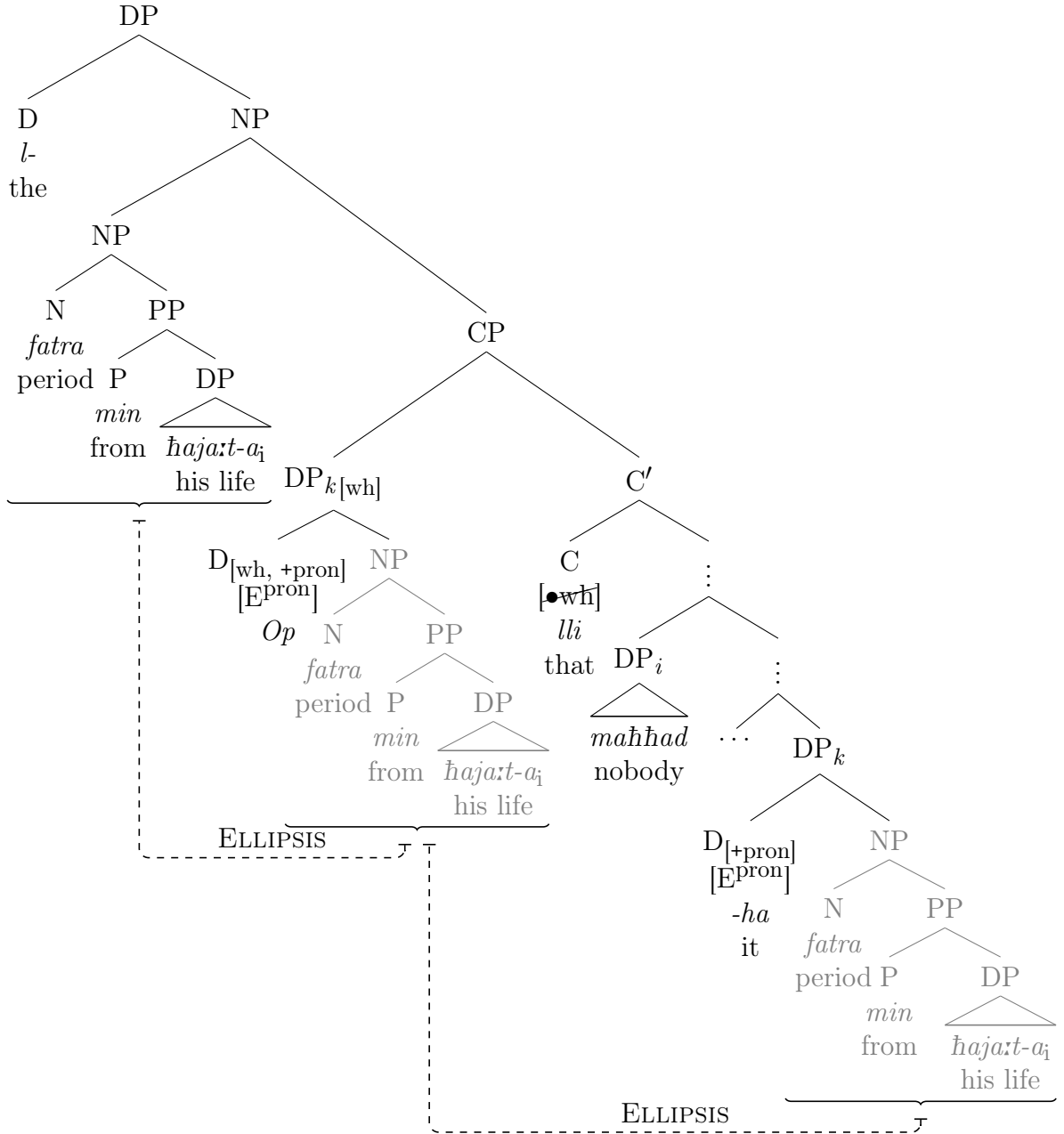
The NP-ellipsis theory of resumption accounts for variable binding reconstruction by positing a representation of the to-be-bound pronoun in the c-command domain of the quantifier—specifically, in the NP complement of the resumptive pronoun which is elided under identity with the NP complement of the \bar{A} -operator. (36) and (37) provide my analyses of the Iraqi examples in (31a) and (32a), respectively.

- (36) *NP-ellipsis analysis of variable binding reconstruction in a resumptive wh-question in Iraqi (see (31a))*

19. Similar findings have been reported for resumption in Breton restrictive relatives (Guilliot, 2006b, 1894), Jordanian Arabic *wh*-questions and restrictive relatives (Malkawi, 2009), Lebanese Arabic *wh*-questions and restrictive relatives (Aoun, 2000; Choueiri, 2002, §3.2; Aoun and Li, 2003, 15–16, 126–128), French *wh*-questions (Guilliot, 2006a; Sportiche, 2020), Hebrew restrictive relatives (Arad, 2014; Sichel, 2014), Literary Welsh restrictive relatives (Rouveret 2002, 137–138, 2008, 182), and Swiss German restrictive relatives (Salzmann, 2017b, §5.2.3).



(37) *NP-ellipsis analysis of variable binding reconstruction in a resumptive relative clause in Iraqi (see (32a))*



Let us consider now how these structures are interpreted. \bar{A} -binding triggers Predicate Abstraction over an individual variable in C' (Heim and Kratzer, 1998, 186, (4)); see section §7.6.2 for additional details.²⁰ The NP restriction of the operator in both the *wh*-question and the restrictive relative contains a pronominal variable *-a* ‘his’ which must be deleted at LF, lest the pronoun be free; neglect of NP at LF is permitted by (27) so long as the

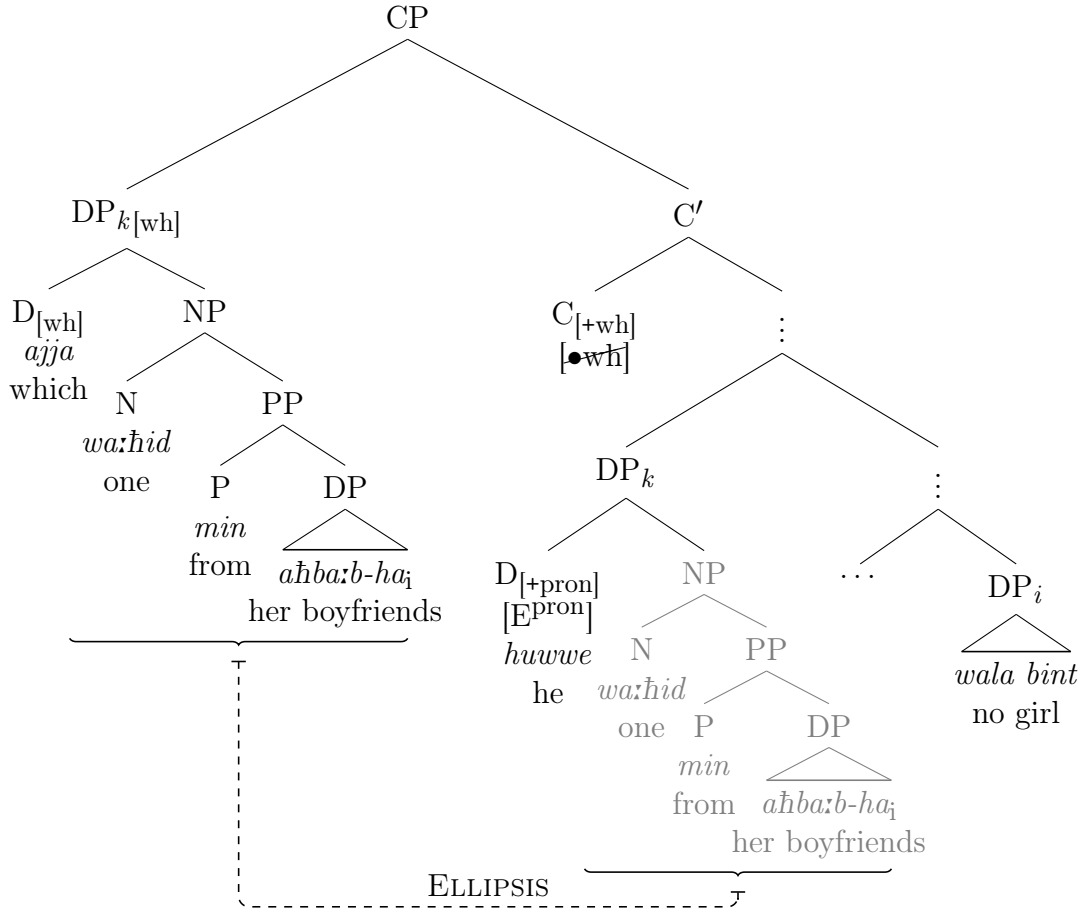
20. And note that Predicate Abstraction is available not only in \bar{A} -dependencies created by movement, but also those created via base-generated binding, as already suggested by McCloskey (2002, 205–206).

NP complement of the resumptive is interpreted, thereby rendering the deleted NP content recoverable. Similarly, the external head NP of the relative clause in (37) can be deleted at LF, again due to the fact that this NP content is recoverable inside the relative (see Munn, 1994; Citko, 2001; and Salzmann, 2017b). Putting all of this together, then, (36) and (37) will be interpreted roughly as in (38) and (39), respectively.

- (38) *Pseudo-LF of (31a), (36)*
 [DP ja: [NP fatra min ĥaja:t-a_i]] λx [... maħħad_i jħibb jitðakkar
 which period from life-his_i nobody_i likes remember
 [DP -ha_x [NP fatra min ĥaja:t-a_i]]
 -it period from life-his_i
- (39) *Pseudo-LF of (32a), (37)*
 l- [NP fatra min ĥaja:t-a_i] [CP [DP λx. fatra min ĥaja:t-a_i] lli ...
 the- period from life-his_i period from life-his_i that
 maħħad_i jħibb jitðakkar [DP -ha_x [NP fatra min ĥaja:t-a_i]]
 nobody_i likes remember -it period from life-his_i

The NP-ellipsis account of resumption can also straightforwardly explain why the position of the variable site relative to the quantifier should matter: according to the c-command condition on bound variable anaphora ((29)), a pronominal variable contained inside the NP complement of a resumptive pronoun cannot be bound by a quantifier which the resumptive asymmetrically c-commands. The tree in (40) illustrates the failure of variable binding reconstruction in the Syrian example in (33b): the quantifier *wala bint* ‘no girl’ does not c-command, and hence cannot bind, any occurrence of *-ha* ‘her’ in the \bar{A} -chain.

(40) *



Finally, because NP-ellipsis is a general account of pronouns, and not strictly of resumptive pronouns, we predict that non-resumptive pronouns should license variable binding in the apparent absence of c-command (i.e. E-type anaphora) in Arabic. This prediction is borne out, as shown by the representative Iraqi examples in (41):²¹ the pronoun *-hum* ‘them’ in (41a) is interpretively equivalent to the definite description *snī:n mura:haqt-a* ‘years of his teenagehood’ in (41b), despite the fact that there is no overt variable *-a* ‘his’ bound by the quantifier *maḥḥad yēr-ha* ‘nobody else (lit. nobody other than her)’ in (41a).

(41) *E-type anaphora in Iraqi Arabic*

- a. Joni gaḏ^īḏ^īat snī:n mura:haqt-ha b-l-maktaba, bas maḥḥad yēr-ha
 Joni spent.3.F.SG years teenagehood-her in-the-library but nobody other-her

21. Similar facts hold for Tunisian and Syrian Arabic, though I omit the data for brevity.

- gað^ʕð^ʕa:h-*hum* hna:k.
 spent.3.M.SG-them there
 ‘Joni spent the years of her teenagehood in the library, but nobody else spent them there.’ (Iraqi)
- b. Joni gað^ʕð^ʕat sni:n mura:haqt-ha b-l-maktaba, bas maħħad_i ye:r-ha
 Joni spent.3.F.SG years teenagehood-her in-the-library but nobody_i other-her
 gað^ʕð^ʕa sni:n mura:haqt-a_i hna:k.
 spent.3.M.SG years teenagehood-his_i there
 ‘Joni spent the years of her teenagehood in the library, but nobody_i else spent the years of his_i teenagehood there.’ (Iraqi)

The NP-ellipsis theory of pronouns accounts for this fact by positing a representation of the variable *-a* ‘his’ in the elided NP complement of the E-type pronoun *-hum* ‘them’:

- (42) *NP-ellipsis analysis of E-type pronouns predicts connectivity for bound variable anaphora in the apparent absence of c-command*
 ... maħħad ye:r-ha gað^ʕð^ʕa: [DP *-hum* [NP sni:n mura:haqt-a_i]] hna:k
 nobody other-her spent.3.M.SG -them years teenagehood-his there

Thus, this section has shown that resumptive *wh*-questions and relative clauses license reconstruction for variable binding in non-island contexts in Iraqi, Tunisian, and Syrian Arabic. This fact is straightforwardly accounted for by the NP-ellipsis theory of pronouns, which posits a structurally represented pronominal variable inside the deleted NP complement of the resumptive pronoun in the c-command domain of the quantifier, together with free deletion of NP restrictions in \bar{A} -chains at LF up to recoverability and interpretability ((27)).

No reconstruction for Condition C

In Iraqi, Tunisian, and Syrian Arabic, R(eferring)-expressions, and in particular names, are subject to Condition C, as shown in (44). I will provisionally define Condition C as in (43) (see also Chomsky, 1981, 188; Buring, 2005, 7, (1.24)). This definition suffices to discuss reconstruction effects, though see Reinhart (1983a) and Buring (2005, 122–130) for arguments that Condition C ought to be dispensed with.

- (43) **Condition C**
 R(eferring)-expressions (i.e. non-pronominal DPs) must not be bound from an

A-position.

(44) *Names obey Condition C in Arabic*

- a. i. Nour_i titwaqqaʕ innu ʃifit l-manħorta ʔil-ha_i b-l-maʕrað^f.
 Nour_i suspect.3.F.SG that saw.1.SG the-sculpture of-her_i in-the-exhibit
 ‘Nour_i suspects that I saw the sculpture of her_i in the exhibit.’ (Iraqi)
- ii. *pro**_{i/j} titwaqqaʕ innu ʃifit l-manħorta li-Nour_i b-l-maʕrað^f.
 suspect.3.F.SG that saw.1.SG the-sculpture of-Nour in-the-exhibit
 ‘She*_{i/j} suspects that I saw the sculpture of Nour_i in the exhibit.’ (Iraqi)
- b. i. Joni_i ʃa:fet ha-l-lo:ħa ʔil-ha_i b-l-maħhaf.
 Joni_i saw.3.F.SG this-the-painting of-her_i in-the-museum
 ‘Joni_i saw this painting of her_i in the museum.’ (Syrian)
- ii. *pro**_{i/j} ʃa:fet ha-l-lo:ħa li-Joni_i b-l-maħhaf.
 saw.3.F.SG this-the-painting of-Joni_i in-the-museum
 ‘She*_{i/j} saw this painting of Joni_i in the museum.’ (Syrian)
- c. i. Joni_i tħəbb-ək tnaħħi ha-l-xamsa ħke:jet ʔ(elli) ʕli:ha_i
 Joni_i want.3.F.SG-you remove.2.SG these-the-five stories ʔ(that) about-her_i
 mə-l-kte:b.
 from-the-book
 ‘Joni_i wants you to remove these five stories (that are) about her_i from
 the book.’ (Tunisian)
- ii. {*pro**_{i/j} / hijja*_{i/j}} tħəbb-ək tnaħħi ha-l-xamsa ħke:jet
 { / she*_{i/j}} want.3.F.SG-you remove.2.SG these-the-five stories
 ʕla Joni_i mə-l-kte:b.
 about Joni_i from-the-book
 ‘She*_{i/j} wants you to remove these five stories about Joni_i from the book.
 (Tunisian)

Given the availability of reconstruction for variable binding identified in the previous section, one might *a priori* expect to find obligatory Condition C effects under reconstruction in resumptive \bar{A} -dependencies, assuming complete interpretive connectivity between the operator phrase and the resumptive. This is not borne out, however: names/R-expressions contained inside the NP restriction of the operator (specifically, in a dependent of the head N) can corefer with pronouns within *C'* that c-command the resumptive.²²

22. Similar findings have been reported for resumption in Breton restrictive relatives (Guilliot, 2006b, 1893ff.), Jordanian Arabic *wh*-questions and restrictive relatives with weak/clitic or doubled resumptive elements (Malkawi, 2009, 65–67, 114), Lebanese Arabic restrictive relatives (Choueiri, 2002, 148–150), Hebrew restrictive relatives (Arad, 2014, §4.4.1; Sichel, 2014, 674–675), Literary Welsh restrictive relatives (Rouveret

(45) *No reconstruction for Condition C in resumptive wh-questions*

- a. Layla_i ga:lat-lna [ja: manħo:ta li-Nour_j]_k titwaqqaŋ
Layla_i told.3.F.SG-1.PL.DAT [which sculpture.F.SG to-Nour_j]_k suspect.3.F.SG
*pro*_j innu fīfit-**ha**_k b-l-maŋrað^f.
that saw.1.SG-**it.F.SG**_k in-the-exhibit
(lit.) ‘Layla_i told us [which sculpture of Nour_j]_k she_j suspects that I saw it_k
in the exhibit.’ (Iraqi)
- b. Matt ŋam-jisʔal [ajja lo:ħa li-Joni_i]_k ʃa:fat-**ha**_k
Matt PROG-ask.3.M.SG [which painting.F.SG to-Joni_i]_k saw.3.F.SG-**it.F.SG**_k
*pro*_i b-l-mathaf.
in-the-museum
(lit.) ‘Matt is asking [which painting of Joni_i]_k she_i saw it_k in the museum.’
(Syrian)
- c. [amma ħke:jet ŋla Joni_i]_k hijja_i thəbb-ək tnaħħi:-**hom**_k
[which stories about Joni_i]_k she_i want.3.F.SG-you remove.2.SG-**them**_k
mə-l-kte:b?
from-the-book
(lit.) ‘[Which stories about Joni_i]_k does she_i want you to remove them_k from
the book?’²³ (Tunisian)

(46) *No reconstruction for Condition C in resumptive relatives*

- a. l-[manħo:ta li-Nour_i]_k lli *pro*_i titwaqqaŋ innu fīfit-**ha**_k
the-[sculpture.F.SG to-Nour_i]_k that suspect.3.F.SG that saw.1.SG-**it.F.SG**_k
b-l-maŋrað^f mt^falliŋat-ha akbar.
at-the-exhibit makes.look.F.SG-her bigger
(lit.) ‘The [sculpture of Nour_i]_k that she_i suspects that I saw it_k at the exhibit
makes her look too big.’ (Iraqi)
- b. ha:j l-[lo:ħa li-Joni_i]_k lli *pro*_i ʃa:fat-**ha**_k
this.F.SG the-[painting.F.SG to-Joni_i]_k that saw.3.F.SG-**it.F.SG**_k

2002, 132, (2008, 181–182)), and Swiss German restrictive relatives (Salzmann, 2017b, 359–360, 362–364). Other authors, however, have reported that Condition C effects persist with resumption: see Shlonsky (2004b, 9, (32)–(34)) on Hebrew relative clauses, Leung (2014, 437–438) on Emirati Arabic *wh*-questions, Sportiche (2018, 313–316, 2020) on French *wh*-questions (where Condition C effects are reported to also obtain inside islands) and Georgiou (2022, 321, 334 fn. 24) on Greek *wh*-questions.

23. Note, however, that my consultant reports that coreference is less acceptable when the highest subject is null *pro* (though perhaps not totally unacceptable), rather than overt *hijja* ‘she.’ Arregi (2006) reports a similar asymmetry between covert and overt pronominal subjects in triggering Condition C violations under reconstruction in Spanish, which, building on a proposal from Safir, 1999, he attributes to the availability of vehicle change in movement chains (though vehicle change must only be available when the *c*-commanding, coindexed pronoun is overt). My Iraqi and Syrian consultants, on the other hand, report no comparable contrast between covert and overt pronominal subjects in triggering Condition C effects under reconstruction. Furthermore, no Condition C reconstruction effect is evident with a *pro* subject in the Tunisian resumptive relative clause in (46c). I must leave accounting for these puzzling differences for future research.

b-l-matħaf.

in-the-museum

(lit.) ‘This is the [painting of Joni_i]_k that she_i saw it_k in the museum.’

(Syrian)²⁴

- c. l-[xamsa ħke:jet fla Joni_i]_k elli *pro*_i tħəbb-ək tnaħħi:**hom**_k
 the-[five stories about Joni_i]_k that want.3.F.SG-you remove.2.SG-**them**_k
 mə-l-kte:b ħuma akθer whi:d moxtri:m sje:sijjan
 from-the-book 3.PL more ones dangerous politically
 (lit.) ‘The five stories about Joni that she wants you to remove from the book
 are the most politically dangerous.’ (Tunisian)

Additionally, I have not discovered a detectable distance effect in Condition C reconstruction under resumption in Iraqi. As the Iraqi data in (47)–(48) show, Condition C reconstruction is absent in both short- ((47a)/(48a)) and long-distance resumptive *wh*-questions; furthermore, in the long-distance cases, positioning the coindexed pronoun in either the lowest ((47b)/(48c)) or the highest ((47c)/(48b)) clause does not seem to make a difference.²⁵

(47) *No distance effect for Condition C reconstruction in resumptive (embedded) wh-questions in Iraqi*

- a. Layla_i ga:lat-lna [ja: manħo:ta li-Nour_j]_k
 Layla_i told.3.F.SG-1.PL.DAT [which sculpture.F.SG to-Nour_j]_k
 ʃa:fat-**ħa**_k *pro*_j b-l-maħrað^ʃ.
 saw.3.F.SG-**it.F.SG**_k in-the-exhibit
 (lit.) ‘Layla_i told us [which sculpture of Nour_j]_k she_j saw it_k in the exhibit.’
- b. Layla_i ga:lat-lna [ja: manħo:ta li-Nour_j]_k titwaqqaʃim
 Layla_i told.3.F.SG-1.PL.DAT [which sculpture.F.SG to-Nour_j]_k suspect.2.F.SG
 innu *pro*_j ʃa:fat-**ħa**_k b-l-maħrað^ʃ.
 that saw.3.F.SG-**it.F.SG**_k in-the-exhibit
 (lit.) ‘Layla_i told us [which sculpture of Nour_j]_k you suspect that she_j saw it_k in the exhibit.’
- c. Layla_i ga:lat-lna [ja: manħo:ta li-Nour_j]_k titwaqqaʃ
 Layla_i told.3.F.SG-1.PL.DAT [which sculpture.F.SG to-Nour_j]_k suspect.3.F.SG

24. But see Darrow (2003, 65–68) for a different finding for Syrian Arabic.

25. This contrasts with the finding from recent experimental literature on gapped *wh*-questions in English (Adger et al., 2017; Stockwell et al., 2021) and German (Wierzba et al., 2021) (and see Sportiche, 2020, 9 on a distance effect for Condition C reconstruction in French *wh*-questions and clitic left dislocation) according to which Condition C violations weaken with increased distance between the filler containing the offending R-expression and the variable site.

*pro*_j innu fīfit-**ha**_k b-l-maʕrað^ʕ.
that saw.1.SG-**it.F.SG**_k in-the-exhibit
(lit.) ‘Layla_i told us [which sculpture of Nour_j]_k she_j suspects that I saw it_k
in the exhibit.’

(48) *No distance effect for Condition C reconstruction in resumptive restrictive relatives in Iraqi*

- a. l-[manħo:ta li-Nour_i]_k lli *pro*_i ʃa:fat-**ha**_k b-l-maʕrað^ʕ
the-[sculpture.F.SG to-Nour_i]_k that saw.3.F.SG-**it.F.SG**_k at-the-exhibit
mt^ʕalliʕat-ha akbar.
makes.look.F.SG-her bigger
(lit.) ‘The [sculpture of Nour_i]_k that she_i saw it_k at the exhibit makes her
look too big.’ (Iraqi)
- b. l-[manħo:ta li-Nour_i]_k lli atwaqqaʕ innu *pro*_i ʃa:fat-**ha**_k
the-[sculpture.F.SG to-Nour_i]_k that suspect.1.SG that saw.3.F.SG-**it.F.SG**_k
b-l-maʕrað^ʕ mt^ʕalliʕat-ha akbar.
at-the-exhibit makes.look.F.SG-her bigger
(lit.) ‘The [sculpture of Nour_i]_k that I suspect that she_i saw it_k at the exhibit
makes her look too big.’ (Iraqi)
- c. l-[manħo:ta li-Nour_i]_k lli *pro*_i titwaqqaʕ innu fīfit-**ha**_k
the-[sculpture.F.SG to-Nour_i]_k that suspect.3.F.SG that saw.1.SG-**it.F.SG**_k
b-l-maʕrað^ʕ mt^ʕalliʕat-ha akbar.
at-the-exhibit makes.look.F.SG-her bigger
(lit.) ‘The [sculpture of Nour_i]_k that she_i suspects that I saw it_k at the exhibit
makes her look too big.’ (Iraqi)

The lack of Condition C reconstruction under resumption in Arabic demonstrates that reconstruction effects are not an all or nothing phenomenon. The NP-ellipsis theory of resumption accounts for this lack of Condition C effects through the availability of *vehicle change* in ellipsis (Fiengo and May, 1994). I define vehicle change as a set of permissible mismatches (or alternatively, a set of equivalence classes) between an elided pronominal element and its DP correlate in the antecedent for ellipsis. The DP correlate can crucially belong to a binding theoretic class distinct from that of the elided pronoun, e.g. an R-expression or a reflexive anaphor (see Abels, 2022). The equivalence class which is most relevant for our purposes obtains between an R-expression or variable correlate in the antecedent and a pronoun bearing identical φ -features in the E(llipsis)-site (Fiengo and May, 1994, 218ff.).

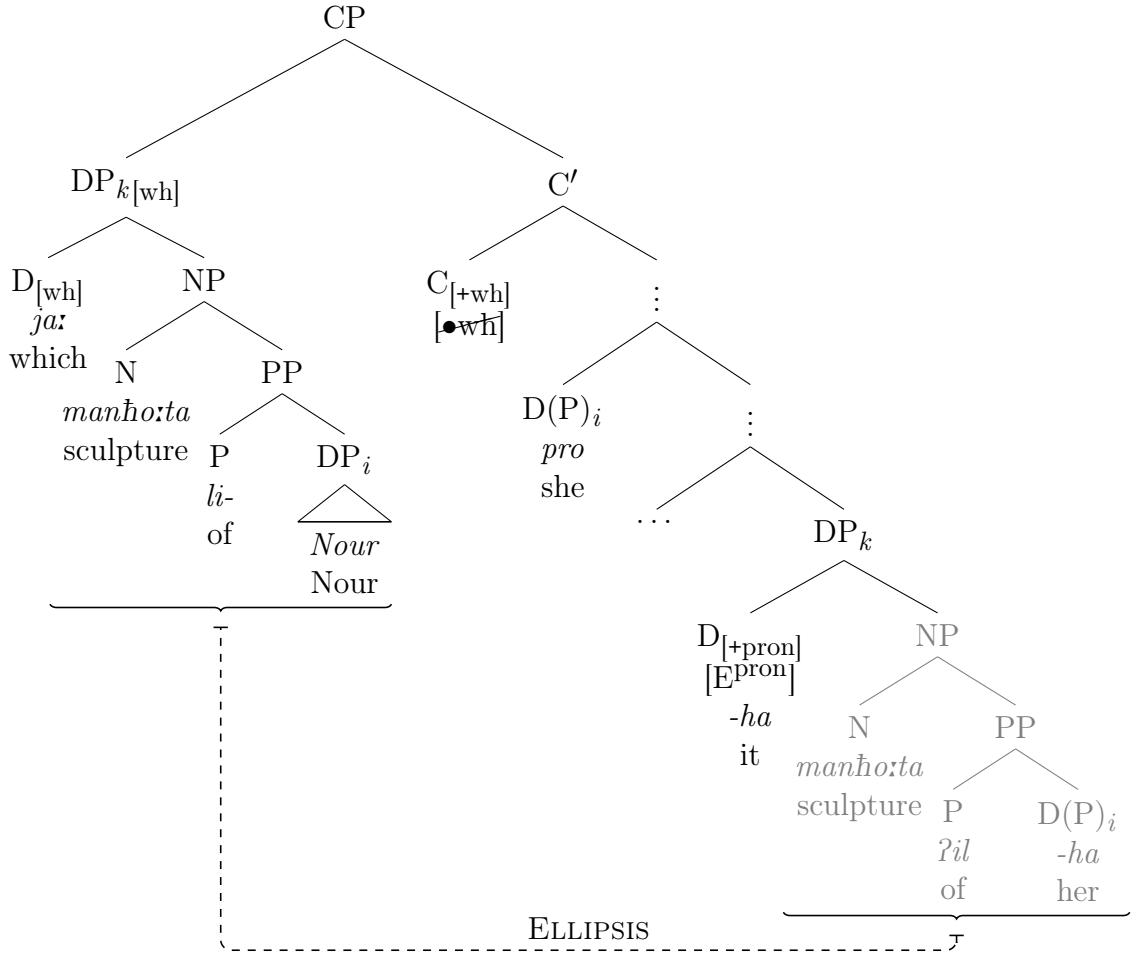
Merchant (1999a) formulates the relevant equivalence class as in (49) (repeated here from (26b)), where \equiv_e is to be read ‘forms an equivalence class under ellipsis with.’

- (49) [-anaphoric, -pronominal] (variable or name) \equiv_e [-anaphoric, +pronominal]
(pronominal correlate) (slightly adapted from Merchant, 1999a, 483, (15))

The absence of Condition C reconstruction in (45a) now follows straightforwardly, as illustrated in (50): the elided NP complement of the resumptive $D_{[+\text{pron}]}$ bearing $[E^{\text{pron}}]$ contains a pronoun *-ha* ‘her’²⁶ which, according to (49), is equivalent to the R-expression *Joni* in the NP restriction of the operator. Thus, despite the fact that the resumptive is internally complex, it does not contain an R-expression coindexed with the c-commanding pronominal subject ‘she,’ and no Condition C effect is expected.

- (50) *NP-ellipsis analysis of the absence of Condition C reconstruction in a resumptive wh-question in Iraqi (see (45a))*
Layla told us. . .

26. The preposition *li-* is realized with the allomorph *?il-* before pronouns—an alternation which I have preserved in the analysis in (50). This lack of formal identity is not predicted to impact ellipsis licensing in any way.



To be sure, there do appear to be at least some instances of Condition C reconstruction in Iraqi Arabic—namely, in gapped degree questions with the *wh*-operator *ʃgadd* ‘how much.’²⁷ R-expressions which form the standard of a predicative comparative adjective pied-piped under *wh*-movement in a degree question trigger disjoint reference effects with pronouns which c-command the extraction site:

- (51) *There is obligatory Condition C reconstruction in gapped degree questions in Iraqi*
 [ʃgadd at^ʃwal min Mason_i]_k jitwaqqaʃ-itʃ {*pro**_{i/j} / *huwwa**_{i/j}}
 [how.much taller than Mason_i]_k suspects.3.M.SG-you.F.SG { / *he**_{i/j}}
 tku:nin _____k?
 be.2.F.SG
 ‘[How much taller than Mason_i]_k does he*_{i/j} suspect you to be _____k?’

27. I have not discovered robust Condition C effects with gapped DP *wh*-questions in Iraqi, Tunisian, or Syrian—an issue which I must leave for future research.

\bar{A} -movement, not being a species of ellipsis, does not have access to vehicle change (*pace* Safir, 1999; Arregi, 2006). Hence, there will be an occurrence of the name *Mason* in the copy (or copies) of the operator phrase below the subject pronoun *pro/huwwa* ‘he’, triggering an obligatory Condition C effect:

- (52) [fgadd at^fwal min Mason_i]_k jitwaqqa^f-itf {*pro**_{i/j} / huwwa*_{i/j}}
 [how.much taller than Mason_i]_k suspects.3.M.SG-you.F.SG { / he*_{i/j}}
 tku:nin [fgadd at^fwal min Mason_i]_k?
 be.2.F.SG [how.much taller than Mason_i]_k

Gapped degree questions with *fgadd* ‘how much’ also display the familiar asymmetry between arguments and adjuncts with respect to Condition C reconstruction (on which see van Riemsdijk and Williams, 1981, §III 6; Freidin, 1986; Lebeaux, 1988, 1991; Chomsky, 1993; Sauerland, 1998; Fox, 1999; Takahashi and Hulsey, 2009; Sportiche, 2019; and Thoms and Heycock, 2022, among many others).²⁸ R-expressions contained in an argument of the pied-piped standard trigger obligatory Condition C reconstruction, whereas R-expressions contained in adjuncts modifying the standard do not:²⁹

- (53) *There is obligatory Condition C reconstruction with arguments of the standard in gapped degree questions in Iraqi*

28. For skepticism regarding the alleged argument-adjunct asymmetry in \bar{A} -movement and regarding obligatory Condition C reconstruction under \bar{A} -movement of DPs, see Lasnik (1998); Bianchi (1999, 127–129); Safir (1999, 609); Barss (2001, 691–692); Postal (2004, 229–230); and Kuno (2004), among others. My own judgments tend to accord with those of these authors. See also Adger et al. (2017) and Bruening and Al Khalaf (2019) for experimental findings from English *wh*-questions demonstrating a lack of a robust argument-adjunct asymmetry in Condition C reconstruction.

29. It is interesting to note that construct state possessors behave like arguments for the purposes of Condition C reconstruction:

- (i) *There is obligatory Condition C reconstruction with possessors of the standard in gapped degree questions in Iraqi*
 [fgadd at^fwal min bi:bi:jat Mason_i]_k jitwaqqa^f-itf {*pro**_{i/j} / huwwa*_{i/j}}
 [how.much taller than grandmother Mason_i]_k suspect.3.M.SG-you.F.SG { / he*_{i/j}}
 tku:nin _____k?
 be.2.F.SG
 ‘[How much taller than Mason_i’s grandmother]_k does he*_{i/j} suspect you are _____k?’

See Safir (1999) for additional arguments from English data that possessors undergo obligatory reconstruction and hence pattern with arguments with respect to argument-adjunct asymmetries.

- [ʃgadd at^ʃwal min l-manħorta li-Mason_i]_k jitwaqqaʃ-itʃ {*pro**_{i/j}}
 [how.much taller than the-sculpture of-Mason_i]_k suspects.3.M.SG-you.F.SG {
 / huwwa*_{i/j}} tkunim ____k?
 / he*_{i/j}} be.2.F.SG
 ‘[How much taller than the sculpture of Mason_i]_k does he*_{i/j} suspect you to be
 ____k?’
- (54) *There is no Condition C reconstruction with adjuncts of the standard in gapped degree questions in Iraqi*³⁰
- [ʃgadd at^ʃwal min l-bnajja lli Mason_i ʃa:f-ha]_k
 [how.much taller than the-girl that Mason_i saw.3.M.SG-her]_k
 jitwaqqaʃ-itʃ {*pro*_{i/j} / huwwa_{i/j}} tkunim ____k?
 suspects.3.M.SG-you.F.SG { / he_{i/j}} be.2.F.SG
 ‘[How much taller than the girl that Mason_i saw]_k does he_{i/j} suspect you to be
 ____k?’

There are various ways to account for argument-adjunct asymmetries in Condition C reconstruction which I will not go into or choose between here.³¹ It suffices to note that Arabic does show at least some Condition C reconstruction effects, making the absence of Condition C reconstruction in resumptive *wh*-questions all the more salient. I have argued with previous work that the NP-ellipsis theory of resumption accounts for the lack of Condition C effects under resumption through the availability of vehicle change under ellipsis.

This concludes my discussion of reconstruction for binding under resumption. The next section turns to reconstruction for scope.

6.3.2 *Resumption licenses reconstruction for scope*

Not only do resumptive \bar{A} -dependencies in Arabic license reconstruction for binding, they also license reconstruction for scope. I propose the following structural condition on scope-

30. See Heycock (1995, 564–565, (62a–b)) for the observation that R-expressions in adjuncts contained within definite DPs in English degree questions also do not trigger Condition C effects.

31. For three different types of approaches, see: (i) Lebeaux (1988, 1991); Chomsky (1993); and Takahashi and Hulsey (2009) on late attachment of adjuncts but not arguments through late Merge; (ii) Sportiche (2019) on LF neglect of adjuncts but not arguments; and (iii) Thoms and Heycock (2022) on external Rmerge (i.e. *parallel Merge* (Citko, 2005), generating a node with two distinct mothers) of adjuncts but not arguments.

taking (which is descriptively adequate for the Arabic data to follow and hence suffices for our purposes here):

- (55) *Condition on scope-taking*
 X can be interpreted in the scope of Y iff Y c-commands X.

In this section, I will show that resumptive *wh*-questions and restrictive relatives in Iraqi, Tunisian, and Syrian Arabic license reconstruction for inverse scope with respect to a low quantifier (yielding both functional and pair-list readings) and reconstruction for low scope amount readings. As with reconstruction for variable binding, I will argue that reconstruction for scope under resumption follows from the availability of such readings with (E-type) pronouns more generally. Accordingly, the data reported in this section are compatible with the NP-ellipsis theory of resumption and do not require positing otherwise unmotivated—and, indeed, empirically problematic— \bar{A} -movement in resumptive dependencies in Arabic.

I set aside two other scope-related reconstruction effects which are attested in Arabic resumptive restrictive relative clauses. These are idiom chunk reconstruction and reconstruction for *de dicto* readings:

- (56) *Idiom chunk reconstruction in a resumptive relative clause*
 Ola ma tihtfi wijja Widd wara l-buri_i lli Widd
 Ola NEG talk.3.F.SG with Widd after the-pipe.M.SG_i that Widd
 int^fat-hum-ja_i.
 gave.3.F.SG-them-**it.M.SG.AUG.ACC**_i
 ‘Ola isn’t talking with Widd after the bad thing that Widd did to them (lit. ‘after the pipe_i that Widd gave them it_i’).’ (Iraqi)
- (57) *De dicto reconstruction in a resumptive relative clause*
 ma raḥ jilga l-ḡifrit_i lli da-jdawwir ḡale-∅_i.
 NEG FUT find.3.M.SG the-goblin.M.SG_i that PROG-look.3.M.SG for-**it.M.SG**_i
 (lit.) ‘He won’t find the goblin_i that he’s looking for it_i.’ (Iraqi)

In the Iraqi example in (56), the direct object resumptive pronoun *-ja*: ‘it’ licenses an idiomatic interpretation of the external head of the relative *buri* ‘pipe’ with the relative-internal predicate *int^fa* ‘give.’ In (57), the DP containing the relative clause can be interpreted non-specifically, without implying the existence of mythical creatures like goblins. This is a *de*

dicto reading (as opposed to a *de re* reading which would imply the existence of goblins); it is licensed under resumption after the preposition *ʕala* which, in combination with the verb *dawwar*, is interpreted as an intensional predicate meaning ‘look for.’ I have not yet been able to systematically test whether either idiom chunk reconstruction or *de dicto* reconstruction patterns with the syntactic diagnostics for movement identified in chapter 3, such as island sensitivity or parasitic gap licensing. As such, it is not clear to me whether either of these reconstruction effects should exclusively be tied to movement dependencies, so I set them aside for the remainder of this chapter.

Reconstruction for inverse scope with respect to a low quantifier

In Iraqi Arabic, (a scope-taking element contained in) the external head of a restrictive relative can take low scope with respect to a quantifier that c-commands the resumptive pronoun bound by the relative operator.³² In the following examples, the intended low scope reading is indicated after the free English translation in the schematic form ‘QP₁ > QP₂’, where QP₂ is (the quantifier contained inside) the antecedent of the resumptive and QP₁ is the quantifier in C’ that c-commands the resumptive pronoun. In (58), the quantifier *kull siħa:fi* ‘every reporter’ can take wide scope with respect to the external head *maqa:baltajn* ‘two interviews’ in a resumptive relative clause, as indicated by the fact that this sentence is licit in a context in which Mona asked every reporter to delete the worst two interviews of his (e.g. the worst two interviews he recorded).³³

(58) *Resumptive relative clauses license reconstruction for inverse scope with respect to*

32. Preliminary investigation suggests that similar facts hold for Tunisian and Syrian Arabic, but I have not yet been able to rigorously test all relevant paradigms so I omit discussion of these varieties for the moment.

33. The examples of scope reconstruction in resumptive restrictive relative clauses presented in the main text position the DP containing the relative clause in a *specificational* (or *equative*) sentence. See Sharvit (1997, 1999c) for arguments that scope reconstruction under resumption in Hebrew relative clauses is more readily available when the matrix sentence is equative (in which case scope reconstruction licenses a natural function and not a pair-list reading) rather than when it is non-equative, at least in the absence of a sufficient context (Sharvit, 1997, 144; see also Guillot, 2011, 114).

a quantifier in Arabic

l-maqa:baltajn lli Mona t^filbat min kull s^fiħa:fi innu
 the-interviews.DU that Mona asked.3.F.SG from every reporter that
 jimsaħ-**hum** humma aswa? maqa:baltajn.
 delete.3.M.SG-**them** 3.PL worst interviews.DU
 (lit.) ‘The two interviews that Mona asked every reporter to delete them were the
 worst two (of his).’ ($\forall > 2$) (Iraqi)

Inverse scope reconstruction under resumption is also present in example (59) (which is modeled after a similar example in Salzmann, 2017b, 366, (54a)). The universal quantifier *kull t^fa:lib* ‘every student’ can take wide scope with respect to the head noun *ʔuynitajn* ‘two songs,’ such that the paper lists more than just two songs.

- (59) hazj hijja l-waraqa_k lli bi-ha_k l-ʔuynitajn_i lli kull
 this.F.SG 3.F.SG the-paper.F.SG_k that on-it.F.SG_k the-songs.DU_i that every
 t^fa:lib ħað^fð^far-**ha**_i.
 student prepared.3.M.SG-**it.F.SG**_i
 (lit.) ‘This is the paper with the two songs_i that every student prepared them_i.’
 ($\forall > 2$) (Iraqi)

The wide scope readings of ‘every reporter’ and ‘every student’ should not be attributed to QR under the standard assumption that QR is clause-bounded (e.g. May, 1985; Larson and May, 1990).³⁴

Scope reconstruction is also present in Iraqi *wh*-questions: *wh*-phrases can display low scope with respect to a quantifier which does not c-command them but which c-commands the \bar{A} -bound resumptive pronoun. Without reconstruction, *wh*-questions can be answered with an expression denoting a single individual (i.e. a single-individual answer). With reconstruction, there are two logically distinct kinds of answers: an expression naming a salient function (i.e. a natural function answer) and a (possibly arbitrary) list of pairs (i.e. a pair-list answer; see Engdahl, 1980, 1986; Agüero-Bautista, 2001, Sharvit, 1999c, and Guillot, 2011 for discussion of these various readings). In (60), the use of the verb *xarrab*

34. See Choueiri (2002, 96–110) for additional arguments from Lebanese Arabic against deriving the wide scope reading of quantifiers in resumptive definite restrictive relatives through QR.

‘destroy’ strongly favors a multiple-individual answer to the *wh*-question in the presence of the universally quantified subject *kull waḥid min-hum* ‘every one of them/each of them’, and in this context, the direct object resumptive pronoun *-ha* ‘it’ licenses both a natural function answer and a pair-list answer.

- (60) Q: ja: lawḥa_i xarrab-**ha**_i kull waḥid min-hum?
 which painting_i destroyed.3.M.SG-**it**_i every one from-them
 (lit.) ‘Which painting_i did each of them destroy it_i?’ (Iraqi)
- A1: *Natural function answer* ($\forall > wh$):
 kull waḥid min-hum xarrab l-lawḥa lli jikrah-ha
 every one from-them destroyed.3.M.SG the-painting that hates.3.M.SG-it
 akṯar fi:
 most
 ‘Each of them destroyed the painting that he hates most.’
- A2: *Pair-list answer* ($\forall > wh$):
 l-ṯawwal xarrab l-“Mona Lisa,” w-l-ṯa:ni xarrab
 the-first destroyed.3.M.SG the-Mona Lisa and-the-second destroyed.3.M.SG
 “la:jlāt l-nuḡum,” w-l-ṯa:liṯ xarrab “l-s^ʕarxa.”
 night the-stars and-the-third destroyed.3.M.SG the-scream
 ‘The first destroyed “The Mona Lisa,” the second destroyed “Starry Night,”
 and the third destroyed “The Scream.”’

In other resumptive questions which do not strongly favor multiple-individual answers, single-individual answers are also licit:

- (61) Q: ja: firqa_i ṯhiṣṣ innu kull t^ʕa:lib jḥibb-**ha**_i akṯar fi:?
 which band.F.SG_i feel.2.M.SG that every student like.3.M.SG-**it.F.SG**_i best
 (lit.) ‘Which band_i do you feel every student likes it_i best?’ (Iraqi)
- A1: *Single-individual answer* ($wh > \forall$)
 BTS.
- A2: *Pair-list answer* ($\forall > wh$)
 ṯaḥiṣṣ innu Rami jḥibb Black Pink akṯar fi:, w Ola, BTS, w
 feel.1.SG that Rami like.3.M.SG Black Pink best and Ola BTS and
 Hend, Girls Gen.
 Hend Girls Gen
 ‘I feel like Rami likes Black Pink best, and Ola, BTS, and Hend, Girls Gen.’

Finally, note that scope-taking elements contained within the NP restriction of the operator can take low scope with respect to quantifiers within *C'*: in (62), the verb of destruction

misah ‘delete’ favors a multiple-individual reading with the universally quantified subject *kull s^fiħa:fi* ‘every reporter’, which can take wide scope with respect to the NP restriction of the *wh*-phrase *maqa:baltajn* ‘two interviews’ and license either a natural function or a pair-list answer.

(62) Q: ja: maqa:baltajn_i t^filbat Mona innu kull s^fiħa:fi_k jimsah-**hum**_i?
 which interviews.DU_i asked.3.F.SG Mona that every reporter_k delete-them_i
 (lit.) ‘Which two interviews_i did Mona ask that every reporter_k delete them_i?’
 (Iraqi)

A1: *Natural function answer* ($\forall > 2$)

aswa? θnajn.

worst two

‘The worst two (of his_k).’

A2: *Pair-list answer* ($\forall > 2$)

A, l-bunnijja w-l-mulawwana; B, l-ʔabjað^f w-ʔaswad w-l-mulawwana; C,

A the-brown and-the-colored B the-white and-black and-the-colored C

l-ʔabjað^f w-aswad w-l-bunnijja.

the-white and-black and-the-colored

‘A, the sepia tone one and the full color one; B, the black and white one and

the full color one; C, the black and white one and the full color one.’

In summary, resumptive pronouns in restrictive relatives and *wh*-questions in Iraqi Arabic permit reconstruction for low scope with respect to a low quantifier, licensing both natural function and pair-list answers.³⁵ The next subsection discusses a similar finding for reconstruction for low scope amount readings.

35. The situation reported by Malkawi (2009) for Jordanian Arabic is somewhat different. On the one hand, as in Iraqi Arabic, clitic resumptive pronouns in Jordanian restrictive relatives license scope reconstruction, giving rise to both natural function and pair-list readings under a universal quantifier inside the relative (2009, 160–165). On the other hand, unlike in Iraqi Arabic, clitic resumptive pronouns in Jordanian non-clefted *wh*-questions (in positions where they alternate with gaps) only license scope reconstruction yielding natural function answers; pair-list answers are not acceptable (2009, 165–166). Interestingly, Malkawi (2009, 166–167, (32)) reports that pair-list answers *are* licensed by obligatory resumptive pronouns in clefted *wh*-questions which do not alternate with gaps. See section §6.7 for a brief discussion of the role of the optionality of a resumptive in determining whether or not it can license reconstruction.

tion in Iraqi, Tunisian, and Syrian Arabic, in particular in the context of scope reconstruction with verbs of creation.³⁶

(64) *Resumptive wh-questions in Iraqi Arabic license reconstruction for low scope with respect to a verb of creation*

- a. i. kam taqrir_i lazim tiktib {-a_i / ?-hum_i} Noha
 how.many report.M.SG_i need write.3.F.SG {-it.M.SG_i / ?-them_i} Noha
 ĥatta ta:xuđ tarqijja?
 in.order take.3.F.SG promotion
 (lit.) ‘How many reports_i does Noha need to write them_i in order to get a promotion?’ (write > *n* many reports) (Iraqi)
- ii. For what *n*, Noha needs to write *n* many reports in order to get a promotion?
- b. i. kam nukta_i jigdar j?allif {-ha_i / ?-hum_i}
 how.many joke.F.SG_i be.able.3.M.SG make.up.3.M.SG {-it.F.SG_i / ?-them_i}
 b-sa:fa waħda?
 in-hour one
 (lit.) ‘How many jokes_i can he make them_i up in an hour?’ (make up > *n* many jokes) (Iraqi)
- ii. For what *n*, he can make up *n* many jokes in an hour?
- c. i. [kam tarġama min riwa:jat-a]_i jri:d-ak Karim
 [how.many translation.F.SG from novel-his]_i want.3.M.SG-you Karim
 tiktib-ha_i b-fahar waħid?
 write.3.F.SG-it.F.SG_i in-month one
 (lit.) ‘[How many translations of his novel]_i does Karim want you to write them_i in one month?’ (write > *n* many translations) (Iraqi)
- ii. For what *n*, Karim wants you to write *n* many translations of his novel in one month?

36. One dimension of variation which I must unfortunately abstract away from here concerns the φ -features realized by the resumptive pronoun in amount questions. There are at least two possibilities attested in the data I have collected. First, a resumptive pronoun can fully match its antecedent—the NP restriction of the *wh*-operator—in φ -features; see e.g. the 3.M.SG resumptive *-a* in (64a-i), matching the NP restriction *taqrir* ‘report (M.SG).’ This option seems to be available due to the fact that the NP restriction of the *wh*-operator ‘how many’ in Arabic is always morphologically singular. Second, a resumptive pronoun can bear plural features (in which case gender is unmarked in all varieties under discussion); see e.g. the 3.PL resumptive *-hum* in (64a-i). I have attempted to indicate where my consultants report preferences or a lack thereof between these different possibilities. If a possibility is not explicitly included, it is because I was not able to test it.

Note that both of these options in amount questions are to be distinguished from deflected agreement (on which see section §5.5.1), which instantiates a different kind of (number and gender) mismatch. Deflected agreement is possible in amount relatives where the external head of the relative is morphologically plural and is frequently modified by a numeral (e.g. (68)–(70)).

- d. i. Layla da-tisʔal [kam ʔiðba]_i jri:d-itʃ Karim
 Layla PROG-ask.3.F.SG [how.many lie.F.SG]_i want.3.M.SG-you.F.SG Karim
 tʔallifi: {-ha_i / ʔ-hum_i} ʔann-a li-l-muqa:bala.
 make.up.2.F.SG {-it.F.SG_i / ʔ-them_i} about-him for-the-interview
 (lit.) ‘Layla is asking [how many lies]_i Karim wants you to make them_i
 up about him for the interview.’ (make up > *n* many lies) (Iraqi)
- ii. ... for what *n*, Karim wants you to make up *n* many lies about him for
 the interview.’
- (65) *Resumptive wh-questions in Syrian Arabic license reconstruction for low scope with
 respect to a verb of creation*
- a. kam maʔa:l_i la:zim tiktib {-u_i / *-hon_i} Joni
 how.many article.M.SG_i need write.3.F.SG {-it.M.SG_i / *-them_i} Joni
 hatta jraqqu:ha?
 in.order promote.3.PL-her
 (lit.) ‘How many articles_i does Joni need to write them_i in order to get
 promoted?’ (write > *n* many articles) (Syrian)
- b. For what *n*, Joni needs to write *n* many articles in order to get promoted?
- (66) *Resumptive wh-questions in Tunisian Arabic license reconstruction for low scope with
 respect to a verb of creation*
- a. [qadde:ʃ min keðba]_i lezm-ək tətlaʃ bi:-hom_i fi seʔa waħda?
 [how.many from lie.F.SG]_i need-2.SG come.up.2.SG with-them_i in hour one
 (lit.) ‘How many lies_i do you need to come up with them_i in one hour?’
 (come up with > *n* many lies) (Tunisian)
- b. For what *n*, you need to come up with *n* many lies in one hour?

Reconstruction for low scope amount readings can even license pair-list answers under a
 c-commanding universal quantifier:

- (67) *Reconstruction for low scope amount readings licenses pair-list answers in Iraqi
 Arabic gapped and resumptive wh-questions*
- Q: kam kita:b_i jitwaqqaʃ qism l-ʔadab innu kull
 how.many book.M.SG_i suspect.3.M.SG department the-literature that every
 mitqaddim min l-mitqaddimi:n jigdar jiktib {___i / -a_i}
 applicant from the-applicants be.able.3.M.SG write.3.M.SG { / -it_i}
 b-sana waħda?
 in-year one
 (lit.) ‘How many books_i does the literature department suspect that each of
 the applicants can write {___i / them_i} in one year?’ (write > *n* many books)
 (Iraqi)

- A1: *Amount reconstruction without a pair-list reading*
 arbaʕ kutub.
 four books
 ‘Four books.’
- A2: *Amount reconstruction with a pair-list reading*
 Ahmad, klaθ kutub, w Kama:l, arbaʕ kutub, w...
 Ahmad three books and Kamaal four books and
 ‘Ahmad, three books, and Kamaal, four books, and...’

The same kinds of low scope amount readings under verbs of creation with resumptive pronouns are also possible in amount relatives (on which see Grosu and Landman, 1998, 2017). The difference with amount relatives, however, is that there is an overt numeral in the external head which takes narrow scope relative to the verb of creation. The following Arabic data are illustrative:

(68) *Resumptive relative clauses in Iraqi Arabic license reconstruction for low scope amount readings with respect to a verb of creation*

- a. l-[klaθ taqar:rir]_i lli Noha lazim tiktib {-**ha**_i / -**hum**_i}
 the-[three reports]_i that Noha need write.3.F.SG {-**it.F.SG**_i / -**them**_i}
 ĥatta ta:xuð tarqijja lazim tku:n ʕan mawa:ð^fi:r ɖɖi:da.
 in.order take.3.F.SG promotion need be.3.F.SG on topics new.F.SG
 (lit.) ‘The [three reports]_i that Noha needs to write them_i in order to get a
 promotion need to be on new topics.’ (write > 3) (Iraqi)
- b. l-[sitt nukar:t]_i lli jgu:l jigdar jʔallif {-**ha**_i /
 the-[six jokes]_i that says.3.M.SG be.able.3.M.SG invent.3.M.SG {-**it.F.SG**_i /
 -**hum**_i} b-sa:ʕa waħda lazim tku:n min s^fudug kullif tð^faħħik.
 -**them**_i} in-hour one need be.3.F.SG from truth very make.laugh.3.F.SG
 (lit.) ‘The [six jokes]_i that he says he can invent them_i in an hour need to
 genuinely be really funny.’ (Iraqi)
- c. l-[ku:mat vidijowar:t ʔil-a]_i lli Youssef jri:d kull muxriɖ
 the-[many.F.SG videos of-him]_i that Youssef want.3.M.SG every director
 js^fawwir-**ha**_i raħ ta:xuð ku:ma wakit.
 film.3.M.SG-**it.F.SG**_k FUT take.3.F.SG much time
 (lit.) ‘The [many videos of him]_i that Youssef wants every director to film
 them_i will take hours.’ (film > many) (Iraqi)
- d. l-[klaθ tma:θi:l ʔil-a]_i lli l-raʔi:s jri:d kull mutasa:biq
 the-[three statues of-him]_i that the-president want.3.M.SG every contestant
 jibni:-**ha**_i li-l-musa:baqa lazim tku:n ʕala l-ʔaqall
 build.3.M.SG-**it.F.SG**_i for-the-competition must be.3.F.SG over the-least

ʕaʕir cm.

ten cm

(lit.) ‘The [three statues of him]_i that the president wants each contestant to build them_i for the competition must be at least 10 cm tall.’ (build > 3)
(Iraqi)

- (69) *Resumptive relative clauses in Syrian Arabic license reconstruction for low scope amount readings with respect to a verb of creation*

l-ʔarbaʕ maʔa:la:t]_i lli Joni la:zim tiktib {-ha_i / -hon_i} hatta
the-[four articles]_i that Joni need write.3.F.SG {-it.F.SG_i / -them_i} in.order
jraqqu:ha la:zim tkun ʕan mawa:d^ʕi:ʕ ɖdi:di.
promote.3.PL-her need be.3.F.SG on topics new
(lit.) ‘The [four articles]_i that Joni needs to write them_i in order to get promoted need to be on new topics.’ (write > 4) (Syrian)

- (70) *Resumptive relative clauses in Tunisian Arabic license reconstruction for low scope amount readings with respect to a verb of creation*

l-[tle:θa keðbet]_i elli le:zm-ək tətlaʕ bi:hom_i fi seʕa waħda
the-[three lies]_i that need-you come.up.2.SG with-them_i in hour one
le:zəm-ha tkun muqnʕa.
need-3.F.SG be.3.F.SG convincing
(lit.) ‘The [three lies]_i that you need to come up with them_i in an hour need to be convincing.’ (come up with > 3) (Tunisian)

Although I do not at present have a detailed account of why resumptive pronouns permit amount readings, it suffices for our purposes to note that the same kinds of amount readings are available to non-resumptive E-type pronouns; the following Iraqi examples are illustrative:

- (71) *E-type pronouns in Iraqi Arabic permit amount readings*

- a. (compare (64a), (68a))
ajj aħad mat^ʕlu:b minn-a jiktib arbaʕ taqarir hatta
any one.M.SG required from-him write.3.M.SG four reports in.order
ja:xuð tarqijja la:zim jiktib-ha b-surʕa!
take.3.M.SG promotion need write.3.M.SG-it.F.SG with-speed
‘Anyone that needs to write four reports in order to get a promotion has to write them quickly!’ (Iraqi)
- b. (compare (64b), (68b))
ajj wa:ħid jgu:l innu jigdar jʔallif sitt nuka:t
any one.M.SG says.3.M.SG that be.able.3.M.SG invent.3.M.SG six jokes

b-sa:ʔa waħda la:zim jibdi jiktib {-ha / -hum} raʔsan!
 in-hour one need start.3.M.SG write.3.M.SG {-it.F.SG / -them} immediately
 ‘Anyone that says he can invent six jokes in an hour needs to start writing
 them immediately!’ (Iraqi)

This interpretive parallelism between resumptive and non-resumptive, E-type pronouns is exactly what is predicted by the NP-ellipsis analysis of (resumptive) pronouns, since resumptives pronouns simply are E-type pronouns. Thus, the problem of accounting for amount readings of resumptive pronouns reduces to the problem of accounting for amount readings of E-type pronouns—a matter which I leave for future research.

Reconstructed amount readings are also available in other contexts. For instance, measure predicates whose objects refer to e.g. weights ((72a)), lengths of time ((72b)), or amounts of money ((72c)) are typically assumed to force reconstruction (though see Grosu and Landman, 2017, 12, 26–28 for the proposal that the external head in amount relatives is often interpreted *both* inside *and* outside the relative). In such contexts, resumptive pronouns permit amount readings in Iraqi Arabic.³⁷

(72) *Resumptive pronouns license reconstruction for amount readings of objects of measure predicates in Iraqi Arabic*

- a. i. *Amount question*
 kam pa:wan_i za:d {-**ha**_i / -**hum**_i} l-xaru:f
 how.many pound_i increased.3.M.SG {-**it.F.SG**_i / -**them**_i} the-sheep
 ha:ða l-fahar?
 this the-month
 (lit.) ‘How many pounds_i did the sheep gain them_i this month?’ (gain >
n many pounds) (Iraqi)
- ii. *Amount relative*
 l-ʔaʔir pa:wanat_i lli l-xurfa:n za:do:-**ha**_i raħ
 the-[ten pounds]_i that the-sheep.PL gained.3.PL-**it.F.SG**_i FUT
 tiqtıl-hum.
 kill.3.F.SG-them
 (lit.) ‘The [ten pounds]_i that the sheep gained them_i will kill them.’ (gain
 > *n* many pounds) (Iraqi)

37. In many such instances, my consultant reports that gaps are preferred to resumptives but that resumptives are nevertheless acceptable.

- b. i. *Amount question*
 kam sa:ʕa_i qarrarat Hend innu raḥ tgað^ʕð^ʕi:
 how.many hour.F.SG_i decided.3.F.SG Hend that FUT spend.3.F.SG
 {?-**ha**_i / *-**hum**_i} b-l-maktaba ba:ʕfir?
 {?-**it.F.SG**_i / *-**them**_i} in-the-library tomorrow
 (lit.) ‘How many hours_i did Hend decide that she would spend them_i in
 the library tomorrow?’ (spend > *n* many hours) (Iraqi)
- ii. *Amount relative*
 Hend ma la:zim tð^ʕajjiʕ l-[klaθ sa:ʕaxt]_i lli qarrarat
 Hend NEG must waste.3.F.SG the-[three hours]_i that decided.3.F.SG
 innu raḥ tgað^ʕð^ʕi: {-**ha**_i / -**hum**_i} b-l-maktaba ba:ʕfir.
 that FUT spend.3.F.SG {-**it.F.SG**_i / -**them**_i} in-the-library tomorrow
 (lit.) ‘Hend must not waste the [three hours]_i that she decided to spend
 them_i in the library tomorrow.’ (spend > *n* many hours) (Iraqi)
- c. i. *Amount question*
 kam do:lar_i {tit^ʕulbi:h-**ijja**_i /
 how.many dollar_i {credit.2.F.SG-3.SG-**3.M.SG.AUG.ACC**_i /
 tit^ʕulbi:h-**ijja:hum**_i}?
 credit.2.F.SG-3.M.SG-**3.PL.AUG.ACC**_i}
 (lit.) ‘How many dollars_i does he owe you them_i (lit. ‘are you crediting
 him them_i’)?’ (credit > *n* many dollars) (Iraqi)
- ii. *Amount relative*
 l-[ʕiʕrim do:lar]_i lli tit^ʕulbi:h-**ijja**_i
 the-[twenty dollar]_i that credit.2.F.SG-3.SG-**3.M.SG.AUG.ACC**_i
 akθar mim-ma jigdar jidfaʕ-ha.
 more than-C be.able.3.M.SG pay.3.M.SG-it.F.SG
 (lit.) ‘The [twenty dollars]_i that he owes you them_i (lit. ‘that you are
 crediting him them_i) are more than what he can pay.’ (credit > *n* many
 dollars)³⁸ (Iraqi)

In all of the preceding cases, we can show that non-resumptive, E-type pronouns in parallel contexts also license amount readings, just as the NP-ellipsis theory of pronouns predicts:

(73) *Additional examples of E-type pronouns in Iraqi Arabic permitting amount readings*

- a. (compare (72a))
 wara: ma l-xaru:f nazzal ʕafir pa:wanaxt, riʕaʕ
 after C the-sheep lost.3.M.SG ten pounds returned.3.M.SG

38. The resumptive clitic *-ijja*: ‘it’ in this example bears masculine gender, rather than the expected feminine (i.e. an instance of *deflected agreement*, on which see section §5.5.1), due to a gender neutralization effect in 3>3 contexts with two clitics in Iraqi Arabic; see ‘problem #6’ in section §5.8.2 (as well as footnote 41 below) for additional discussion.

- za:d-ha.
gained.3.M.SG-it.F.SG
'After the sheep lost 10 lbs, it gained them (right) back.' (Iraqi)
- b. (compare (72b))
ajj aħad muqarrir innu jgað^fð^fi klaθ sa:fart b-l-maktaba
any one.M.SG decides.M.SG that spend.3.M.SG three hours in-the-library
ba:ʃir raħ jgað^fð^fi: {-ha / -hum} waħd-a.
tomorrow FUT spend.3.M.SG {-it.F.SG / -them} alone-3.M.SG
'Anyone who decides to spend three hours in the library tomorrow will be
spending them alone.' (Iraqi)
- c. (compare (72c))
ajj wa:ħid tit^fulbi:∅ ʃifri:n do:lar lazim jidfaʃ-ha
any one.M.SG credit.2.F.SG-3.M.SG twenty dollar need pay.3.M.SG-it.F.SG
ʔawwal ma jigdar.
first C be.able.3.M.SG
'Anyone who owes you twenty dollars needs to pay them back as soon as he
can.' (Iraqi)

In summary, resumption in Iraqi, Tunisian, and Syrian Arabic is compatible with reconstruction for low scope amount readings. These low scope amount readings can be forced with verbs of creation, as in (64)–(70), or with measure predicates, as in (72). Crucially, I demonstrated that amount readings of resumptive pronouns are paralleled by amount readings of non-resumptive, E-type pronouns in similar contexts. Thus, any theory of these latter interpretations of (E-type) pronouns will straightforwardly extend to account for reconstructed amount readings of resumptives.

This concludes my introduction to the basic suite of reconstruction effects under resumption in Arabic, all of which were argued to be derivable via a version of the NP-ellipsis theory of pronouns originally proposed by Elbourne (2001, 2005). In the following sections, I turn to three arguments against deriving reconstruction under resumption in Arabic through \bar{A} -movement: (i) reconstruction under resumption does not feed Condition C reconstruction (section §6.4), (ii) reconstruction under resumption can persist into islands (section §6.5), and (iii) resumptive pronouns which license reconstructed readings do not also exceptionally license parasitic gaps (section §6.6).

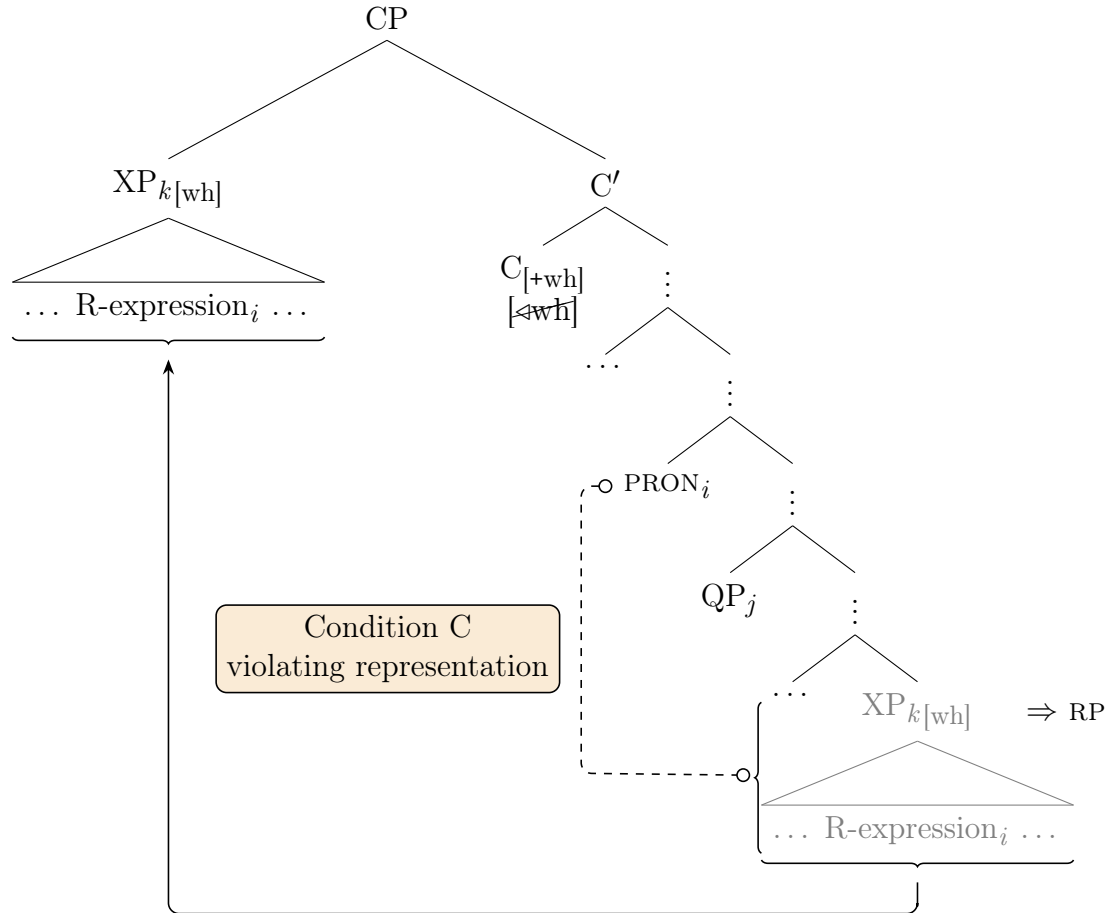
6.4 Reconstruction under resumption does not feed Condition C

In this section, I present the first strand of evidence against the strict movement theory of reconstruction under resumption ((3)) and in favor of a non-movement approach to such effects: scope and binding reconstruction under resumption does not feed Condition C in Iraqi Arabic.³⁹ This finding is unexpected under any analysis which derives reconstruction under resumption exclusively through selectively interpreting syntactic copies in an \bar{A} -movement chain: if the conditions on scope and binding operate on a single representation at LF, then reconstruction effects are expected to correlate and, potentially, to conflict with one another. Thus, in (74), the strict movement theory of reconstruction under resumption predicts (incorrectly for Iraqi) that interpreting a copy of XP lower than some scope-taking element or binder QP (e.g. to bind a pronominal variable contained inside XP) should force a disjoint reference effect between an R-expression contained within XP and a pronoun which c-commands both QP and the variable site. This is because, even with punctuated intermediate stopover points along the path of movement, there is no position where XP can be interpreted that simultaneously (i) satisfies the syntactic conditions on scope or binding and (ii) avoids a Condition C effect.

39. Preliminary results suggest that scope and binding reconstruction in Syrian and Tunisian Arabic likewise does not correlate with Condition C, though additional investigation is necessary:

- (i) *Variable binding reconstruction in Syrian Arabic does not feed Condition C violations*
 [ajja fatri min l-ʕila:ʔa be:n Mona_i w be:n-u_j]_k b-taʕtaʔid
 [which period.F.SG from the-relationship between Mona_i and between-him_j]_k IND-think.3.F.SG
 pro_i innu [kəll wa:hid min rifʔa:t-a_i]_j bidd-o jinsa:-**ha**_k?
 that [every one from friends-her_i]_j want-3.M.SG forget.3.M.SG-**it.F.SG**_k
 (lit.) ‘[Which period of the relationship between Mona_i and him_j]_k does she_i think that [every one of her_i friends]_j wants to forget it_k?’ (Syrian)
- (ii) *Scope reconstruction in Tunisian Arabic does not feed Condition C violations*
 Layla səʔlət [qadde:ʃ min tarʒma mtaʕ kte:b Kari:m_i]_k howwa_i
 Layla asked.3.F.SG [how.many from translation.F.SG of novel Karim_i]_k he_i
 yħəbb-ək təktəb {-**ha**_k / ?-**hom**_k}.
 want.3.M.SG-you write.2.M.SG {-**it.F.SG**_k / ?-**them**_k}
 (lit.) ‘Layla asked [how many translations of Karim_i’s novel]_k he_i wants you to write them_k.’
 (write > n many translations of Karim’s novel) (Tunisian)

- (74) *The strict movement theory of reconstruction under resumption predicts that reconstruction of XP below QP for scope/binding should feed Condition C violations*



The behavior of resumptive \bar{A} -dependencies in Iraqi Arabic thus differs from the behavior of gapped *wh*-questions in English which have been argued to exhibit reconstruction conflicts of precisely this character (see Lebeaux, 1991; Heycock, 1995; Romero, 1997, 1998a,b; Sauerland, 1998; and Fox, 1999, 2000).⁴⁰ The NP-ellipsis theory of resumption, on the other hand, predicts a robust lack of Condition C reconstruction effects due to the availability of *vehicle change* under resumption (see section §6.3.1). Consequently, the NP-ellipsis theory of resumption does not predict any correlation between scope and binding reconstruction and

40. On the other hand, resumption does display reconstruction conflicts in certain dependencies in some languages: Lebanese Arabic clitic left dislocation (Aoun et al., 2001, 382–385) and definite restrictive relatives (Choueiri, 2002, 132–133, fn. 8) and Welsh restrictive relatives (Rouveret, 2002, 139–140; see also Rouveret 2008, 185–186; 2018, 312, 314–316). If the presence of Condition C reconstruction unambiguously diagnoses a movement dependency, then this result suggests that resumption can accompany \bar{A} -movement in these languages.

Condition C effects, as has already been pointed out by Guillot (2006a, 89–92), Malkawi (2009, 221–224), and Salzmann (2017b, 303–304).

I begin by examining the interaction between reconstruction for variable binding and Condition C. Recall that the *condition on bound variable anaphora* ((29)) requires that quantifiers c-command the variables that they bind and Condition C ((43)) requires that R-expressions not be bound from an A-position. We can combine reconstruction for variable binding and reconstruction for Condition C in a single resumptive \bar{A} -dependency as in (75) (see Lebeaux, 1991 and Fox, 1999, 2000 for discussion of similar configurations in gapped dependencies).

$$(75) \quad [XP \dots R\text{-expression}_i \dots PRON_j \dots]_k \dots PRON_i \dots QP_j \dots RP_k$$

We can articulate two contrasting sets of predictions regarding this schematic resumptive \bar{A} -dependency. The strict movement theory of reconstruction predicts that variable binding reconstruction in (75)—which is achieved by interpreting a copy of XP at (or near) the position of the resumptive pronoun—ought to induce a Condition C violation between $PRON_i$ and the R-expression contained within XP. By contrast, the NP-ellipsis theory of reconstruction predicts that Condition C effects can be avoided in (75) thanks to the availability of vehicle change under ellipsis.

As the data in (76)–(77) show, the predictions of the NP-ellipsis theory are borne out: reconstruction for variable binding does not force Condition C effects in resumptive *wh*-questions and relative clauses in Iraqi Arabic.

(76) *Reconstruction for variable binding does not force Condition C violations in resumptive wh-questions in Iraqi Arabic*

- a. [ja: waḥda_n min l-s^fuwar lli Hend_i dazzat -lh_j
 [which one.F.SG_n from the-pictures that Hend_i sent.3.F.SG -3.SG.DAT_j
 -ijja:_n]_k titmanna (hijja_i) wala muyanni_j
 -it.M.SG.AUG.ACC_n]_k hope.3.F.SG (she_i) no singer_j
 jð^fibb-**ha**_k?
 throw.away.3.M.SG-**it.F.SG**_k
 (lit.) ‘[Which_n of the pictures that Hend_i sent him_j it_n]_k does she_i hope no

singer_j throws it_k out? (Iraqi)⁴¹

- b. [ja: ɖuzʔ min l-ħiwar bajn l-raʔis_i w
 [which part.M.SG from the-conversation between the-president_i and
 bajn-ha_j]_k jri:d (huwwa_i) kull siħa:fijja_j timsaħ-a_k
 between-her_j]_k want.3.M.SG (he_i) every journalist.F.SG_j remove.3.F.SG-**it**_k
 min maqa:balt-a_i wijja:-ha_j?
 from interview-his_i with-her_j
 (lit.) ‘[Which part of the conversation between the president_i and her_j]_k does
 he_i want every journalist_j (f.) to remove it_k from his_i interview with her_j?’⁴²
 (Iraqi)

(77) *Reconstruction for variable binding does not force Condition C violations in resumptive relative clauses in Iraqi Arabic*

- a. l-[qis^sa ʕan Nour_i wijja:-Ø_j]_k lli (hijja_i) tri:d [kull wa:ħid
 the-[story.F.SG about Nour_i with-him_j]_k that (she_i) want.3.F.SG [every one
 min-hum]_j jʔallif-**ha**_k li-l-furt^sa la:zim tku:n muqnaʕa.
 from-them]_j invent.3.M.SG-**it.F.SG**_k for-the-police need be.3.F.SG convincing
 (lit.) ‘The [story about Nour_i and/with him_j]_k that she_i wants [every one of
 them]_j to invent it_k for the police must be convincing.’ (Iraqi)
- b. l-[ʔiʕla:najn li-l-ʕarka {bajn Sami_i w bajn-ha_j /
 the-[advertisements.DU for-the-fight {between Sami_i and between-her_j /
 bajn-ha_j w bajn Sami_i}]_k lli (huwwa_j) jri:d kull
 between-her_j and between Sami_i}]_k that (he_i) want.3.M.SG every
 t^sa:liba_i ts^sammam-**hum**_k la:zim jku:nu:n ʕala l-ʔaqa:l tla:θi:n
 student.F.SG_j design.3.F.SG-**them**_k need be.3.PL at the-least thirty
 θa:nija.
 second
 (lit.) ‘The [two advertisements for the fight between {Sami_i and her_j / her_j
 and Sami_i}]_k that he_i wants every (f.) student_j to design them_k must be at
 least thirty seconds long.’ (Iraqi)

Crucially, there is no clear difference in acceptability between the preceding examples and similar examples in which the positions of the R-expression and coreferential pronoun are

41. The accusative resumptive clitic *-ijja:* ‘it’ in the relative clause modifying the NP restriction of the *wh*-operator bears masculine singular features rather than feminine singular features (which would match the external head of the relative *waħda min l-s^suwar* ‘one (F.SG) of the pictures’) because of a gender neutralization effect with two third person clitics in Iraqi Arabic. See ‘problem #6’ in section §5.8.2 for discussion.

42. The preposition *bajn* ‘between’ is repeated in this and similar examples because pronominal clitics like *-ha* ‘her’ cannot be coordinated. Consequently, when one of the coordinated objects of *bajn* ‘between’ (or of any preposition, to the best of my knowledge) is a (non-doubled) clitic, the preposition must be repeated before each object.

switched (i.e. in which no Condition C violation under reconstruction is expected):

- (78) a. [ja: waħda_n min l-s^ʕuwar lli (hijja_i) dazzat -lh_j
 [which one.F.SG_n from the-pictures that (she_i) sent.3.F.SG -3.SG.DAT_j
 -ijja_n]_k titmanna Hend_i wala muyanni_j
 -it.M.SG.AUG.ACC_n]_k hope.3.F.SG Hend_i no singer_j
 jð^ʕibb-**ha**_k?
 throw.away.3.M.SG-**it.F.SG**_k
 (lit.) ‘[Which_n of the pictures that she_i sent him_j it_n]_k does Hend_i hope no
 singer_j throws it_k out?’ (Iraqi)
- b. [ja: ɖuzʔ min l-ħiwa:r bajn-a_i w bajn-ha_j]_k
 [which part.M.SG from the-conversation between-him_i and between-her_j]_k
 jri:d l-raʔi:s_i kull siħa:fijja_j timsaħ-**a**_k
 want.3.M.SG the-president_i every journalist.F.SG_j remove.3.F.SG-**it.M.SG**_k
 min maqa:balt-a_j wijja:-ha_j?
 from interview-his_i with-her_j
 (lit.) ‘[Which part of the conversation between him_i and her_j]_k does the
 president_i want every (f.) journalist_j to remove it_k from his_i interview with
 her_j?’ (Iraqi)
- (79) a. l-[qis^ʕs^ʕa ʔan-ha_i hijja_i wijja:-Ø_j]_k lli Nour_i tri:d [kull
 the-[story.F.SG about-her_i she_i with-him_j]_k that Nour_i want.3.F.SG [every
 wa:ħid min-hum]_j jʔallif-**ha**_k li-l-ʔurt^ʕa la:zim tku:n
 one from-them]_j invent.3.M.SG-**it.F.SG**_k for-the-police need be.3.F.SG
 muqnaʕa.
 convincing
 (lit.) ‘The [story about her_i and/with him_j]_k that Nour_i wants [every one of
 them]_j to invent it_k for the police must be convincing.’ (Iraqi)
- b. l-[ʔiʕla:najn li-l-ʕarka bajn-ha_j w bajn-a_i]_k lli
 the-[advertisements.DU for-the-fight between-her_j and between-him_i]_k that
 Sami_j jri:d kull t^ʕa:liba_i ts^ʕammam-**hum**_k la:zim jku:nun
 Sami_i want.3.M.SG every student.F.SG_j design.3.F.SG-**them**_k need be.3.PL
 ʕala l-ʔaqall tla:θi:n θa:nija.
 at the-least thirty second
 (lit.) ‘The [two advertisements for the fight between her_j and him_i]_k that
 Sami_i wants every (f.) student_i to design them_k must be at least thirty seconds
 long.’ (Iraqi)

The same lack of a correlation between variable binding reconstruction and reconstruction for Condition C (i.e. the lack of reconstruction conflicts) has been reported for resumption in several other languages; see especially Guillot (2006a, 89–90, (2.133)–(2.134)) on French

wh-questions and left dislocation, Arad (2014, 72–82) on Hebrew relative clauses,⁴³ Guillot (2006a, 90, (2.135)), Malkawi (2009, 221–224), and Demirdache and Percus (2012, 5, (30a)) on Jordanian Arabic clitic left dislocation, and Salzmann (2006, 338, 341, 360, 364; 2017b, 359–360, 363–364) on Swiss German relative clauses (and see Moulton, 2013, 253–256 and Panitz, 2018, 151–156 for related discussion).⁴⁴

We should not be tempted to derive the bound variable reading of the pronoun contained in the *wh*-phrase/external head of the relative in (76)–(79) via QR of the embedded quantifier. This is because (i) such QR would be expected to trigger a weak crossover effect and (ii) QR is generally assumed to be clause-bounded (e.g. May, 1985; Larson and May, 1990). For the same reasons, we can also reject any attempt to account for (76)–(77) by reconstructing the NP restriction to a putative landing site *above* the pronoun coreferential with the embedded R-expression and QR-ing the quantifier above this landing site. The Iraqi data are simply incompatible with a movement account of reconstruction under resumption.

Next, consider the interaction between reconstruction for scope and Condition C. Recall that the *condition on scope-taking* ((55)) requires an XP to be c-commanded by QP if QP takes scope over XP. By combining reconstruction for scope and reconstruction for Condition C in a single resumptive \bar{A} -dependency as in (80), we can tease apart movement and

43. Arad (2014, §4.4) actually makes a much more interesting claim. Optional resumptive pronouns in Hebrew relative clauses normally do not license any kind of reconstruction (see also Doron, 1982, Bianchi, 2004, and Sichel, 2014, 2021, 2022). However, when reconstruction for scope or binding would force a Condition C violation, Arad claims that reconstruction *is* licensed with optional resumptives and that there is no concomitant Condition C effect, though she admits that the judgments are subtle and require further investigation (2014, 81–82, (78)–(81)). While I do not have an explanation for this puzzling interaction, see Arad (2014, 80–81) for an account invoking semantic reconstruction (i.e. the use of higher-type traces, see the references at the beginning of section §6.2.2) when syntactic reconstruction (i.e. selective interpretation of lower copies of movement) would incur a Condition C violation.

44. See also Heycock (2019) and Thoms and Heycock (2022) for evidence that various types of reconstruction effects in English headed relative clauses do not feed Condition C violations, *pace* Sauerland (1998, 2003). Interestingly, they report cross-linguistic variation in whether or not free relatives display Condition C connectivity which is determined by case connectivity of the relative pronoun: in those languages which show overt case connectivity between the *wh*-pronoun of the free relative and the variable site, Condition C effects obtain with R-expressions contained inside the moved *wh*-phrase, whereas in languages like English without morphological case connectivity in free relatives, there is no Condition C reconstruction (as originally observed by Citko, 2002).

non-movement theories of scope reconstruction (see especially Romero, 1998a,b on gapped dependencies):

$$(80) \quad [XP \dots R\text{-expression}_i \dots]_k \dots PRON_i \dots QP \dots RP_k$$

Once again, we can construct two contrasting sets of predictions. The strict movement theory of reconstruction predicts that scope reconstruction of XP below QP in (80) ought to induce a Condition C violation between $PRON_i$ and the R-expression contained within XP. By contrast, the NP-ellipsis theory of reconstruction permits voiding of Condition C through vehicle change and hence does not predict any reconstruction conflict.

The following Iraqi data show that the predictions of the NP-ellipsis analysis are borne out once more. Neither reconstruction for inverse scope with respect to another low quantifier ((81)–(82)) nor reconstruction for low scope amount readings with verbs of creation ((83)–(84)) feeds Condition C effects.

(81) *Reconstruction for inverse scope with respect to a low quantifier does not feed Condition C in resumptive wh-questions in Iraqi Arabic*

Q: [ja: maqa:baltajn l-Mona_i]_k t^filbat (hijja_i) innu kull siha:fi_j
 [which interviews.DU to-Mona_i]_k asked.3.F.SG (she_i) that every reporter_j
 jimsaħ-**hum**_k?
 delete.3.M.SG-**them**_k?
 (lit.) ‘[Which two interviews of Mona_i]_k did she_i ask every reporter_j to delete them_k? (Iraqi)

A1: *Natural function answer* ($\forall > 2$)

aswa? θnajn.
 worst two
 ‘The worst two (of his_k).

A2: *Pair-list answer* ($\forall > 2$)

A, l-bunnijja w-l-mulawwana; B, l-ʔabjað^f w-ʔaswad w-l-mulawwana; C,
 A the-brown and-the-colored B the-white and-black and-the-colored C
 l-ʔabjað^f w-aswad w-l-bunnijja.
 the-white and-black and-the-colored
 ‘A, the sepia tone one and the full color one; B, the black and white one and the full color one; C, the black and white one and the full color one.’

(82) *Reconstruction for inverse scope with respect to a low quantifier does not feed Condition C in resumptive relative clauses in Iraqi Arabic*

- l-[ku:mat vidijowa:t ma:l Youssef_i]_k lli *pro_i* jri:d kull muxriḏ
the-[many.F.SG videos of Youssef_i]_k that want.3.M.SG every director
js^fawwir-**ha_k** raḥ ta:xuḏ ku:ma wakit.
film.3.M.SG-**it.F.SG_k** FUT take.3.F.SG much time
(lit.) ‘The [many videos of Youssef_i]_k that he_i wants every director to film them_k
will take a lot of time.’ (∀ > many) (Iraqi)
- (83) *Reconstruction for low scope amount readings with verbs of creation does not feed
Condition C in resumptive wh-questions in Iraqi Arabic*
- a. [kam tarḏama min riwa:jat Karim_i]_k jri:d-ak
[how.many translation.F.SG from novel Karim_i]_k want.3.M.SG-you.M.SG
pro_i tiktib-**ha_k** b-fahar wa:ḥid?
write.2.M.SG-**it.F.SG_k** in-month one
(lit.) ‘[How many translations of Karim_i’s novel]_k does he_i want you to write
them_k in a month?’ (write > *n* many translations of Karim’s novel) (Iraqi)
- b. Layla da-tisʔal [kam tʃiḏba ʔan Karim_i]_k
Layla PROG-ask.3.F.SG [how.many lie.F.SG about Karim_i]_k
jri:d-if (huwwa_i) tʔallifi:-**ha_k** li-l-muqa:bala.
want.3.M.SG-you.F.SG (he_i) invent.2.F.SG-**it.F.SG_k** for-the-interview
(lit.) ‘Layla is asking [how many lies about Karim_i]_k he_i wants you to invent
them_k for the interview.’ (invent > *n* many lies about Karim) (Iraqi)
- (84) *Reconstruction for low scope amount readings with verbs of creation does not feed
Condition C in resumptive relative clauses in Iraqi Arabic*
- l-[xams qis^fas^f ʔan Mona_i]_k lli (hijja_i) tri:d-ak
the-[five stories about Mona_i]_k that (she_i) want.3.F.SG-you.M.SG
tʔallif-**ha_k** li-l-maqa:la lazim tku:n wa:qafijja.
invent.2.M.SG-**it.F.SG_k** for-the-article must be.3.F.SG believable
(lit.) ‘The [five stories about Mona_i]_k that she_i wants you to invent them_k for the
article must be believable.’ (invent > 5) (Iraqi)

In summary, neither reconstruction for variable binding nor reconstruction for scope feeds Condition C effects in resumptive \bar{A} -dependencies in Iraqi Arabic. The lack of such a correlation militates against the strict movement theory of reconstruction effects under resumption, per the reasoning of Heycock (1995), Romero (1997, 1998a,b) and Fox (1999, 2000), among others. A non-movement alternative is necessary.

Unfortunately, however, the NP-ellipsis theory alone is insufficient to account for the absence of reconstruction conflicts under resumption in Arabic. Consider why for (76a), repeated as (85).

- (85) [ja: waḥda_n min l-s^ʕuwar lli Hend_i dazat -lh_j
 [which one.F.SG_n from the-pictures that Hend_i sent.3.F.SG -3.SG.DAT_j
 -ijja:~_n]_k titmanna (hijja_i) wala muyanni_j
 -it.M.SG.AUG.ACC_n]_k hope.3.F.SG (she_i) no singer_j
 jð^ʕibb-**ha**_k?
 throw.away.3.M.SG-**it.F.SG**_k
 (lit.) ‘[Which_n of the pictures that Hend_i sent him_j it_n]_k does she_i hope no singer_j
 throws it_k out?’ (Iraqi)

On the one hand, I have argued that the lack of Condition C effects under resumption follows from *vehicle change*: the elided NP complement of the resumptive *-ha* ‘it’ contains a pronoun *hijja* ‘she’ which is equivalent under ellipsis to the R-expression *Hend* in the NP restriction of the operator. Consequently, there is no R-expression bound by the matrix subject pronoun *pro/hijja* ‘she,’ and no Condition C violation is predicted. On the other hand, I have attributed variable binding reconstruction to selective interpretation of NP restrictions in \bar{A} -chains (whether those chains are formed via movement or base-generation). So, interpreting the elided NP complement of the resumptive pronoun, which contains a copy of the variable *-lh* ‘him,’ will yield a reconstructed bound reading in (85). However, in order to prevent the high copy of the pronoun *-lh* ‘him’ contained in the NP restriction of the *wh*-operator from being free (rather than bound), this pronoun must be deleted at LF. To account for simpler cases involving just variable binding reconstruction in section §6.3.1, I proposed the *Principle of LF interpretation of \bar{A} -chains* which allows NP restrictions in \bar{A} -chains to be deleted at LF up to recoverability and up to interpretability. But deleting the entire NP restriction of the operator as in (86) should not be possible, due to the fact that the content of the R-expression *Hend* will now be unrecoverable.

- (86) *Vehicle change to obviate Condition C and LF-deletion of the NP restriction of the operator to derive variable binding reconstruction renders the content of the R-expression unrecoverable*
 [DP ja: [NP waḥda_n min l-s^ʕuwar lli Hend_i dazat -lh_j
 which one.F.SG_n from the-pictures that Hend_i sent.3.F.SG -3.SG.DAT_j
 ijja:~_n]] λx [hijja_i [... wala muyanni ... [DP -ha_x [NP waḥda_n
 -it.M.SG.AUG.ACC_n she_i no singer_j -it_x one.F.SG_n

min l-s^fuwar lli hijja_i dazzat -lh_j -ijja:_n]]]
 from the-pictures that she_i sent.3.F.SG -3.SG.DAT_j it.M.SG.AUG.ACC_n

Positing exceptional (and unrecoverable) deletion of the R-expression is not only theoretically unjustified—it makes incorrect empirical predictions, since the R-expression remains active for calculating Condition C effects with c-commanding pronouns:

- (87) * {*pro*_i / *hijja*_i} ma ga:lat-lna [ja: waḥda_n min l-s^fuwar
 { / *she*_i} NEG told.3.F.SG-1.PL.DAT [which one.F.SG_n from the-pictures
 lli **Hend**_i dazzat -lh_j -ijja:_n]_k titmanna (hijja_i)
 that **Hend**_i sent.3.F.SG -3.SG.DAT_j -it.M.SG.AUG.ACC_n]_k hope.3.F.SG (she_i)
 wala muyanni_j jḏ^fibb-ha_k?
 no singer_j throw.away.3.M.SG-it.F.SG_k
 (int.) ‘She_i didn’t tell us [which_n of the pictures that Hend_i sent him_j it_n]_k she_i
 hopes no singer_j throws it_k out.’ (Iraqi)

This problem does not appear to have been recognized by previous authors who pursued an NP-ellipsis analysis of reconstruction under resumption (e.g. Guillot, 2006a; Malkawi, 2009; and Salzmänn, 2017b).

I will suggest three possible solutions to this issue, though I will not decide between them here. The first possibility is to modify the *Principle of LF interpretation of \bar{A} -chains* to allow NP restrictions of operators to be minimized except for material that would be unrecoverable if deleted. Under this approach, an R-expression will be retained in the NP restriction of a resumptive-binding operator even when the R-expression antecedes a pronoun in the elided NP complement of the resumptive. In order to semantically integrate the R-expression into the clause, I propose that the head N of the NP restriction can also be retained at LF and can be coerced into having a relational noun meaning. The R-expression will then be treated as an argument of the relation *R* expressed by the head N. The interpretation of (85) under this approach would be as in (88a) (using English lexical items for convenience); a rough paraphrase of the intended interpretation is given in (88b).

- (88) a. which one(Hend_i) λx [she_i hopes no singer_j throws out [it_x [one_n of the pictures that she_i sent him_j it_n]]]

- b. ‘For which one of $\text{Hend}_i x$, she_i hopes no singer $_j$ throws out [the $_x$ one of the pictures that she_i sent him $_j$]?’

As the reader can appreciate, however, this approach is clearly stipulative and hence is not preferable.⁴⁵

A second possibility is to abandon the vehicle change account of Condition C obviation under resumption. Without vehicle change, the R-expression in the NP restriction of the operator will remain recoverable in the NP complement of the resumptive if the NP restriction of the operator is deleted at LF. One piece of suggestive evidence in favor of this approach is that Condition C effects are also largely absent in gapped DP *wh*-questions in Iraqi, Tunisian, and Syrian Arabic (see footnote 27). Gapped *wh*-questions plausibly do not have access to vehicle change since vehicle change is normally understood to be restricted to ellipsis contexts. It may be, then, that we need an alternative account of the distribution (and in particular, the *absence*) of Condition C reconstruction.⁴⁶

A third possibility is to propose that scope and binding reconstruction can arise via *semantic* reconstruction (i.e. the use of higher-type traces) à la Cresti (1995); Rullmann (1995); Sharvit (1997, 1998, 1999b,c); Lechner (1998, 2013, 2019); Sternefeld (2001a); Poole (2017, 2022a); Keine and Poole (2018); and Barker (2019). Since semantic reconstruction does not predict Condition C connectivity between the operator and the variable site (see Romero, 1997, 1998a,b; Fox, 1999, 2000), the Arabic facts in this section would be accounted

45. This approach might be thought of as a kind of distributed deletion at LF (see Fanselow and Ćavar, 2002 on distributed PF deletion). Note, though, that it is not enough to simply delete the offending pronoun from the NP restriction of the operator, as doing so in many cases would yield an uninterpretable structure. For instance, in (76b), deleting the variable *-ha* ‘her’ (or even the PP *bajn-ha* ‘between her’) would result in the imbalanced coordination *bajn l-ra?i:s w bajn-ha* ‘between the president and her.’ This structure would be uninterpretable because, without coordination, the preposition *bajn* ‘between’ cannot take an individual-denoting complement.

46. Adger et al. (2017) and Bruening and Al Khalaf (2019) present two alternative analyses of the absence of Condition C reconstruction with dependents of N(P) in English gapped *wh*-questions. However, both accounts crucially rely on the idea that lower copies of the *wh*-phrase can lack a representation of the offending R-expression at LF. This means that the content of the R-expression will not be recoverable in these lower positions, reintroducing the problem of unrecoverability if the NP restriction of the operator is also deleted.

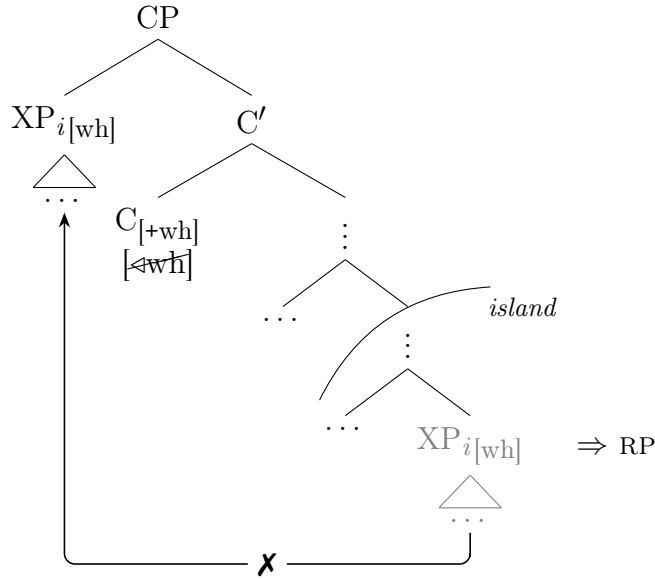
for.⁴⁷ I must leave deciding between these and other options to future research, though it is hoped that, by explicitly raising this issue for the first time, we can come closer to an adequate analysis of reconstruction effects.

6.5 In-island resumption permits reconstruction

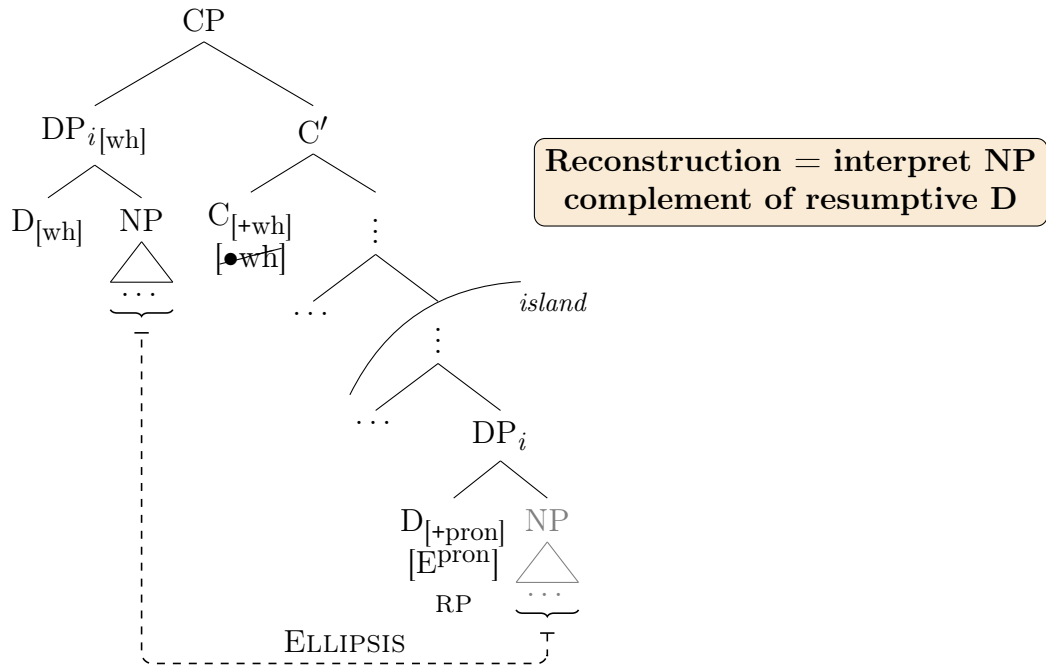
The second strand of evidence against the strict movement theory of reconstruction under resumption ((3)) and in favor of a non-movement approach comes from the persistence of reconstruction under resumption inside islands (Guilliot, 2006a, 2008; Guilliot and Malkawi, 2006, 2007, 2009, 2011; Malkawi and Guilliot, 2007; Malkawi, 2009; Salzmann, 2017b). If island-sensitivity is a syntactic diagnostic for movement (§3.3) and not, for instance, due to a representational constraint at PF which restricts the distribution of gaps (contra e.g. Pesetsky, 1998; Merchant, 2001; Lasnik, 2001; Hornstein et al., 2003; Boeckx, 2012; and Korsah and Murphy, 2020), then the availability of reconstruction into islands demonstrates that reconstruction is not exclusively a property of \bar{A} -movement dependencies. Whereas the strict movement theory of reconstruction under resumption predicts the robust absence of reconstruction effects into islands ((89)), the NP-ellipsis account can accommodate such reconstruction effects easily by positing elided NP content at the variable site ((90)).

- (89) *The strict movement theory of reconstruction predicts that, because movement out of islands is impossible, reconstruction into islands should be impossible*

47. But see Sharvit (1999a), Cecchetto (2001), Sternefeld (2001b), and Krifka (2019) for the idea that semantic accounts of reconstruction can accommodate Condition C connectivity via competition with bound pronouns, building on the competition-based account of Condition C in Reinhart (1983b). See Ruys (2015) for a critical assessment of Sternefeld's arguments.



(90) *The NP-ellipsis theory of reconstruction under resumption predicts that reconstruction is possible with base-generated resumptives inside islands*



I will note at the outset that the data discussed in this section are highly complex and speakers often hesitate to provide decisive acceptability judgments for them. The judgments reported here were elicited on multiple occasions with the same speakers. Furthermore, as discussed at the end of this section, the Arabic judgments converge with recent findings for resumption in other languages illustrating that reconstruction is possible into islands. The

Arabic data are not, therefore, *sui generis*.

The first set come from Tunisian Arabic resumptive *wh*-questions and demonstrate that variable binding reconstruction is possible into weak *wh*-islands and strong relative clause islands. In both cases, the variable binder is also contained inside the island.

(91) *Reconstruction for variable binding is island-insensitive in Tunisian Arabic resumptive wh-questions*

a. *Wh-island*

[amma taswi:ra mtaʕ wle:d-ha_i]_k ma-fhamt-ʃ lwe:ʃ ʔatta
 [which picture.F.SG of kids-her_i]_k NEG-understand.2.SG-NEG why no
 omm_i ma-xta:rət { * _k / ?-**ha**_k }?
 mother_i NEG-chose.3.F.SG { / ?-**it**_k }
 (lit.) ‘[Which picture of her_i kids]_k do you not understand why no mother_i
 chose { * _k / ?it_k }?’ (Tunisian)

b. *Relative clause island*

[amma taswi:ra mtaʕ wle:d-ha_i]_k tfe:ʒəʔ l-musawwər
 [which picture.F.SG of kids-her_i]_k was-surprised.3.M.SG the-photographer
 l-dqi:qa elli fhəm fi:ha elli ʔatta omm_i
 the-minute.F.SG that understood.3.M.SG in-it.F.SG that no mother_i
 ma:hi beʃ tæxta:r { * _k / ?-**ha**_k }?
 NEG-3.F.SG FUT choose.3.F.SG { / ?-**it.F.SG**_k }
 (lit.) ‘Which picture of her_i kids]_k was the photographer surprised the minute
 that he realized that no mother_i would choose { * _k / ?it_k }?’ (Tunisian)

Variable binding reconstruction into islands is also possible with resumptive relative clauses, as shown by the following Iraqi Arabic data:

(92) *Reconstruction for variable binding is island-insensitive in Iraqi Arabic resumptive relative clauses*

a. *CP complement to N island*

l-[fatra min ʔaja:t-a_i]_k lli d^ʕaʔakna ʕala fikrat innu ajj saja:si_i
 the-[period.F.SG from life-his_i]_k that laughed.1.PL over idea that any politician_i
 mumkin jri:d jaʔʔi ʕan-**ha**_k, hijja fatrat l-mura:ʔaqa.
 might want.3.M.SG talk.3.M.SG about-**it.F.SG**_k 3.F.SG period the-teenagehood
 (lit.) ‘The [period of his_i life]_k that we laughed at the idea that any politician_i
 might want to talk about it_k is teenagehood.’ (Iraqi)

b. *Relative clause island*

l-[fatra min ʔaja:t-a_i]_k lli ajj saja:si_i jaʔʔi ʕan-**ha**_k
 the-[period.F.SG from life-his_i]_k that any politician_i talks.3.M.SG about-**it.F.SG**_k

ma raḥ jinḍaḥ, hijja fatrat l-mura:haqa.
 NEG FUT succeed.3.M.SG 3.F.SG period the-teenagehood
 (lit.) ‘The [period of his_i life]_k that any politician_i who talks about it_k won’t
 succeed is teenagehood.’ (Iraqi)

Scope reconstruction into islands is also attested in resumptive \bar{A} -dependencies, as illustrated by the following data from Iraqi Arabic. Examples (93a)–(93b) illustrate inverse scope with respect to a low quantifier (in this case, *kull t^fa:lib* ‘every student’) in a resumptive relative clause across adjunct islands. Examples (94a)–(94b) illustrate low scope amount readings with the verb of creation *kitab* ‘write’ in resumptive *wh*-questions across an adjunct island and a relative clause island, respectively.

(93) *Reconstruction for inverse scope with respect to a low quantifier is island-insensitive in Iraqi Arabic resumptive relative clauses*

a. *Adjunct island*

ha:j hijja l-waraqa_n lli bi-ha_n l-ʔuynitajn_i lli
 this.F.SG 3.F.SG the-paper.F.SG_k that on-it.F.SG_k the-songs.DU_i that
 ʔinna muʔas^fs^fibi:n liʔin kull t^fa:lib ʔanna:-**ha**_i.
 were.1.PL upset.PL because every student sang.3.M.SG-**it.F.SG**_i
 ‘This is the paper with the two songs_i that we were upset because every student
 sang them_i.’ (∀ > 2) (Iraqi)

b. *Adjunct island*

ha:j hijja l-waraqa_n lli bi-ha_n l-ʔuynitajn_i lli wara:
 this.F.SG 3.F.SG the-paper.F.SG_k that on-it.F.SG_k the-songs.DU_i that after
 ma kull t^fa:lib ʔanna:-**ha**_i, s^fawwat^fna li-l-fa:jjiz.
 C every student sang.3.M.SG-**it.F.SG**_i voted.1.PL for-the-winner
 ‘This is the paper with the two songs_i that, after every student sang them_i,
 we voted for the winner.’ (∀ > 2) (Iraqi)

(94) a. *Adjunct island*

[kam tarḏama min riwa:ʔat Karim_i] t^filaʔit min
 [how.many translation.F.SG from novel Karim_i] left.2.M.SG from
 l-ʔarika wara: ma *pro*_i t^filab minn-ak tiktib {*__k
 the-company after C asked.3.M.SG from-you.M.SG write.2.M.SG {
 / -**ha**_k} b-ʔaḥar wa:ḥid?
 / -**it.F.SG**_k} in-month one
 (lit.) ‘[How many translations of Karim_i’s novel]_k did you leave the publishing
 company after he_i asked you to write {*_ / them_k} in a month?’ (write >
n many translations of Karim’s novel) (Iraqi)

- b. *Relative clause island*
 [kam tarḏama min riwa:ʒat Karim_i]_k t^filaʕit min
 [how.many translation.F.SG from novel Karim_i]_k left.2.M.SG from
 l-ʒarika b-naʕs l-jo:m lli *pro*_i t^filab minn-ak
 the-company on-same the-day that asked.3.M.SG from-you.M.SG
 tiktib { *___ / -**ha**_k }?
 write.2.M.SG { / -**it.F.SG**_k }
 (lit.) ‘[How many translations of Karim_i’s novel]_k did you leave the company
 the same day that he_i asked you to write { *___ / them_k }?’ (write > *n* many
 translations of Karim’s novel) (Iraqi)

Finally, I will note that there is no Condition C reconstruction in resumptive *wh*-questions which span an island boundary (even when reconstruction for scope is independently required, as in (94)). The following Iraqi data are representative:

(95) *No reconstruction for Condition C in resumptive wh-questions in Iraqi Arabic which span an island boundary*

- a. *Wh-island*
 Karim ga:l-lna [ja: manho:ta li-Nour_i]_k jri:dun
 Karim told.3.M.SG-1.PL.DAT [which sculpture.F.SG of-Nour_i]_k want.3.PL
 l-t^fulla:b jaʕrifu:n ʕwakit { *pro*_i / hijja_i } ʕa:ʕat { *____k / **ha**_k }.
 the-students know.3.PL when { / she_i } saw.3.F.SG { / **it.F.SG**_k }
 (lit.) ‘Karim told us [which sculpture of Nour_i]_k the students want to know
 when she_i saw { *____k / it_k }.’ (Iraqi)
- b. *Adjunct island*
 Layla_i siʔalat-na [ja: manho:ta li-Nour_j]_k nsadd
 Layla_i asked.3.F.SG-us [which sculpture.F.SG of-Nour_j]_k closed.3.M.SG
 l-maʕraḏ^f gabl ma { *pro*_j / hijja_j } tʕuf { *___ / -**ha**_k }.
 the-exhibit before C { / she_j } see.3.F.SG { / **it.F.SG**_k }
 (lit.) ‘Layla_i asked us [which sculpture of Nour_j]_k the exhibit closed before
 she_j saw { *____k / it_k }.’ (Iraqi)

This finding reflects the more general absence of Condition C reconstruction under resumption in Arabic (section §6.3.1).

In summary, although the examples are lengthy and complex, the presence of an island boundary between a resumptive pronoun and its binder does not seem to systematically block scope or binding reconstruction in the Arabic varieties under investigation. Similar findings have been reported for (island-insensitive) resumption in several other languages in

the recent literature. For instance, reconstruction with resumptives inside islands has been reported for Asante Twi focus fronting (reconstruction for variable binding; Korsah and Murphy, 2020, 859, (87a), certain Emirati Arabic *wh*-questions (reconstruction for variable binding and idiom chunks; Leung and Al-Eisaei, 2010, 7–10; 2013, 231; Leung, 2014, 436–437),⁴⁸ Hebrew relative clauses (reconstruction for anaphor binding, variable binding, and scope; Shlonsky, 2004b, 7–9),⁴⁹ Irish *wh*-questions (reconstruction for scope; Oda, 2012, 28–29), Jordanian Arabic clitic left dislocation, *wh*-questions, and (definite and indefinite) restrictive relative clauses with clitic resumptive pronouns and French left dislocation and *wh*-questions (reconstruction for anaphor binding, variable binding, and scope; Guillot, 2006a, 2008; Guillot and Malkawi, 2006, 2007, 2009, 2011; Malkawi and Guillot, 2007; Malkawi, 2009); Literary Welsh relative clauses and *wh*-questions (reconstruction for variable binding; Rouveret, 2018, 304, 313–316),⁵⁰ Swiss German relative clauses (reconstruction for anaphor binding and variable binding; Salzmann 2006, 343–345; 2017b, 364–365), Tuki *wh*-questions (reconstruction for variable binding; Biloa, 2013, 249, (67)–(68)),⁵¹ and Tyrolean German relative clauses (reconstruction for anaphor binding; Alber, 2008, 155–156).

The availability of reconstruction into islands militates against the strict movement theory

48. The situation in Emirati Arabic is somewhat complex. Leung and his co-authors report that reconstruction to the base of the \bar{A} -dependency is possible with resumption in weak *wh*-islands and ‘whether’ islands but impossible with resumption in strong adjunct and relative clause islands. However, they also claim that reconstruction in resumptive *wh*-questions spanning a strong island boundary is possible to an intermediate position *outside* the island: for instance, reconstruction for variable binding is reportedly possible when the QP binder is outside the strong island containing the resumptive (Leung and Al-Eisaei, 2010, 9, 31–32; Leung, 2014, 437, (19c–d)). If reconstruction to intermediate chain positions diagnoses \bar{A} -movement, this may point towards the availability of mixed base-generation-then-movement chains spanning strong islands in Emirati Arabic (and see also Salzmann, 2017b for arguments that intermediate reconstruction can be captured via prolepsis).

49. But see Arad (2014, 68) and Panitz (2018, 164–179) for evidence that not all speakers of Hebrew permit reconstruction into islands. See also Rasin (2017, 33, (27)) for the claim that reconstruction for *de dicto* readings in Hebrew restrictive relatives is impossible with resumption inside adjunct islands.

50. But see Rouveret (2008, 192, n. 30) for the claim, without supporting data, that reconstruction is impossible with in-island resumption in Welsh.

51. Though the Tuki data only require reconstruction to an intermediate landing site outside of the island and could be accounted for via a mixed chain or prolepsis.

of resumption since, as I argued in section §3.3, island-sensitivity is a cross-linguistically reliable test for syntactic movement dependencies. However, the facts are accounted for under a non-movement account of reconstruction such as the NP-ellipsis theory. Under the latter kind of approach, reconstruction arises from interpreting the elided content associated with the resumptive pronoun ((90)). Consequently, islandhood is not predicted to make a difference.

6.6 Reconstruction licensing does not pattern with parasitic gap licensing

The third and final strand of evidence against the strict movement theory of reconstruction under resumption ((3)) and in favor of a non-movement approach is novel and comes from investigating the interaction of reconstruction with parasitic gap licensing. In short, I will show that the availability of reconstruction does not correlate with parasitic gap licensing in Iraqi or Syrian Arabic.⁵² While both gaps and resumptives license reconstruction for scope and binding, only gaps can simultaneously license reconstruction and a parasitic gap; resumptive pronouns licensing reconstruction cannot simultaneously license a parasitic gap. Consequently, I argue that one of the two tests must not (unambiguously) diagnose \bar{A} -movement. Because parasitic gap licensing patterns robustly with other syntactic diagnostics for movement (§3.4), I submit that the correct analysis must be a non-movement account of reconstruction.

As a comparison, the strict movement theory of reconstruction predicts, *ceteris paribus*, that parasitic gap licensing should be possible in an \bar{A} -dependency exhibiting reconstruction, since that dependency must have been formed via movement. Reconstruction in English gapped *wh*-questions indeed seems to be compatible with parasitic gap licensing, as the following data illustrate:

52. I have not yet investigated this interaction in Tunisian Arabic.

- (96) *Reconstruction for anaphor binding and parasitic gap licensing are compatible in English gapped wh-questions*⁵³
 [Which reflection of himself_i]_k did Mike_i really like ____k [only after seeing *pg*_k]?
- (97) *Reconstruction for variable binding and parasitic gap licensing are compatible in English gapped wh-questions*
 [Which picture of their_i kids] do you think nobody_i will [want to buy ____i] [after seeing *pg*_i]?
- (98) *Reconstruction for scope and parasitic gap licensing are compatible in English gapped wh-questions*
- Q: [Which poem]_i did every poet compose ____i alone [despite having plans to compose *pg*_i with someone else]?
- A1: *Natural function answer* ($\forall > \exists$)
 The one he was dreading writing.
- A2: *Pair-list answer* ($\forall > \exists$)
 It varies a lot: For Mike, it was his poem about heartbreak; for Matt, it was his poem about Pepper; and for Zach, it was his poem about poetic meter itself!

Since the preceding sections have shown that reconstruction for scope and binding is possible in Arabic resumptive \bar{A} -dependencies, the strict movement theory of reconstruction predicts that parasitic gaps should also be licensed with resumptives in Arabic.

Let us begin by examining the interaction between variable binding reconstruction and parasitic gap licensing in Syrian Arabic *wh*-questions. Reconstruction for variable binding is possible with both gaps and resumptives. Thus, in (99), the pronominal variable *-ha* ‘her’ in the NP restriction of the operator can be bound under reconstruction by the QP *wala ʔamm* ‘no mother,’ which c-commands the variable site.

- (99) *Gapped \bar{E} resumptive wh-questions can license reconstruction for variable binding*
 [ajja s¹urra tabaʔ awla:d-ha_i]_k bi-tfakkiri wala ʔamm_i raħ
 [which picture.F.SG of children-her_i]_k IND-think.2.F.SG no mother_i FUT
 {tjftiri ____k / tjftiri:-**ha**_k} [baʔd ma tfurf-ha_k]?
 {buy.3.F.SG / buy.3.F.SG-**it.F.SG**_k} [after C see.3.F.SG-it.F.SG]
 (lit.) ‘[Which picture of her_i children]_k do you think no mother_i will buy {____k / it_k} [after seeing it_k]?’ (Syrian)

53. See also Branan and Erlewine (2021, 738–739) on anaphor binding and parasitic gap licensing in English *wh*-questions.

As we have already seen in section §3.4, gapped dependencies in Syrian Arabic can license parasitic gaps, and this remains true in the presence of variable binding reconstruction:

- (100) *Gapped wh-questions can simultaneously license parasitic gaps and reconstruction for variable binding*
 [ajja s^fu:ra tabaʕ awla:d-ha_i]_k bi-tfakkiri wala ʔamm_i raḥ
 [which picture.F.SG of children-her_i]_k IND-think.2.F.SG no mother_i FUT
 tiʕtiri —_k [baʕd ma tʃu:f pɡ_k]?
 buy.3.F.SG [after C see.3.F.SG pɡ_k]
 ‘[Which picture of her_i children]_k do you think no mother_i will buy —_k [after seeing pɡ_k]?’
 (Syrian)

By contrast, resumptive dependencies never license parasitic gaps, even if reconstruction for variable binding is forced:

- (101) *Resumptive wh-questions do not license parasitic gaps*
 *[ajja s^fu:ra tabaʕ awla:d-ha_i]_k bi-tfakkiri wala ʔamm_i raḥ
 [which picture.F.SG of children-her_i]_k IND-think.2.F.SG no mother_i FUT
 tiʕtiri-**ha**_k [baʕd ma tʃu:f pɡ_k]?
 buy.3.F.SG-**it.F.SG**_k [after C see.3.F.SG pɡ_k]
 (int.) ‘[Which picture of her_i children]_k do you think no mother_i will buy it_k [after seeing pɡ_k]?’
 (Syrian)

The asymmetry between gaps and resumptives is explained straightforwardly if parasitic gaps are necessarily licensed by intermediate movement to [Spec, vP] (Nissenbaum, 2000) and if such movement is unavailable in resumptive \bar{A} -dependencies, which are base-generated. Reconstruction must therefore arise without movement.

We can arrive at the same conclusion when we consider the interaction between reconstruction for scope and parasitic gap licensing in Iraqi Arabic. As the data in (102) show, reconstruction for inverse scope with respect to a low quantifier, giving rise to a pair-list reading, is possible with gaps and resumptives:

- (102) *Gapped and resumptive wh-questions can license reconstruction for inverse scope*
 Q: [ja: ḥabtajn min ḥalawija:t-a]_i t^filab Ahmad innu kull waḥda
 [which piece.DU from desserts-his]_i asked.3.M.SG Ahmad that every one.F.SG

min s^ʕadi:qa:t-a tʒarrab {___i / -**ha**_i} [bidu:n ma tʃu:f-ha_i]?
 from friends.F.PL-his try.3.F.SG { / -**it.F.SG**_i} [without C see.3.F.SG-it_i]
 (lit.) ‘[Which two of his desserts]_i did Ahmad ask that every one of his friends
 try {___i / them_i} [without seeing them_i]?’ (Iraqi)

A: *Pair-list answer* ($\forall > 2$)

ra:d Salma tʒarrab l-red velvet w-l-chocolate, w Hend
 wanted.3.M.SG Salma try.3.F.SG the-red velvet and-the-chocolate and Hend
 l-fistiʒ w-l-vanilla, w...
 the-pistachio and-the-vanilla and
 ‘He wanted Salma to try the red velvet and the chocolate, Hend the pistachio
 and the vanilla, ...’

Yet, reconstruction for scope has no bearing on parasitic gap licensing—parasitic gaps are only licensed in gapped dependencies and not in resumptive ones:

(103) *Gapped wh-questions can simultaneously license parasitic gaps and reconstruction for inverse scope*

Q: [ja: ʔabtajn min ʔalawija:t-a]_i t^ʕilab Ahmad innu kull waʔda
 [which piece.DU from desserts-his]_i asked.3.M.SG Ahmad that every one.F.SG
 min s^ʕadi:qa:t-a tʒarrab ___i [bidu:n ma tʃu:f *pg*_i]?
 from friends.F.PL-his try.3.F.SG [without C see.3.F.SG *pg*_i]
 (lit.) ‘[Which two of his desserts]_i did Ahmad ask every one of his friends to
 try ___i [without seeing *pg*_i]?’ (Iraqi)

A: *Pair-list answer* ($\forall > 2$)

ra:d Salma tʒarrab l-red velvet w-l-chocolate, w Hend
 wanted.3.M.SG Salma try.3.F.SG the-red velvet and-the-chocolate and Hend
 l-fistiʒ w-l-vanilla, w...
 the-pistachio and-the-vanilla and
 ‘He wanted Salma to try the red velvet and the chocolate, Hend the pistachio
 and the vanilla, ...’

(104) *Resumptive wh-questions do not license parasitic gaps*

Q: * [ja: ʔabtajn min ʔalawija:t-a]_i t^ʕalab Ahmad innu kull waʔda
 [which piece.DU from desserts-his]_i asked.3.M.SG Ahmad that every one.F.SG
 min s^ʕadi:qa:t-a tʒarrab-**ha**_i [bidu:n ma tʃu:f *pg*_i]?
 from friends.F.PL-his try.3.F.SG-**it.F.SG**_i [without C see.3.F.SG *pg*_i]
 (int.) ‘[Which two of his desserts]_i did Ahmad ask every one of his friends to
 try them_i [without seeing *pg*_i]?’ (Iraqi)

A: *Pair-list answer* ($\forall > 2$)

ra:d Salma tʒarrab l-red velvet w-l-chocolate, w Hend
 wanted.3.M.SG Salma try.3.F.SG the-red velvet and-the-chocolate and Hend

l-fistiq w-l-vanilla, w...
the-pistachio and-the-vanilla and
‘He wanted Salma to try the red velvet and the chocolate, HEND the pistachio
and the vanilla, ...’

Scope reconstruction, like variable binding reconstruction, does not pattern with parasitic gap licensing and therefore must be able to arise without movement, as the NP-ellipsis theory predicts (see section §6.3.2).⁵⁴

In summary, three independent lines of inquiry have revealed that reconstruction under resumption in Iraqi, Syrian, and Tunisian Arabic does not diagnose a movement dependency. First, reconstruction under resumption in Arabic does not give rise to reconstruction conflicts of the type identified by Lebeaux (1988, 1991); Heycock (1995); Romero (1998a,b); and Fox (1999, 2000); rather, Condition C effects are robustly absent in resumptive \bar{A} -dependencies. Second, reconstruction persists with in-island resumption in Arabic, paralleling similar findings for many other languages. Since islands prohibit movement out of them, this finding demonstrates that reconstruction must be achievable without movement. Finally—and this observation was novel—the availability of reconstruction does not march in lockstep with

54. I will also make a provisional note that reconstruction for binding of the reciprocal *baʕḏ* ‘each other’ in Iraqi Arabic also does not pattern with parasitic gap licensing:

- (i) *Gapped and resumptive wh-questions can license anaphor binding reconstruction*
[ja: swa:lif ʕan baʕḏ^f_{i+j}]_k {jinqilun _____k / jinqilu:-**ha**_k} Karim_i w Salma_j
[which stories about each.other_{i+j}]_k {retell.3.PL ____ / retell.3.PL-**it.F.SG**_k} Karim_i and Salma_j
[bidun ma jis^faddigu:-**ha**_k]?
[without C believe.3.PL-it_k]
(lit.) ‘[Which stories about each other_{i+j}]_k are Karim_i and Salma_j retelling {_____k / them_k}
[without believing them_k]?’ (Iraqi)
- (ii) *Gaps, but not resumptives, license parasitic gaps when reconstruction for anaphor binding is independently forced*
[ja: swa:lif ʕan baʕḏ^f_{i+j}]_k {jinqilun _____k / *jinqilu:-**ha**_k} Karim_i w Salma_j
[which stories about each.other_{i+j}]_k {retell.3.PL ____ / *retell.3.PL-**it.F.SG**_k} Karim_i and Salma_j
[bidun ma jis^faddigu:n *pg*_k]?
[without C believe.3.PL *pg*_k]
(lit.) ‘[Which stories about each other_{i+j}]_k are Karim_i and Salma_j retelling {_____k / *them_k}
[without believing *pg*_k]?’ (Iraqi)

However, additional investigation is needed to understand the distribution of reciprocal *baʕḏ* ‘each other’, in particular whether it has logophoric or exempt anaphoric uses.

parasitic gap licensing. Resumptive pronouns never license parasitic gaps, even when they simultaneously license reconstruction for scope or binding. Because \bar{A} -movement does license parasitic gaps in the Arabic varieties investigated here, resumptive \bar{A} -dependencies must not be able to be formed by movement. This convergence of evidence provides striking support in favor of the NP-ellipsis approach to resumption, which posits base-generation of resumptive elements with internally complex, elided structure that can be interpreted in situ, thereby deriving patterns of reconstruction. My analysis accommodates all the patterns described above without stipulating otherwise unmotivated—and, indeed, empirically problematic—movement in Arabic resumptive \bar{A} -chains.

6.7 Excursus: On interpretive asymmetries between optional and obligatory resumptives and their relation to movement

Before concluding, I will briefly consider one final wrinkle in the reconstruction picture. A number of authors have argued that only obligatory resumptive pronouns license reconstruction cross-linguistically, e.g. Bianchi (2004); Sichel (2014, 2021, 2022); Arad (2014); Rasin (2017); and Bassi and Rasin (2018). I have not found this to be the case in my research on Arabic: speakers do not report a systematic difference between optional and obligatory resumptive pronouns in their ability to license reconstruction effects. Rather, reconstruction is productively found with optional direct object resumptive pronouns. (105) illustrates with variable binding reconstruction in Syrian Arabic:

- (105) [ajja fatri min ĥaj:t-u_i]_k inti mitʔakkidi inno ma ĥada_i
 [which period.F.SG from life-his_i]_k you.F.SG certain.F.SG that NEG one_i
 bidd-o jitðakkar {___k / -ħa_k}?
 want-3.M.SG remember.3.M.SG { / -it.F.SG_k}
 (lit.) ‘[Which period of his_i life]_k are you certain that nobody_i wants to remember
 {___k / it_k}?’ (Syrian)

Optional resumptives have also been reported to license reconstruction in Lebanese Arabic

wh-questions (Aoun and Li, 2003, 15–16), Jordanian Arabic *wh*-questions (Malkawi, 2009),⁵⁵, and Mandarin Chinese relative clauses (Pan, 2016, 230–232). Furthermore, even in languages like Hebrew for which the (non-)obligatoriness of the resumptive has been argued to be crucial for determining its interpretive possibilities (see especially Sichel, 2014), there is evidence that optional resumptives license reconstruction in at least some cases. For instance, Erteschik-Shir (1992, 95ff.) claims, *pace* Sells (1984) (and see also Doron, 1982), that individual concept readings (i.e. *de dicto* readings) of optional direct object resumptive pronouns are permissible when a sufficient context is supplied. See Ariel (1990, 153ff.) and Sharvit (1997, 144–145) for additional evidence along these lines.

There is a deeper issue, however. Sichel (2014, 2021, 2022), Rasin (2017), and Bassi and Rasin (2018) argue that the availability of reconstruction with obligatory resumptives establishes that obligatory resumptives inhabit movement dependencies at least some of the time. These authors all assume a variant of the strict movement theory of reconstruction in (3). By the same reasoning, these authors conclude that optional resumptives, which preclude reconstruction, can never be derived by movement. This proposal fails in at least two ways. First, the availability of reconstruction does not necessarily diagnose a movement dependency, as in Arabic and the many other languages discussed in this chapter. Second, there are languages whose resumptive \bar{A} -dependencies are unambiguously derived by movement, as diagnosed by various syntactic tests, in which many resumptive pronouns (typically those which alternate with gaps) have access to a more limited set of interpretations.

Take reconstruction in Romani relative clauses. Manetta (2020) reports that only gaps and obligatory resumptive pronouns, which occur in oblique positions (i.e. not nominative or accusative), license reconstruction for *de dicto* readings of the relative head ((106)–(107)). *De dicto* readings are unavailable with optional direct object resumptives ((108)).

55. At least for variable binding (p. 100–101, (10a–b)), anaphor binding (107, (20a)), and scope reconstruction for natural function answers (126, (51a)). On the other hand, Malkawi claims that pair-list readings are unavailable with optional resumptives in Jordanian Arabic (p. 126, (51b)), though they are possible with obligatory resumptives (pp. 131, (61a); 132, (62a)).

- (106) *Gaps license de dicto readings of the relative head in Romani*
 O Vanja ka arakhel la rromnja kas zhanav kaj mangel.
 DEF Vanya FUT find DEF woman who.ACC know.1SG that wants.3SG
 ‘Vanya will find the woman who I know he wants.’ (✓ *de re*, ✓ *de dicto*) (Manetta, 2020, 79–80, (56))
- (107) *Obligatory resumptives license de dicto readings of the relative head in Romani*
 O Vanja ka arakhel la rromnja kaj diljol les.
 DEF Vanya FUT find DEF woman that obsess.3SG 3SG.OBL
 ‘Vanya will find the woman who he obsesses about.’ (✓ *de re*, ✓ *de dicto*)
 (Manetta, 2020, 78, (53))
- (108) *Optional resumptives do not license de dicto readings of the relative head in Romani*
 O Vanja ka arakhel la rromnja kas zhanav kaj mangel la.
 DEF Vanya FUT find DEF woman who.ACC know.1SG that wants.3SG 3SG.ACC
 ‘Vanya will find the woman who I know he wants.’ (✓ *de re*, ✗ *de dicto*) (Manetta, 2020, 80, (57))

However, case-connectivity in (108) demonstrates that the operator *kas* ‘who.ACC’ has moved to its surface position from the variable site where it was assigned case (see section §3.7). Thus, even when case-connectivity diagnoses a movement dependency, we observe that the presence of an optional resumptive like *la* ‘her’ can restrict the availability of *de dicto* readings.⁵⁶ Though the asymmetry in many languages between optional and obligatory resumptives with respect to reconstruction clearly merits an explanation,⁵⁷ I hope to have shown

56. See Asudeh (2012, 249–252) for evidence that even *obligatory* resumptive pronouns in embedded subject positions in Swedish *wh*-questions (which exhibit all the hallmarks of accompanying an \bar{A} -movement dependency, e.g. they license parasitic gaps) rebuff low scope reconstruction to license pair-list answers and *de dicto* readings.

57. I will mention one possibility here. Previous literature has analyzed the unavailability of reconstruction under optional resumption in some languages as the result of competition: optional resumptives block reconstruction because gaps in the same positions allow it (see especially Sichel, 2014 for an account invoking competition to minimize the PF realization of the tail of a chain). Such competition-style effects are familiar from the realm of neo-Gricean, pragmatic reasoning. We might, therefore, reasonably attribute the preference under reconstruction for gaps over optional resumptives to pragmatically motivated competition. Take, for instance, the third submaxim of Grice’s (1989, 27) Manner, which states, “Be brief (avoid unnecessary prolixity).” Suppose that, in the context of reconstruction, this maxim is relativized to apply to favor the briefest of two (or more) potential utterances with identical interpretations (i.e. identical LFs). As a consequence, given two \bar{A} -dependencies with reconstruction, one with a gap and one with a(n overt) resumptive pronoun, the gapped dependency will be pragmatically favored. Now, without additional assumptions, this maxim would predict that gaps should outcompete resumptive pronouns in *all* cases where the two alternate due to the comparative brevity of gaps, contrary to fact. It must be the case, therefore, that the competition between gaps and pronouns is restricted to cases where a reconstructed reading is at

in this brief excursus that any account which attempts to reduce the asymmetry to the (non-)availability of movement makes incorrect predictions: reconstruction under resumption is available with optional resumptives formed without movement (i.e. in Arabic) and it is sometimes unavailable with optional resumptives even in the presence of movement (i.e. in Romani).

6.8 Conclusion

In this chapter, I have argued that reconstruction effects in resumptive *wh*-questions and restrictive relatives in Iraqi, Tunisian, and Syrian Arabic are best analyzed using the NP-ellipsis approach to pronouns pioneered by Elbourne (2001, 2005, 2013) and extended to resumption in other languages by Guillot and Malkawi (2006) and Salzmann (2017b), among others. I adduced several arguments against alternative approaches which exclusively derive reconstruction from (lower copy interpretation in) \bar{A} -movement dependencies. First, I showed that not all reconstruction effects pattern together under resumption—whereas reconstruction for variable binding and reconstruction for scope are robustly available, reconstruction for Condition C is absent. This divergence is unexpected under movement approaches, but is accounted for by the NP-ellipsis approach by means of vehicle change. I furthermore showed that resumptive \bar{A} -dependencies do not display reconstruction conflicts: reconstruction for scope/variable binding does not feed Condition C violations. Movement approaches pre-

stake (see Malkawi, 2009, §4.5 for discussion of the same point and for a different analysis of the competition effect). If it is possible to restrict pragmatic competition to just those environments, then the competition effect is accounted for. The neo-Gricean account also predicts that sufficient context might accommodate otherwise dispreferred reconstructed readings of optional resumptives, and this is indeed borne out (see e.g. Ariel, 1990, 153ff., Erteschik-Shir, 1992, 95ff., and Sharvit, 1997, 144–145).

The reader might object that the pragmatic account of the lack of reconstruction with optional resumptives has to resort to global comparison between utterances/LFs. However, extant accounts do not seem to fare much better in this regard. For instance, Sichel (2014) proposes that determining the optional vs. obligatory status of a resumptive pronoun is not always determined locally. Erstwhile optional direct object resumptives can be rendered obligatory (and hence be coerced into a movement derivation under her analysis) in configurations which would violate weak crossover if replaced by a gap (Sichel, 2014, §2.4). The choice of a pronoun over a gap (which Sichel proposes takes place at PF) clearly cannot be made locally to the variable site and requires global evaluation.

dict these effects to correlate (by definition, see Fox, 1999, 2000), contrary to fact, whereas base-generated approaches to reconstruction were shown to be compatible with the absence of conflicts under resumption given certain additional assumptions. The second argument for the NP-ellipsis approach, building on observations by Guillot and Malkawi (2006) and Salzmann (2017b), was that reconstruction persists into islands. In order to explain this fact, movement approaches to reconstruction would need to abandon a syntactic account of islands (e.g. Pesetsky, 1998; Korsah and Murphy, 2020) or to posit differences in the island-sensitivity of certain movement types (Sportiche, 2020). Either move would be untenable in light of the arguments from chapter 3; hence, reconstruction with in-island resumption must not be due to \bar{A} -movement, and base-generation must allow for reconstruction, as the NP-ellipsis theory predicts. Finally, I showed that reconstruction licensing and parasitic gap licensing do not go hand in hand; in particular, although both resumptives and gaps license reconstruction, only gaps ever license parasitic gaps. This asymmetry can be accounted for if resumptive pronouns in Arabic—even those which license reconstruction—must be base-generated (rather than movement-derived).

What emerges from this chapter is a clear asymmetry between syntactic tests for movement, on the one hand, and reconstruction, on the other. The following table illustrates that the two do not march in lockstep, bringing together the results of the present chapter with those of previous chapters:

- (109) *Syntactic tests for movement vs. reconstruction in Iraqi (IA), Tunisian (TA), and Syrian Arabic (SA)*

	Resumptive dependencies	Gapped dependencies
Are islands obeyed? (IA, TA, SA)	No	Yes
Are parasitic gaps licensed? (IA, TA, SA)	No	Yes
Is <i>exactly</i> stranding permitted? (IA, SA)	No	Yes
Can operators be case-marked? (IA)	No	Yes
Is reconstruction for variable binding licensed? (IA, TA, SA)	Yes	Yes
Is reconstruction for scope licensed? (IA, TA, SA)	Yes	Yes
Is reconstruction for Condition C forced? (IA, TA, SA)	No	Sometimes

It is worth noting, however, that there is at least one kind of reconstruction effect whose presence unambiguously characterizes \bar{A} -movement dependencies and hence which remains a useful diagnostic tool: Condition C reconstruction (especially in reconstruction conflicts with scope and variable binding).

CHAPTER 7

DIAGNOSING CROSSOVER UNDER RESUMPTION

7.1 Introduction

In this chapter, I argue that resumptive pronouns in Arabic systematically induce secondary weak and strong crossover effects. Crucially, I show for the first time (for any language, to my knowledge) that secondary crossover effects persist with in-island resumption. This finding demonstrates that secondary crossover effects are a property of \bar{A} -binding dependencies—broadly construed—which can arise through either base-generation or movement; secondary crossover cannot strictly be a property of \bar{A} -movement dependencies. I propose an account of crossover following Büring (2004) which differentiates between (i) A -binding and \bar{A} -binding, and (ii) direct and indirect binding, yielding a three-way taxonomy of binding types. Secondary crossover effects are accounted for if there is no indirect binding from \bar{A} -positions (i.e. *no indirect \bar{A} -binding*). Furthermore, I argue that the three hypothesized binding types are derived by positing three kinds of structurally represented binder prefixes whose distribution is restricted by position—specifically, some (but not all) binder prefixes are restricted to A -positions. My analysis extends to primary crossover once we adopt a version of the Bijection Principle (Koopman and Sportiche, 1982), which enforces a one-to-one correspondence between binders and bound variables. Novel evidence in support of Bijection comes from two distinct sources: (i) the distribution of bound variable epithets inside islands in Syrian Arabic, which demonstrates that co- \bar{A} -binding is impossible; and (ii) the distribution of multiple coconstrued bound variables in English resumptive \bar{A} -dependencies, which co- \bar{A} -binding is neither necessary nor sufficient to account for.

As in previous chapters, a key principle guiding the analysis is a commitment to explaining the following morphological generalization which boasts robust cross-linguistic support:

(1) **The Doron–Engdahl–McCloskey Generalization**

Resumptive pronouns are ordinary pronouns. (adapted from Asudeh, 2015, 10, (36))

I argue that we can maintain a unificationist analysis of pronominal elements while simultaneously accounting for the apparently trace-like behavior of resumptive pronouns in triggering crossover effects without proposing stipulative differences between resumptive and non-resumptive pronouns. This is an important result, as crossover effects under resumption are found both with base-generated resumption in Arabic and in movement-derived resumption in languages like Vata, Igbo, Igala, and Akan. Deriving crossover effects is thus a desideratum of any empirically adequate account of resumption.

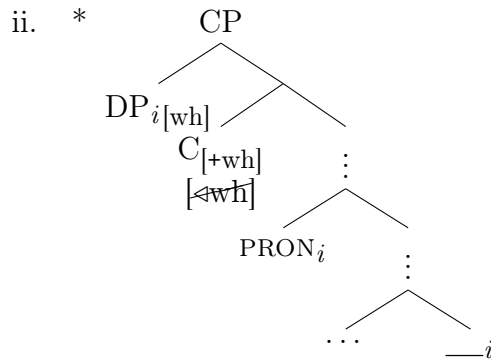
The rest of the chapter is organized as follows. Section §7.2 provides an overview of the various subtypes of crossover effects. Section §7.3 details the ambiguity problem in testing primary crossover effects under resumption in many languages and summarizes previous attempts to circumvent the issue. Section §7.4 presents a novel disambiguation strategy for testing crossover effects under resumption—namely, investigating *secondary* crossover. I show that secondary strong and weak crossover effects are present under base-generated resumption in Arabic, crucially persisting with in-island resumption and thereby demonstrating that crossover is not exclusively a property of \bar{A} -movement dependencies. Section §7.5 provides an interim summary of my findings and enumerates the desiderata for an account of secondary crossover effects. In section §7.6, I argue that secondary crossover effects can be predicted by restricting the distribution of binders responsible for indirect binding (i.e. binding in the apparent absence of c-command)—specifically, indirect binding is possible from A-positions, but not from \bar{A} -positions. Section §7.7 then probes primary crossover effects under resumption in Arabic and other languages by using epithets, which cannot be \bar{A} -bound in non-island contexts. Here again I demonstrate the pervasiveness of crossover effects, which are attested with both base-generated and movement-derived resumptives. This section extends my analysis of secondary crossover to primary effects with one key additional component: the Bijection Principle.

7.2 Background on crossover

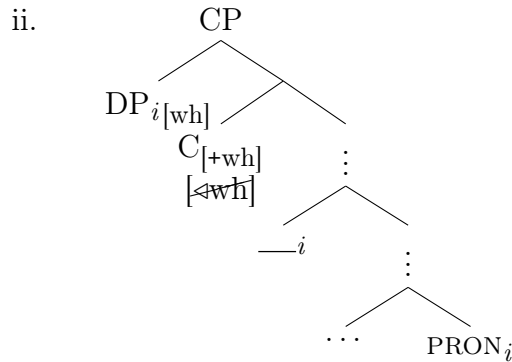
Postal (1971) coined the term “crossover” to describe (among other things) the failed covariation indicated in (2a) and (3a). Intended covariation (or ‘coconstrual’) is henceforth indicated by means of coindexation unless otherwise noted. I will also refer to the relevant binder in crossover configurations as “QP”, though the majority of examples discussed in this chapter employ *wh*-phrases specifically.

(2) *Primary strong crossover: the pronoun coconstrued with the QP c-commands the \bar{A} -bound variable*

a. i. * Which girl_i do you think she_i wants you to hire ____i?

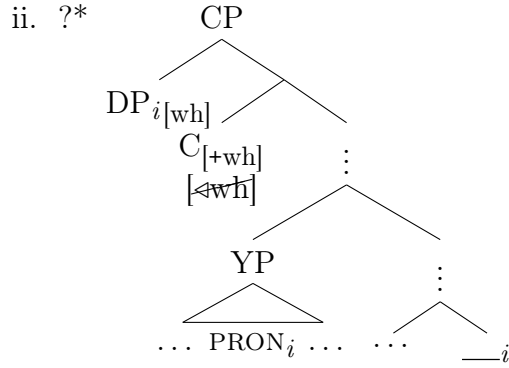


b. i. Which girl_i do you think ____i wants you to hire her_i?

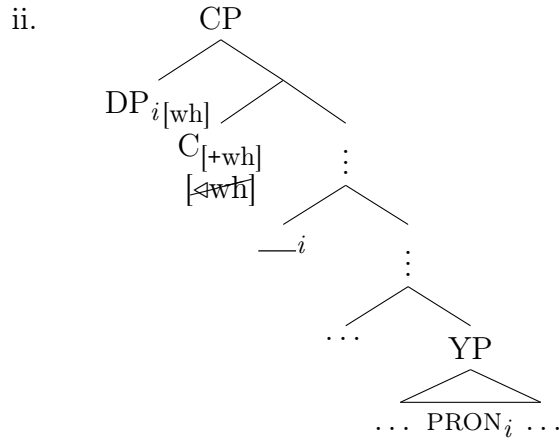


(3) *Primary weak crossover: neither the pronoun coconstrued with the QP nor the \bar{A} -bound variable c-commands the other*

a. i. ?* Which girl_i do you think [her_i parents] want you to hire ____i?



b. i. Which girl_i do you think ____i wants you to hire [her_i parents]?



Later work beginning with Wasow (1972, 1979) proposed to differentiate between pairs like (2) and (3).¹ Whereas the indicated coconstrual is completely unacceptable in (2a), warranting a ‘*’ diacritic, coconstrual is often felt to be somewhat less degraded in sentences like (3a), hence the milder mark of deviance ‘?’ (see Safir, 2017, §4.3 for a thorough discussion of contexts which render such configurations more or less acceptable). Following Wasow’s terminology, I will refer to these instances of banned coconstrual as ‘strong’ and ‘weak’ crossover, respectively. Configurationally, strong crossover (SCO) arises when an \bar{A} -bound variable (often a trace) covaries with an asymmetrically c-commanding pronoun, and weak crossover (WCO) arises when an \bar{A} -bound variable covaries with a pronoun and neither the variable nor the pronoun c-commands the other. Note that if the \bar{A} -bound variable

1. Much the same contrast was observed by Lakoff (1968, 66–88), who noted that, for some speakers, “the crossover principle applies only when the NP being crossed over commands the NP that is being moved” (1968, 70).

c-commands the covarying pronoun, as in (2b) and (3b), coconstrual is fully acceptable.²

Postal (1993) proposed to further discriminate between *primary* crossover, where the banned coconstrual is between the extracted phrase and a pronominal element as in (2)–(3), and *secondary* crossover, where the banned coconstrual is between a constituent properly contained inside the extracted phrase and a pronominal element, as in (4a) and (5a).³ In the following trees, I assume for explicitness that pied-piped phrases inherit via feature percolation the [wh] feature of the *wh*-phrases they embed (though see Cable, 2007, 2010a for a different approach to pied-piping).

(4) *Secondary strong crossover: the pronoun coconstrued with the embedded QP c-commands the A-bound variable*

a. i. * [Which girl_i's boyfriend]_k do you think she_i wants you to hire ____k?

2. As Jason Merchant (*pers. comm.*) points out to me, the acceptability of sentences like (i) and (ii) suggests that there exists a residual effect of linear order in calculating weak crossover violations that remains to be accounted for.

(i) Which book_i did you [_{VP} appreciate ____i] [_{Adjunct} only after you had read it_i]?

(ii) Which book_i did you [_{VP} think [_{CP} that I would appreciate ____i]] [_{Adjunct} before I had ever read it_i]?

The examples in (iii) furthermore suggest that if there is a precedence component to weak crossover violations, then precedence must be determined with reference to a reconstructed linear order rather than (solely) with reference to the surface linear order of constituents (and see Safir 2004b, 61–62; 2017, 3 for a related argument from the persistence of weak crossover effects when the A-bound trace is contained in an ellipsis site).

(iii) (Safir, 2004b, 74, (33a–b))

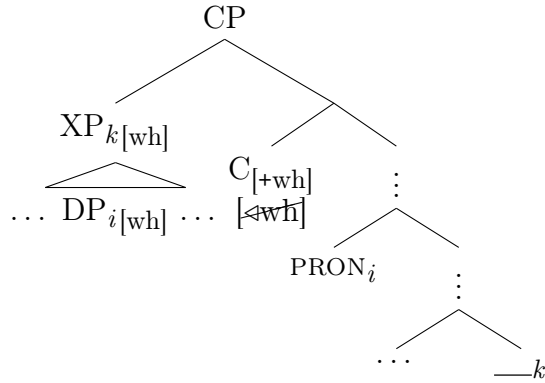
a. Who_i will Rochelle make sure she speaks to ____i before he_i enters the room?

b. Who_i, before he_i enters the room, will Rochelle make sure she speaks to ____i?

The analysis of crossover which I propose in this chapter does not account for such a precedence effect. For the sake of space, I set aside alternative accounts of (some subtypes of) crossover which characterize the constraints in (partly) linear terms, rather than in purely structural ones. For representatives of such an approach, see the earliest formulations of the crossover condition in Ross (1967, 132, (4.30)) and Postal (1971, *passim*), as well as Chomsky's (1976, 340–344) *Leftness Condition* (also Higginbotham, 1980b, 686ff. and Williams, 1994, 197–198, 234ff.), Jacobson's (1977, §6) *Leftmost Constraint*, and Shan and Barker's (2006) *Left-to-Right Evaluation*; see also Bruening (2010, §5; 2014, 375; 2018, §4) for an account of weak crossover according to which the base position of a *wh*-phrase or QP must precede any pronoun that it binds (though Bruening, 2022b, 751–754 seems to abandon this approach in favor of Eilam's (2011) information-structural account of weak crossover). On the other hand, see Postal (2004, 217–223) for a collection of examples in which an A-bound gap cannot be coconstrued with a pronoun to its right that it does not c-command.

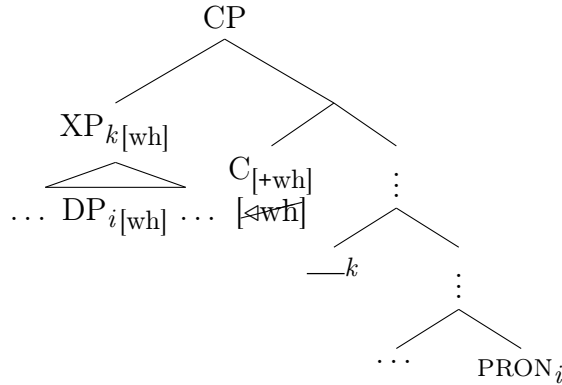
3. Properly speaking, Postal only discussed secondary strong crossover effects. The first explicit mention of secondary weak crossover effects using that label seems to be Safir (1996, 324).

ii. *



b. i. [Which girl_i's boyfriend]_k do you think —_k wants you to hire her_i?

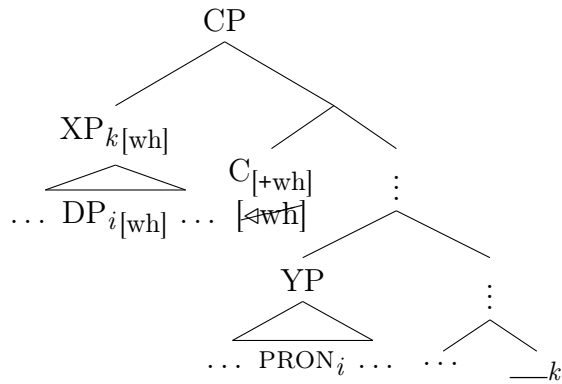
ii.



(5) Secondary weak crossover: neither the pronoun coconstructed with the embedded QP nor the A-bound variable c-commands the other

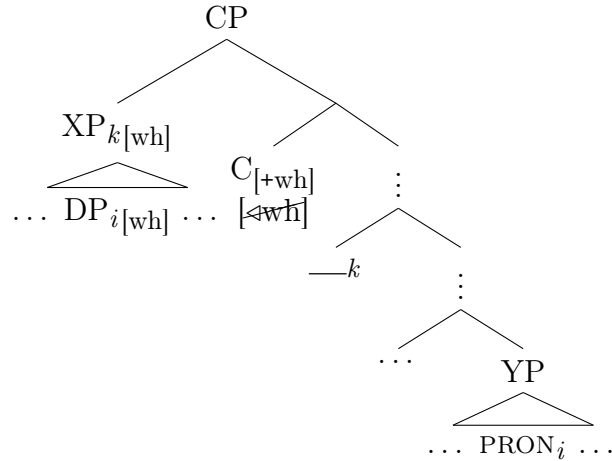
a. i. * [Which girl_i's boyfriend]_k do you think [her_i parents] want you to hire —_i?

ii. *



b. i. [Which girl_i's boyfriend]_k do you think —_k wants you to hire [her_i parents]?

ii.



In secondary strong crossover ((4a)), the pronoun coconstrued with the embedded *wh*-phrase c-commands the variable \bar{A} -bound by the pied-piped phrase, whereas in secondary weak crossover ((5a)), neither the pronoun coconstrued with the embedded *wh*-phrase nor the \bar{A} -bound variable c-commands the other. As the (b) examples show, reversing the order of the two bound variables yields acceptability. Secondary crossover effects were first observed in Postal (1971, 90), and have been investigated intensively in later work, including Higginbotham (1980b, 1983), van Riemsdijk and Williams (1981, 184), Safir (1984, 1996, 1999, 2017), May (1985, 78–81), Barss (1986, §2.2), Engdahl (1986, 305–312), Postal (1993, 2004), Bresnan (1994, §4.1), Williams (1994, 198, 232–233), and Bhatt and Keine (2019). See Postal (2004, 210–211) for additional references. In the next two sections (sections §7.3 and §7.4), we will see that, although previous investigations into resumption were chiefly concerned with detecting primary crossover effects, probing secondary effects eliminates problematic ambiguities in interpreting the data.

7.3 The ambiguity problem with testing primary crossover under resumption

Previous research has frequently concluded that (island-insensitive) resumption in \bar{A} -dependencies suspends otherwise expected primary crossover effects (see, e.g., Aoun and

Sportiche, 1981, esp. 44–45; Doron, 1982, 20–25; Kayne, 1983, 240, fn. 20; Kenstowicz and Wahba, 1983; Sportiche, 1983, 118–122; Sells, 1984, ch. 2.4; May, 1985, 155–156; Safir, 1984, 608; 1986, 685, fn. 26; 1996; 1999, 614–615; 2004b, 65–67, 87, 94–95, 114–115; 2017; 2019, 312–313; Biloa, 1990, 221–222; Cinque, 1990, 151; McCloskey, 1990, 236–238; Postal, 1993, 553–554; Lalami, 1996, 122–123; Finer, 1997, 714ff.; Aoun and Choueiri, 1999, 14–15, fn. 5; Mohammed, 2000, 77, fn. 15; Boeckx, 2003, 152–155; Guillot, 2006b, 1891, (8); Schneider-Zioga, 2007, 437–438; Chatsiou, 2010, 89, (244); Krapova, 2010, 1250, fn. 16; Asudeh, 2012; Sichel, 2014, 667–668; Toosarvandani, 2014, 813–814; Ostrove, 2018, 201–202; Georgi and Amaechi, 2022, 7, (8c); Georgiou, 2022; and Yip and Ahenkorah, To appear, 5, among many others). However, most of this research has failed to control for a crucial ambiguity in the data. Assume that \bar{A} -operators bind only a single variable (i.e. the Bijection Principle of Koopman and Sportiche, 1982; see more on this issue in section §7.7). Then, in a primary crossover configuration like (6) or (7) where we have two pronouns rather than a pronoun and a gap, one must determine which of the two pronominal elements is functioning as the resumptive (i.e. the element \bar{A} -bound by the operator), and which is coconstrued with both the resumptive and the operator, though not bound by the latter (‘RP’ = resumptive pronoun).

(6) *Primary strong crossover configuration*

a. *Higher pronoun is resumptive* → *no primary strong crossover*

DP_i[_{wh}] [... RP_i [... PRON_i ...]]
 {----- \bar{A} -bind -----} ↑

b. *Lower pronoun is resumptive* → *primary strong crossover*

*DP_i[_{wh}] [... PRON_i [... RP_i ...]]
 {----- \bar{A} -bind -----} ↑

(7) *Primary weak crossover configuration*

a. *Higher pronoun is resumptive* → *no primary weak crossover*

DP_i[_{wh}] [... [XP ... RP_i ...] [... PRON_i ...]]
 {----- \bar{A} -bind -----} ↑

b. *Lower pronoun is resumptive* → *primary weak crossover*

*DP_i[_{wh}] [... [XP ... PRON_i ...] [... RP_i ...]]
 {----- \bar{A} -bind -----} ↑

In other words, the observation that primary crossover effects disappear when an \bar{A} -bound gap is replaced by a pronoun coconstructed with the operator is compatible with the hypothesis that resumptive pronouns *are* subject to crossover. This problematic ambiguity has been noted as an issue by a number of scholars, including Borer (1984a, 124–125, n. 6), McCloskey (1990, 211–212), Demirdache (1991, 54–56), Shlonsky (1992, 460–461), Ruys (2004, 132, fn. 11), Rouveret (2011, 16), Demirdache and Percus (2011, 385), Pan (2016, 51–71), and Salzmann (2017b, 195–197, especially fn. 26).

To appreciate the problem, let us consider some examples from Iraqi Arabic.⁴ Examples (8) and (9) illustrate primary weak and strong crossover respectively with various types of operators in gapped *wh*-questions.⁵

- (8) *Primary weak crossover in Iraqi gapped wh-questions*
 {ʔil-man_i / minu_i / ja: t^ʕa:lib_i} titwaqqaʕin umm-a*_{i/k} tri:d
 {ACC-who_i / who_i / which student_i} think.2.F.SG mother-his*_{i/k} wants.3.F.SG
 Hend tixtar ____i?
 Hend choose.3.F.SG
 ‘{Whom_i / Who_i / which student_i} do you think his*_{i/k} mother wants Hend to choose ____i?’ (Iraqi)
- (9) *Primary strong crossover in Iraqi gapped wh-questions*
 {ʔil-man_i / minu_i / ja: t^ʕa:lib_i} titwaqqaʕin pro*_{i/k} jri:d Hend
 {ACC-who_i / who_i / which student_i} think.2.F.SG wants.3.M.SG Hend
 tixtar ____i?
 choose.3.F.SG
 ‘{Whom_i / Who_i / which student_i} do you think he*_{i/k} wants Hend to choose ____i?’ (cannot mean ‘Who do you think wants to be chosen by Hend?’) (Iraqi)

The classic observation is that if the gap bound by the *wh*-phrase is replaced by a pronoun, primary crossover violations vanish. Because case-marked operators only bind gaps in Iraqi (section §3.7.2), I exclude them from the following examples.

4. The same patterns can be illustrated in Tunisian and Syrian Arabic, though I omit the data here for brevity.

5. Note that the expected ‘weaker’ status of weak crossover is not routinely detected by my consultants. Rather, weak crossover violations are typically judged to be just as unacceptable as strong crossover violations. See McCloskey (1990, 247, n. 35) for a similar observation for Irish relative clauses.

- (10) *Primary weak crossover in Iraqi is suspended with multiple bound pronouns*
 {minu_i / ja: t^fa:lib_i} titwaqqaʕi:n umm-a_i tri:d Hend
 {who_i / which student_i} think.2.F.SG mother-his_i wants.3.F.SG Hend
 tixtar-a_i?
 choose.3.F.SG-him_i
 (lit.) ‘{Who_i / which student_i} do you think his_i mother wants Hend to choose
 him_i?’ (Iraqi)
- (11) *Primary strong crossover in Iraqi is suspended with multiple bound pronouns*
 {minu_i / ja: t^fa:lib_i} titwaqqaʕi:n {pro_i / huwwa_i} jri:d Hend
 {who_i / which student_i} think.2.F.SG { / he_i} wants.3.M.SG Hend
 tixtar-a_i?
 choose.3.F.SG-him_i
 ‘{Who_i / which student_i} do you think he_i wants Hend to choose him_i?’ (~‘Who_i
 do you think wants to be chosen by Hend?’) (Iraqi)

As previously described, there is a problem in concluding that the presence of a resumptive pronoun circumvents crossover in (10)–(11). Specifically, it is not clear which of the two pronouns is being construed as the resumptive element, \bar{A} -bound by the operator. If the *higher* of the two pronouns is the resumptive, with the lower pronoun coconstructed with the resumptive rather than directly with the operator, then we do not necessarily expect a crossover violation to ensue—even if resumptive pronouns are subject to crossover.

Prior work has largely attempted to overcome this hurdle by replacing the higher pronoun with an element which, due to independent (and typically language-specific) restrictions on the distribution of resumptive elements, cannot be \bar{A} -bound in its position. The most widespread tactic is to replace the crossed pronominal variable with an epithet—a non-pronominal DP whose nominal content contributes an additional expressive or affective meaning (see McCloskey, 1990, Aoun and Choueiri, 2000, and Potts, 2007 for general discussion of epithets). However, because there are complicating issues in using epithets to detect crossover effects under resumption, many of which have not been controlled for previously, I will set aside primary crossover and the use of epithets as a disambiguation strategy until section §7.7.

Other authors pursue a similar disambiguation strategy based on the restricted distri-

bution of resumptive *pronouns*, rather than of (resumptive) epithets. This is the tactic employed by Salzmann (2017b) for detecting primary strong crossover effects in Swiss German resumptive relatives (see Salzmann, 2006, 346–348, 2009, 36–39, and 2011, 152–153, 193 for additional data).⁶ Salzmann notes that gaps and resumptive pronouns are in complementary distribution in Swiss German monoclausal relativization: gaps are required in the highest subject ((12a)) and direct object positions ((12b)), while resumptives are required elsewhere, for instance in possessor positions ((12c)).⁷

- (12) a. *No highest subject resumptives in Swiss German relatives*
 Das isch de Maa_i, wo (*er_i) immer z spaat chunt.
 this be.3SG the man_i C (*he_i) always too late come.3SG
 ‘This is the man who is always late.’ (slightly adapted from Salzmann, 2017b, 340, (3a))

6. Relying on the different distributional patterns of resumptive and non-resumptive pronouns is also the strategy used to diagnose primary crossover effects with island-sensitive resumption in Vata *wh*-questions by Koopman and Sportiche (1982) (WCO), in Hebrew free relatives by Borer (1984a, 118, (39a)) (SCO), in Literary Welsh *wh*-questions and relative clauses by Hendrick (1988, 192, (124)) (SCO), in Swedish *wh*-questions by Asudeh (2012, 243–245) (WCO), in Igbo focus fronting by Georgi and Amaechi (2022, 16, (21); 51, (75)–(77)) (SCO), and in Igala *wh*-questions by Martinović (To appear, 2–3, (7)) (SCO). Relatedly, Asudeh (2012, 374–375) argues that weak crossover effects can be detected with English intrusive resumptives (what he terms ‘complexity resumptives’) by positioning the crossed pronoun in a high position where it is preferably not interpreted as a resumptive pronoun.

For those languages in which movement-derived resumptives but not non-resumptive pronouns can or must display φ -feature mismatches with their antecedents, the φ -feature specification of the two pronouns can disambiguate which of the two is functioning resumptively and crossover effects can be reliably diagnosed. Primary crossover effects have accordingly been reported for φ -mismatching resumptives in Akan and Cantonese by Yip and Ahenkorah (To appear, 5, (13)–(16)) (WCO & SCO) by making the lower pronoun φ -featurally deficient, hence a resumptive. Finally, other authors have used morphophonological reflexes of movement to isolate the resumptive variable. Korsah and Murphy (2020, 851, (64)) use tonal reflexes of movement on crossed subjects in Asante Twi *wh*-questions to ensure that the \bar{A} -bound variable is the lower of the two pronouns, and in such contexts they report that weak crossover effects emerge—even when the resumptive occurs inside a strong CP-complement-to-N island (p. 859, (87b)). Note that they interpret the existence of primary crossover effects under resumption as evidence that resumption in Asante Twi involves \bar{A} -movement, though I argue in section §7.7 against such a conclusion for other languages. Finally, Georgopoulos (1991, 192, (25)) shows that strong crossover effects can be detected in Palauan resumptive *wh*-questions when cyclic *wh*-agreement indicates that the lower pronoun is the resumptive variable. On the other hand, Palauan appears to lack weak crossover effects in general (Georgopoulos, 1991, 197–198). Georgopoulos contends that resumption in Palauan is always base-generated, but Chung and Wagers (2021) contend that resumptive pronouns outside of islands are always accompanied by \bar{A} -movement in this language, as indicated by the presence of cyclic *wh*-agreement; see section §2.4 for additional discussion.

7. See Salzmann (2011, 2017b, 380–382) for arguments that possessor resumption actually involves a silent *pro* resumptive in the specifier of the possessive pronoun. Thus, the pronoun *sin* ‘his’ in (12c) would not be the true resumptive pronoun, but would be an agreement element doubling a resumptive *pro*.

- b. *No highest object resumptives in Swiss German relatives*
 Das isch de Maa_i, won i (***en**_i) geschter gsee ha.
 this be.3SG the man_i C I (***him**_i) yesterday see.PTCP have.1SG
 ‘This is the man I met yesterday.’ (slightly adapted from Salzmann, 2017b, 340, (3b))
- c. *Relativization of a possessor requires resumption in Swiss German*
 Das isch de Schüeler_i, won i geschter *(**sin**_i) Vatter käne gleert
 this be.3SG the pupil_i C I yesterday *(**his**_i) father get.to.know.PTCP
 ha.
 have.1SG
 ‘This is the pupil_i whose_i father I met yesterday.’ (slightly adapted from Salzmann, 2017b, 340, (3g))

Consequently, he argues, we can isolate the resumptive in a crossover configuration by placing the putatively crossed pronoun in either the highest subject or object position, and by placing the resumptive in a more oblique position. (13) illustrates that primary strong crossover effects indeed emerge in such a configuration:

- (13) * Das isch de Bueb_i, won er_i **sini**_i Muetter gern hät.
 this be.3SG the boy_i C he_i **his**_i mother like.3SG
 (int.) ‘This is the boy_i who he_i likes his_i mother.’ (slightly adapted from Salzmann, 2017b, 356, (31b))

Furthermore, the corresponding non-relative sentence (i.e. the content of the relative clause following the complementizer *wo(n)*) is perfectly acceptable, illustrating that (13) is not ruled out due to a Condition B violation (Salzmann, 2017b, 356). This example therefore demonstrates the presence of primary strong crossover effects in local resumptive relativization in Swiss German.⁸ Salzmann does not discuss weak crossover effects due to the fact that they are frequently claimed to be absent in German local \bar{A} -dependencies (2017b, 355,

8. This raises the question whether local resumptive relativization in Swiss German can be shown to be derived via movement or base-generation. Two strands of evidence support a base-generation approach. First, local resumptive relativization can span PP islands in Swiss German (Salzmann, 2017b, 286, (43); 391–393). The second strand of evidence in favor of base-generation (in at least some cases) comes from Salzmann’s observation that local resumptive relativization does not induce reconstruction conflicts: reconstruction is generally available in such contexts in Swiss German (2017b, 357–358), and neither reconstruction for variable binding (2017b, 359–360) nor reconstruction for scope (2017b, 368) forces Condition C violations. Since strong crossover effects are obligatory in these resumptive relatives ((13)), we can therefore conclude that strong crossover can arise under base-generated resumption in local relativization in Swiss German.

fn. 13).

Salzmann furthermore argues that strong crossover effects can be detected in long-distance resumptive relativization in Swiss German by using the same tactic, though as I will show presently, the data he discusses are confounded. Relativization across a finite clause boundary requires a resumptive pronoun in all positions (including subject and object positions) (Salzmann, 2017b, 341–342). Thus, by positioning the first (crossed) pronoun in (14) in the highest subject or object position, we rule out a parse in which that pronoun functions as the resumptive, and we observe that crossover effects emerge once more.

- (14) a. *Das isch de Bueb_i, won er_i tänkt, dass d Susi **en**_i gern hät.
this be.3SG the boy_i C he_i think.3SG that the Susi **him**_i like.3SG
(int.) ‘This is the boy_i who he_i thinks that Susi likes him_i.’
- b. *Das isch de Maa_i, won i en_i devoo überzүүgt ha, dass **er**_i
this be.3SG the man_i C I him_i there.of convince.PTCP have.1SG that **he**_i
tumm isch.
stupid be.3SG
(int.) ‘This is the man_i who I convinced him_i that he_i was stupid.’
(slightly adapted from Salzmann, 2017b, 356, (33a–b))

Similarly, Salzmann claims that strong crossover effects persist when the resumptive is contained in a strong relative clause ((15a)) or adjunct ((15b)) island.

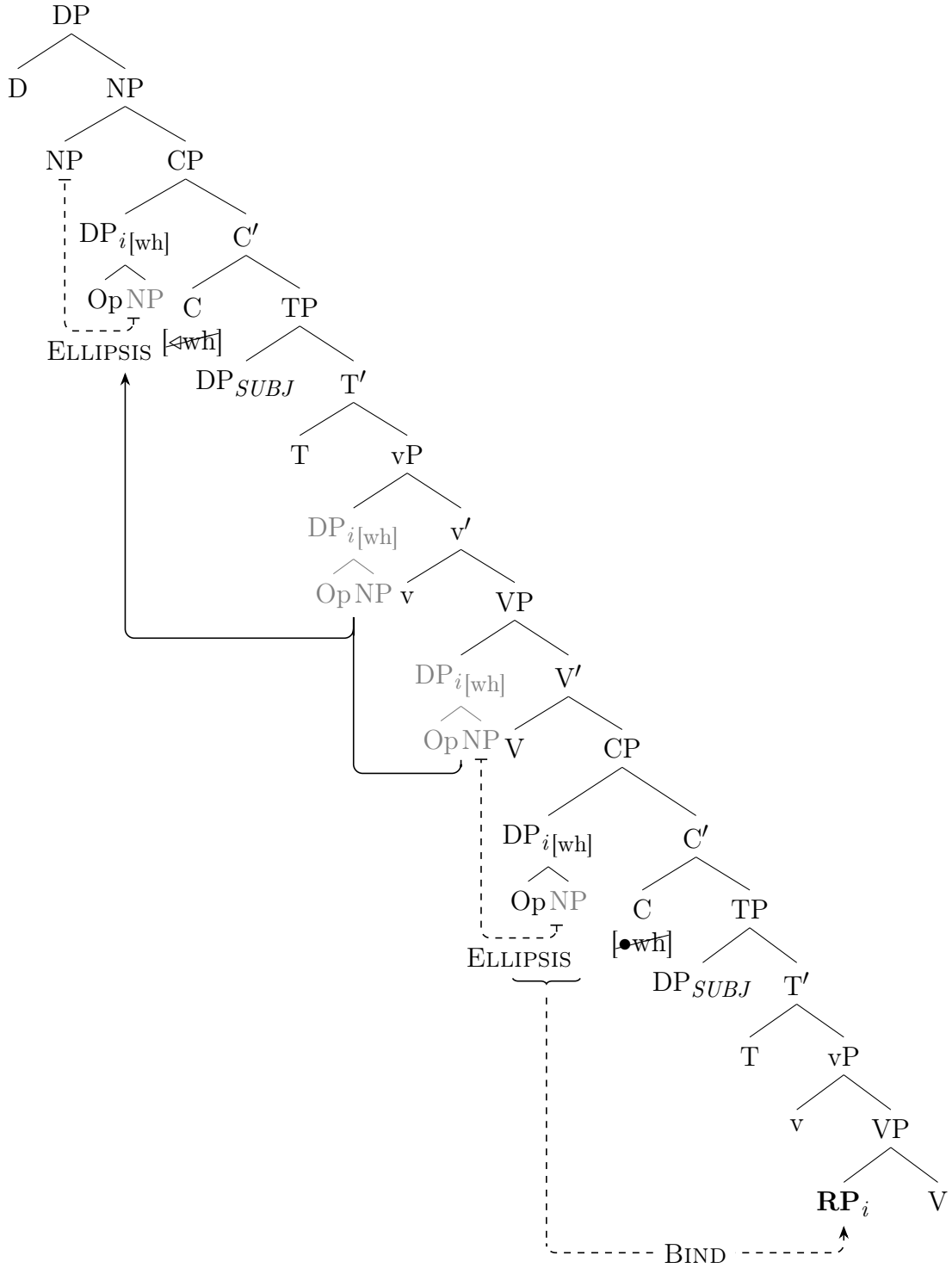
- (15) a. *Das isch de Maa_i, won er_i d Frau, won **en**_i geschter verlaa
this be.3SG the man_i C he_i the woman C **him**_i yesterday leave.PTCP
hät, vertүүflet.
have.3SG condemn.3SG
(int.) ‘This is the man_i who he_i condemns the woman that left him_i yesterday.’
- b. *Das isch de Politiker_i, won i en_i gsee ha, won **er**_i s
this be.3SG the politician_i C I him_i see.PTCP have.1SG when **he**_i the
Gäld aagnoo hät.
money accept.PTCP have.3SG
(int.) ‘This is the politician_i that I saw him_i when he_i took the money.’
(slightly adapted from Salzmann, 2017b, 357, (35a–b))

This is a remarkable finding, given that Swiss German resumptive relativization is island-insensitive (Salzmann, 2017b, 351–354). Salzmann thus concludes that crossover effects do

not pattern with locality. Because this is the only investigation of crossover effects and islandhood in the previous literature, it will be important to determine whether Salzmänn's findings also hold for Arabic. Indeed, in sections §7.4.4 and §7.7.1, I argue that Salzmänn's generalization extends to Arabic: crossover effects persist with in-island resumption.

Unfortunately, the long-distance and island-spanning resumptive examples in (14)–(15) suffer from a confound in light of Salzmänn's (2017b, 450–451) own analysis of Swiss German relativization. As discussed in section §3.5.1, non-local relativization in Swiss German does not consist of a single (punctuated) chain spanning multiple clauses, but rather is formed obligatorily via an indirect dependency (i.e. a mixed chain). In the embedded clause, the resumptive pronoun is bound by a null operator base-generated in the embedded [Spec, CP] position. This base-generated operator turns the embedded clause into a predicate whose open argument slot is then saturated in the highest VP by merging in a null proleptic operator with NP content identical to the relative head. This null operator then undergoes local \bar{A} -movement to the specifier of the relative C. A schematic derivation of long-distance resumptive relativization in Swiss German is given in (16), following closely the analysis in Salzmänn (2017b, 444–455), with the addition of my proposed distinction between Merge- and Move-triggering features. I assume with Salzmänn that all null operators have NP sisters which are elided under identity with a higher operator and/or the relative head.

(16) *A proleptic mixed chain (base-generation followed by movement) in Swiss German*



There are at least two reasons to suspect that long-distance relativization in Swiss German is formed via a mixed proleptic chain. First, recall from section §3.5.1 that resumptive \bar{A} -dependencies only license parasitic gaps in higher clauses within the relative, and crucially

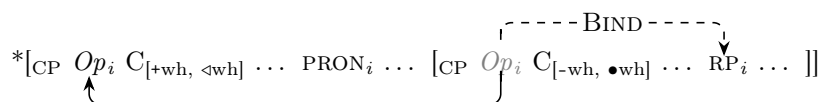
never inside islands (abstracting away from parasitic gaps licensed by movement of the weak pronoun itself). This implies that there is \bar{A} -movement through higher [Spec, vP] positions in long-distance relativization, but crucially there must be no comparable \bar{A} -movement inside the island containing the resumptive pronoun. Second, Salzmann (2017b, 446–447) shows that long-distance resumptive relativization permits intermediate reconstruction for scope and for anaphor binding into the highest clause inside the relative.⁹ Both of these facts are accounted for if a null operator (with elided descriptive content to explain the reconstruction facts) moves locally in the highest clause within the relative CP. In fact, Salzmann proposes that long-distance relatives in Swiss German are *always* formed via prolepsis.

If Salzmann is correct, we cannot be sure that strong crossover effects in long-distance relatives triggered by pronouns in the highest clause, as in (14)–(15), ought to be attributed to properties of resumptive \bar{A} -binding. In at least the case of crossed subject pronouns, it is clear that crossover is induced by \bar{A} -movement of the null proleptic operator (see (16)), since the resumptive dependency is only established in lower portions of the clause, below the highest subject.¹⁰ Thus, we cannot definitively conclude from the preceding data that

9. Notably long-distance gapped *wh*-questions do not permit comparable intermediate reconstruction in Swiss German (Salzmann, 2017b, 447), suggesting that the two types of dependency are formed differently.

10. Whether or not crossover effects with highest object pronouns should likewise be attributed to \bar{A} -movement of the null proleptic operator depends on the base-generated c-command relations among vP/VP-internal arguments, an issue I will not dwell on here. Note that a similar explanation can be given for the primary strong crossover effects observed by Finer (1997, 713–714, fn. 28) for long-distance resumptive *wh*-questions in Selayarese. As in Swiss German, attempted coconstruction between a highest subject pronoun and an embedded object resumptive pronoun triggers a strong crossover effect in Selayarese. Like Salzmann, Finer argues that all long-distance resumptive dependencies in Selayarese are formed via a mixed chain (i.e. base-generation followed by movement). Hence, movement of the null operator in the higher clause bypassing the coconstructed subject pronoun is predicted to induce a strong crossover effect, despite the fact that there is no \bar{A} -movement from the position of the resumptive pronoun. This is shown schematically in (i):

- (i) *Strong crossover as the result of a mixed base-generation-then-movement chain in Selayarese*



This analysis is supported by the fact that overt reflexes of \bar{A} -movement are diagnosable in higher portions of long-distance resumptive chains, though crucially not in the lowest portions, closest to the resumptive element. These reflexes include (i) the suppression of absolutive agreement on higher verbs but not on lower ones, and (ii) the requirement that subjects be post-verbal in higher links in the chain, though not

crossover effects must be dissociated from locality (and from \bar{A} -movement) in Swiss German.

Fortunately, not all island-spanning resumptive dependencies are long-distance in Swiss German. Local resumptive relativization is not formed via a proleptic mixed chain in Swiss German (see Salzmann, 2017b, §5.4). Therefore, we can test for strong crossover effects under local resumptive relativization out of islands and escape the aforementioned prolepsis confound. The following Swiss German data are due to Martin Salzmann (*pers. comm.*). PPs are islands in Swiss German: extraction of a PP from within another PP as in (17) is impossible (see also Salzmann, 2017b, 286, (43); 391–393).¹¹

- (17) * [PP Über {wer / wen}]_i bisch di glücklich gsii [PP wägen e paar
 [PP about {who.NOM / who.ACC}]_i are you happy been [PP because a few
 Büecher ____i]?
 books |
 (int.) ‘[PP About who(m)]_i were you happy [PP because of a few books ____i]?’
 (Swiss German)

Crucially, monoclausal resumptive relativization spanning a PP island induces a strong crossover effect with a coconstructed pronoun in the highest subject position:

- (18) * Das isch de Bueb_i, won er_i glücklich gsii isch [PP wägen e paar Büecher [PP
 this is the boy_i C he_i happy been is [PP because a few books [PP
 über **in**_i]].
 about **him**_i]]
 (int.) ‘This is the boy_i that he_i was happy because of a few books about him_i.’
 (Swiss German)

The unacceptability of (18) must be due to strong crossover and cannot be attributed to a Condition B violation triggered by the pronoun *in* ‘him’, since the corresponding non-relative sentence is acceptable:

in lower ones (see *Finer, 1997, 720–724*). See section §2.3.3 for discussion of morphophonological reflexes of \bar{A} -movement in Selayarese.

11. Martin Salzmann (*pers. comm.*) notes that the *wh*-word ‘who’ traditionally only has a single form for nominative and accusative functions in Swiss German, viz. the nominative *wer*. However, the accusative form *wen*, which is the form used in Standard German, is also an option for many speakers nowadays.

- (19) Er_i isch glücklich gsii wägen e paar Buecher über in_i.
 he_i is happy been because a few books about him_i.
 ‘He_i was happy because of a few books about him_i.’ (Swiss German)

I therefore conclude that strong crossover does not pattern with locality under resumption in Swiss German; crossover is a property of \bar{A} -binding dependencies and not exclusively of \bar{A} -movement.¹² Later in this chapter, I will show that a similar claim can be substantiated for resumption in Arabic. In order to do so, I first propose a novel strategy to overcome the resumptive ambiguity problem in crossover configurations—namely, investigating secondary crossover effects under resumption.

7.4 Secondary crossover effects are present under resumption in Arabic

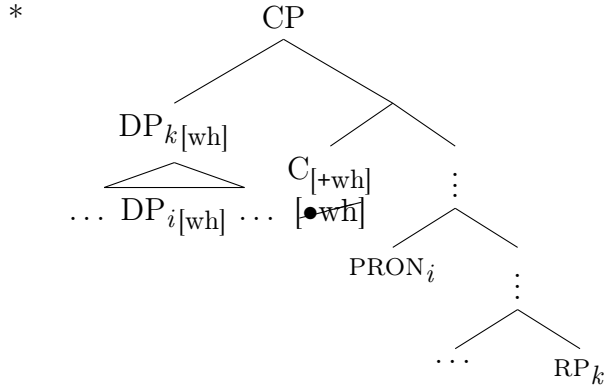
Secondary weak and strong crossover effects are robustly present under resumption in Iraqi, Tunisian, and Syrian Arabic, contrary to what many previous approaches to resumption and crossover predict (see section §7.3).¹³ Schematically, this is illustrated in (20) and (21) (cf. (4a-ii) and (5a-ii)): a pied-piped phrase XP which embeds a *wh*-phrase cannot bind a resumptive pronoun over a pronoun coconstructed with the *wh*-phrase.

- (20) *Secondary strong crossover: the pronoun coconstructed with the embedded QP c-commands the \bar{A} -bound variable*

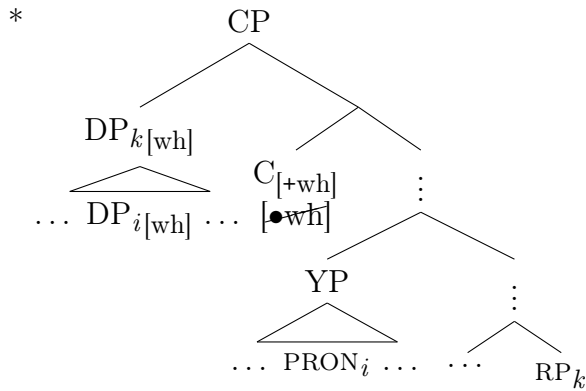
12. See also Korsah and Murphy (2020, 859, (87b)) for evidence that weak crossover effects persist in Asante Twi when both the resumptive pronoun and crossed pronoun are contained inside a CP-complement-to-N island.

13. Martinović (To appear, 3, (9)–(10)) makes a similar discovery for resumptive *wh*-questions in Igala. In contrast to Arabic, however, it seems likely that resumptive dependencies in Igala are movement-derived: resumptive dependencies (like gapped ones) are sensitive to adjunct islands (Martinović, To appear, 9, (40), though see Martinović, To appear, 8–9 for discussion of a complex array of facts regarding extraction out of relative clause islands). This finding highlights the important fact that crossover effects do not march in lockstep with the syntactic movement diagnostics discussed in chapter 3.

Ka-Fai Yip (*pers. comm.*) also informs me that resumptive topicalization in Cantonese—which is island-insensitive and hence likely base-generated (as in Arabic)—displays secondary strong and weak crossover with the embedded QP ‘every NP.’



(21) *Secondary weak crossover: neither the pronoun coconstrued with the embedded QP nor the \bar{A} -bound variable c -commands the other*



This finding leads me to conclude that (secondary) crossover effects are not strictly a property of \bar{A} -movement dependencies.¹⁴ The rest of this section is laid out as follows. I will first introduce a phenomenon I dub ‘pied-piping resumption’ in which a DP containing the *wh*-operator binds a resumptive pronoun, and the *wh*-operator itself need not bind any variable inside the clause (section §7.4.1). Like other resumptive strategies in Arabic, pied-piping resumption is island-insensitive, indicating that it is formed via base-generation (see chapter 3, especially section §3.3). I will then use pied-piping resumption to demonstrate that secondary weak and strong crossover effects emerge in resumptive \bar{A} -dependencies (section §7.4.3). I argue that secondary crossover under resumption cannot be reduced to a Condition C violation under reconstruction of the embedded quantifier, nor to weak-crossover-inducing

14. See also Ruys (2000) and Rouveret (2002, 136) for non-movement accounts of specifically primary weak crossover, and see Pan (2016, 96ff.) for an account of crossover effects in Mandarin Chinese relatives based solely on Agree.

QR of the embedded operator to take scope at LF. Furthermore, in section §7.4.4, I show that secondary crossover effects persist when both the resumptive pronoun and the crossed pronoun coconstructed with the embedded *wh*-phrase are embedded inside an island. This finding demonstrates that crossover does not pattern with locality and hence cannot be exclusively attributed to the mechanics of \bar{A} -movement, corroborating Salzmann’s (2017b) claim discussed in section §7.3. Finally, in section §7.4.5, I consider and reject the proposal that all secondary strong crossover effects are reducible to a Condition C violation under reconstruction.

7.4.1 *Pied-piping resumption*

Resumptive \bar{A} -dependencies are typically described as relating a resumptive pronoun to an operator in an \bar{A} -position appearing in isolation in the left periphery of the clause. Consider *wh*-question formation with possessors in Iraqi Arabic.¹⁵ When the *wh*-phrase in [Spec, CP] is a possessor, a possessor resumptive pronoun, which appears cliticized to the possessum, is required; gap-leaving extraction of *wh*-possessors is impossible. Compare (22a) with (22b).¹⁶

- (22) a. *Possessor extraction with a gap is impossible in Iraqi*
 *minu_i ʕallagaw s^ʕurrat ____i ʕal-ħa:ʒit^ʕ?
 who_i hung.3.PL picture.F.SG on.the-wall
 (int.) ‘Who_i did they hang [____i’s picture] on the wall?’
- b. *Possessor resumption is required in Iraqi*
 minu_i ʕallagaw s^ʕurt-a_i ʕal-ħa:ʒit^ʕ?
 who_i hung.3.PL picture.F.SG-his_i on.the-wall
 (lit.) ‘Who_i did they hang his_i picture on the wall?’

Additionally, however, the possessum can appear in the left periphery, pied-piped along

15. Similar facts hold for Tunisian and Syrian Arabic, though I omit the relevant data for brevity.

16. In the majority of the examples in this section, possessor-possessum relations are formed with the construct state, a type of genitival construction common throughout Semitic. See Borer (1984a, 1999), Ritter (1988, 1991), Hazout (1991), Fassi Fehri (1993), Siloni (1997, 2001), Benmamoun (2000), Sichel (2003), Shlonsky (2004a), and Danon (2008), among many others, for details. The other primary way to form genitival relations in Arabic is through the use of a preposition-like element similar to Hebrew *šel* ‘of’ whose form varies across dialects; it is *ma:l* in Iraqi, *tabaʕ* in Syrian, and *mtaʕ* in Tunisian.

with the *wh*-phrase. Note that I use the term ‘pied-piping’ purely descriptively to refer to a dependency in which a constituent properly containing the *wh*-phrase appears in [Spec, C_[+wh]P]. Crucially, I do not assume that all structures involving pied-piping necessarily involve movement; I elaborate further on the compatibility of (DP-)pied-piping with base-generation below.

In (23), pied-piping of the possessum results in optionality between a gap and a resumptive pronoun in the variable site, since ‘whose picture’ is the direct object of the verb ‘hang’ and ex-situ direct object *wh*-questions normally allow either a gap or a resumptive in Iraqi. What is noteworthy about (23b) is that the resumptive pronoun is bound by the entire pied-piped phrase ‘whose picture,’ rather than the embedded *wh*-phrase ‘whose.’

- (23) a. *Possessor pied-piping with a gap in Iraqi*
 [s^ʕu:rat minu_i]_k ʕallagaw ____k ʕal-ħa:jit^ʕ?
 [picture.F.SG who_i]_k hung.3.PL on.the-wall
 ‘[Whose_i picture]_k did they hang ____k on the wall?’
- b. *Possessor pied-piping with resumption in Iraqi*
 [s^ʕu:rat minu_i]_k ʕallago:-**ħa**_k ʕal-ħa:jit^ʕ?
 [picture.F.SG who_i]_k hung.3.PL-**it.F.SG**_k on.the-wall
 (lit.) ‘[Whose_i picture]_k did they hang it_k on the wall?’

If the variable site is more deeply embedded, as in (24) (and to the best of my knowledge, this embedding can be iterated indefinitely, though with increasing complexity which taxes speakers’ intuitions), then each of the possessive phrases properly containing the *wh*-phrase can be pied-piped; see (24b)–(24d). As with previous examples, the distribution of gaps and resumptive pronouns in the variable site follows from independent properties of Arabic grammar: resumptives are obligatory in possessor positions, whereas both gaps and resumptives are possible in direct object position.

- (24) a. minu_i ʕa:faw raʕʕil uxt-**a**_i b-l-ħafla?
 who_i saw.3.PL husband sister-**his**_i at-the-party
 (lit.) ‘Who_i did they see [his_i [sister’s [husband]]] at the party?’
- b. [uxut minu_i]_j ʕa:faw raʕʕil-**ħa**_j b-l-ħafla?
 [sister who_i]_j saw.3.PL husband-**her**_j at-the-party

- (lit.) ‘[Whose_i sister]_j did they see [her_j [husband]] at the party?’
- c. [raḏil [uxut minu_i]_j]_k fa:faw ____k b-l-ħafla?
 [husband [sister who_i]_j]_k saw.3.PL at-the-party
 ‘[[Whose_i sister’s]_j husband]_k did they see ____k at the party?’
- d. [raḏil [uxut minu_i]_j]_k fa:fo:∅_k b-l-ħafla?
 [husband [sister who_i]_j]_k saw.3.PL-**him**_k at-the-party
 (lit.) ‘[[Whose_i sister’s]_j husband]_k did they see him_k at the party?’ (Iraqi)

The possibility of combining (DP-)pied-piping with resumption—a phenomenon I will henceforth refer to as ‘pied-piping resumption’—has gone largely unnoticed in the literature. Some notable exceptions include Kayne (1983, 242, (64)) on English relative clauses,¹⁷ Sells (1984, 434, (89)) on Hebrew *wh*-questions, Alber (2008, 150–152) on Tyrolean German relative clauses, Sterian (2014, 210, (25); 212, (37); 220–222) on Iraqi Arabic *wh*-questions, and Martinović (To appear, 9, (40b–c)) on Igala *wh*-questions. In fact, it was claimed by Merchant (2001, 134–136, especially fn. 16) not to exist in any language, though this claim is clearly falsified by the Arabic data.

Pied-piping resumption in Arabic is, like other resumptive dependencies in the language, island-insensitive. The following examples from Iraqi illustrate with a *wh*-island ((25a)), a relative clause island ((25b)), and an adjunct island ((25c)) (similar examples can be adduced for Syrian and Tunisian).

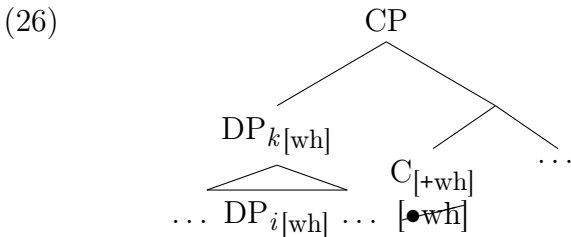
(25) *Pied-piping resumption is island-insensitive*

- a. *Wh-island*
 [sa:ʔat minu_i]_k ma tuʔrufim minu ba:g-??(**ha**_k)?
 [watch.F.SG who_i]_k NEG know.2.F.SG who stole.3.M.SG-??(**it.F.SG**_k)
 (lit.) ‘[Whose_i watch]_k don’t you know who stole it_k?’
- b. *Relative clause island*
 [sa:ʔat minu_i]_k ma ligat l-ʃurt^ʕa l-ħara:mi lli
 [watch.F.SG who_i]_k NEG found.3.F.SG the-police.F.SG the-thief that
 ba:g-*(**ha**_k)?
 stole.3.M.SG-*(**it.F.SG**_k)

17. Sells (1984, 463, (143)) and Safir (1986, 685, (65), 1996, 328, fn. 12), by contrast, find similar examples of pied-piping resumption in English relatives to be significantly degraded. See footnote 39 for additional discussion of pied-piping resumption in English restrictive relatives in the context of secondary crossover effects.

- (lit.) ‘[Whose_i watch]_k did the police not find the thief who stole it_k?’
- c. *Adjunct island*
- [sa:ʕat minu_i]_k lizmat-itʃ l-ʃurt^fa bidurn ma
 [watch.F.SG who_i]_k arrested.3.F.SG-2.F.SG the-police.F.SG without C
 tbu:gi:-*(**ha**_k)?
 steal.2.F.SG-*(**it.F.SG**_k)
 (lit.) ‘[Whose_i watch]_k did the police arrest you without you stealing it_k?’
 (Iraqi)

From this, I conclude that pied-piping resumption involves base-generation of the pied-piped DP containing the *wh*-operator in [Spec, CP]. Recall from chapter 3 that, in Arabic, C_[+wh] can bear either a [●wh] feature triggering external Merge of a constituent bearing [wh] into its specifier or a [◁wh] feature triggering internal Merge of a constituent bearing [wh] into its specifier. Assuming that the pied-piped, container DP inherits the [wh] feature from the *wh*-phrase it embeds,¹⁸ the [●wh] feature on C_[+wh] will force the pied-piped phrase to be base-generated in its specifier.¹⁹ This is schematically illustrated in (26), where the pied-piped, container DP is DP_k, and the pied-piping *wh*-phrase is DP_i.



Such a pied-piped constituent is furthermore assigned default nominative case by virtue of the fact that it never comes to occupy an A-position (see section §3.7).

18. By some mechanism that merits further elucidation on another occasion.

19. In order to explain why the [●wh] feature on C_[+wh] does not trigger external Merge (or more precisely, *parallel Merge*, see Citko, 2005) of the embedded *wh*-phrase, thereby creating a two-peaked structure in which the embedded *wh*-phrase has two mothers, we might adopt Collins and Stabler’s (2016, 49, Definition 14 (iiib)) proposal that, when two syntactic objects A and B undergo external Merge, A and B must be elements of (i.e. must be *immediately contained by*) the workspace (i.e. the set of syntactic objects built up) at the relevant stage of the derivation. The [●wh] feature on C_[+wh] will therefore never be able to trigger external Merge of the embedded *wh*-phrase (i.e. DP_{i[wh]} in (26)) because the latter is not immediately contained by the workspace prior to external Merge. Thanks to Erik Zyman (*pers. comm.*) for bringing this issue to my attention.

My use of the term “pied-piping” in reference to a base-generated binding dependency lacking movement may strike some readers as inappropriate, since pied-piping is often taken to involve movement, by definition.²⁰ For instance, consider the following definition of pied-piping from a recent overview article on the phenomenon:

- (27) “[Pied-piping] refers to the phenomenon whereby some particular movement operation T, designated to displace an element A, in fact displaces additional elements together with A; more specifically, pied-piping is involved when an application of T ends up moving some constituent B that properly contains A.” (Horvath, 2017, 2)

Horvath’s definition stipulates a link between pied-piping and movement, though, as far as I can tell, this link is not strictly necessary. It is also possible to state a definition of pied-piping which does not rely on movement. Cable (2013) provides one such definition:

- (28) “*Pied-piping* occurs when an operation that targets the features of a lexical item L applies to a phrase properly containing the maximal projection of L (L^{Max}).” (Cable, 2013, 817, (4))

According to the definition in (28), the characteristic property of pied-piping is that *an operation* (presumably Merge) targets a phrase properly containing the maximal projection of the head bearing the targeted feature(s). If movement and base-generation are two subtypes of the same operation Merge (i.e. internal Merge and external Merge respectively; Chomsky, 2004), then we expect to find pied-piping both in cases of movement and in cases of base-generation, *ceteris paribus*. And indeed this is what we find in Arabic: a phrase properly containing the *wh*-phrase can be base-generated in [Spec, CP]—most notably in island-spanning dependencies where \bar{A} -movement is not an option ((25))—despite not lexically bearing a [wh]-feature.²¹ Consequently, I conclude that both base-generated and movement-

20. Indeed, Ross’ (1967, 206, (4.180)) original formulation characterized pied-piping as a property of structural transformations.

21. The Arabic data are also compatible with Cable’s (2010a; 2010b) approach which rejects the existence of pied-piping and which instead proposes that the feature targeted by C (or whatever the relevant head is) is not borne by the *wh*-phrase, but rather by a (usually covert) operator dubbed ‘Q’ which obligatorily accompanies and *c*-commands the *wh*-phrase. Under this approach, a pied-piping structure is one in which the operator Q targeted by C immediately *c*-commands not the *wh*-phrase but rather a phrase properly

derived dependencies can involve pied-piping.

The existence of DP pied-piping resumption raises the question whether other kinds of phrases—in particular, PPs—can be pied-piped and resumed. I show in section §7.4.2 below that they cannot be, at least not in Arabic. It turns out that this finding has potentially interesting implications for the theory of selection. However, because determining the precise mechanisms which derive pied-piping resumption is not directly relevant to the main topic of this chapter, the reader primarily interested in crossover should feel free to skip directly to section §7.4.3, where the discussion of crossover resumes.

7.4.2 *Excursus: PP pied-piping resumption and the theory of selection*

Unlike what we have seen above for DPs, PP pied-piping resumption is not possible in Arabic.²² Consider first the case of adjuncts. The comitative PP in (29) is representative in this regard (Bruening, 2013; see Lakoff and Ross, 1966, II-8, (33) for an important precedent).

- (29) [wijja:-man_i]_k tri:di:n tru:hi:n li-l-ħafla {____k / *[wijja:-∅_i]_k}?
 [with-whom_i]_k want.2.F.SG go.2.F.SG to-the-party { / *[with-him_i]_k}
 ‘[With whom_i]_k do you want to go to the party {____k / *[with him_i]_k}?’ (Iraqi)

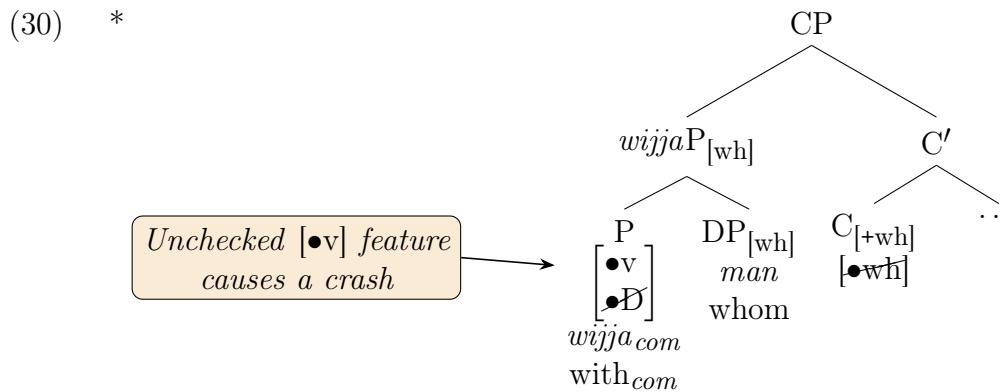
We can explain the failure of adjunct PP pied-piping resumption if we assume that adjuncts select their hosts, as is common in Categorical Grammar and HPSG (on the latter, see Pollard and Sag, 1994, §1.9; see also Frey and Gärtner, 2002; Bruening, 2013, 24–28; Graf, 2018; and Zyman, 2023a, esp. 3–5, and see Hunter, 2015, 299–300 for the proposal that certain features uniquely characterize adjuncts and specify the host phrases they attach to). In (29), the comitative preposition *wijja_{com}* ‘with_{com}’ plausibly selects the embedded vP, which the PP headed by *wijja* (or ‘*wijjaP*’) adjoins to. For the sake of explicitness, I will hypothesize

containing the *wh*-phrase. Given the approach to Move and Merge developed in this dissertation, pied-piping under movement would be triggered by the feature [◁Q] on C, whereas pied-piping under base-generation would be triggered by the feature [•Q] on C.

22. As with DP pied-piping resumption, all examples of PP pied-piping resumption in the text utilize Iraqi Arabic, though the facts are analogous in Tunisian and Syrian Arabic.

that adjunction, like Merge, is driven by structure building features bearing a ‘●’ prefix. The difference between argument selection and adjunction lies in determining how the mother node is labeled: in the former case, the selector projects (i.e. the label of the syntactic object created by Merge corresponds to the label of the selector), whereas in the latter case, the selectee projects (i.e. the label of the syntactic object created by adjunction corresponds to the label of the selectee); see e.g. Bruening (2013). I will not attempt an explanation of this asymmetry here. I propose that *wijja_{com}* bears a [●v] feature, which will force *wijja*P to adjoin to vP.²³

We are now in a position to explain the failure of adjunct PP pied-piping resumption. If a comitative *wijja*P inherits a percolated [wh] feature from its embedded *wh*-phrase, then, all else being equal, C_[+wh] should be able to externally merge this *wijja*P into its specifier via a [●wh] feature, as in (30). However, doing so would leave the [●v] feature on *wijja_{com}* in [Spec, CP] unchecked, causing the derivation to crash.²⁴



23. Determining where exactly *wijja*P adjoins is not crucial for our purposes, so long as it does not adjoin to CP. It is worth noting in this connection, though, that a comitative *with*-PP can be carried along under vP-preposing in English, suggesting that it can adjoin at least as low as vP: *But go to the party with him though she did, I still don't think she likes him very much* (thanks to Erik Zyman for bringing this example to my attention). See Yamada (2010) and Bruening (2013, 26–27) for explicit proposals about the attachment height of comitative PPs.

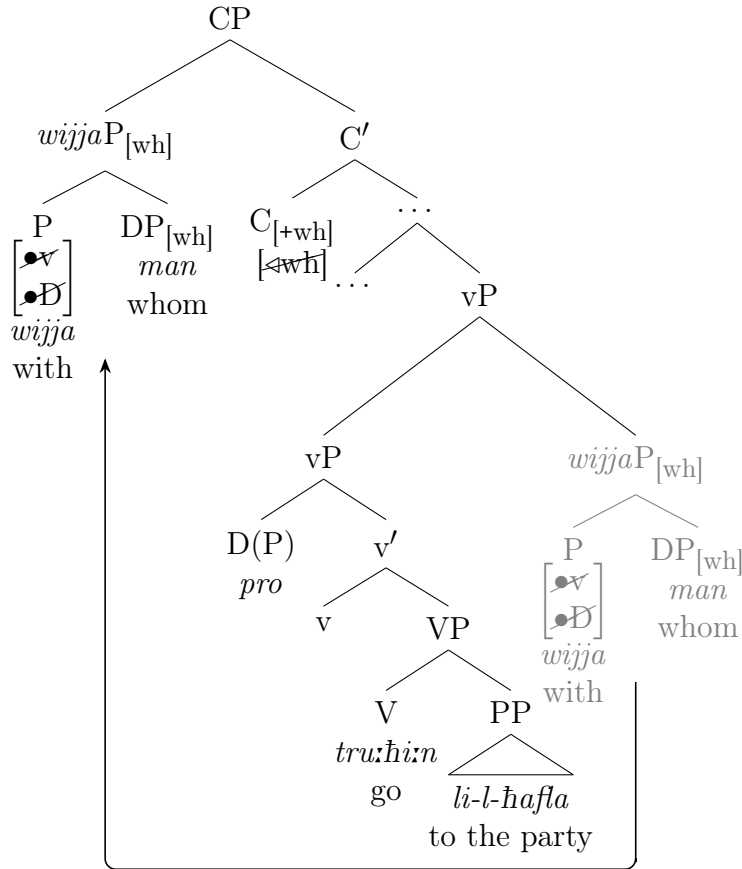
24. That selectional features act as derivational time bombs (see Preminger, 2014), forcing a crash unless they are checked/satisfied, is clearly illustrated by l(exical)-selection, as in (i) from English:

- (i) After Russ' fifth absence, it was clear that we could no longer depend *(on him).

See also Merchant (2014, 1) and Zyman (Accepted) for additional discussion.

Note, however, that if the comitative *wijja*P bearing a [wh] feature is base-generated as an adjunct to vP, after which it moves to check a [\langle wh] feature on C_[+wh], the [\bullet v] feature on *wijja_{com}* will be checked in the base position of *wijja*P and the derivation will converge, straightforwardly deriving pied-piping \bar{A} -movement of an adjunct PP:²⁵

(31)



Let us turn now to argument PPs, which like adjunct PPs cannot participate in pied-piping resumption. Example (32) illustrates: the PP headed by *wijja* ‘with’ is base-generated as an argument of the verb *tih̄tfi:n* ‘you (F.SG) speak’, and therefore must bind a gap when pied-piped in \bar{A} -movement.

- (32) [wijja:-man_i]_k tri:di:n tih̄tfi:n {___k / *[wijja:-∅_i]_k}?
 [with-whom_i]_k want.2.F.SG speak.2.F.SG { / *[with-him_i]_k}?
 ‘[With whom_i]_k do you want to speak {___k / *[with him_i]_k}?’ (Iraqi)

25. See Adger (2003, 109–110), Merchant (2019, 326), and Zyman (Accepted, 28–44) for proposals regarding how a selectional feature lexically specified on a head can be satisfied by merging the selectee with a projection of the head, rather than with the head itself.

Likewise for semantically otiose, l-selected prepositions (on the phenomenon of l-selection in general, see Pesetsky, 1991, ch. 1, Merchant, 2019, Zyman, 2022b, 139–147, and Zyman, Accepted). For instance, in Iraqi, the V *iftamad* ‘depend, rely’ (given here in its 3.M.SG past tense citation form)—or perhaps the acategorial root $\sqrt{\text{fmd}}$, see Merchant (2019) and Hewett (To appear) for discussion—idiosyncratically selects for a PP headed by *ʕala* ‘on’ ((33)).²⁶ Although *ʕala* ‘on’ can be pied-piped along with a *wh*-phrase under \bar{A} -movement, it cannot participate in pied-piping resumption, as illustrated in (34).²⁷

- (33) aʕtaqid nigdar naʕtamid {ʕala / *wijja / *min / *ʕan / *l- /
 think.1.SG be.able.1.PL depend.1.PL {on / *with / *from / *about / *to- /
 *b-} ha:j l-bnajja.
 *in-} this.F.SG the-girl
 ‘I think we can depend {on / *with / *from / *about / *to / *in} this girl.’ (Iraqi)
- (34) [ʕala ja: bnajja_i]_k taʕtaqidi:n nigdar naʕtamid {___k / ***[ʕale:-ha_i]_k**}?
 [on which girl_i]_k think.2.F.SG be.able.1.PL depend.1.PL { / ***[on-her_i]_k**}
 ‘[On which girl_i]_k do you think we can depend {___k / ***[on her_i]_k**}?’ (Iraqi)

Finally, note that directional PPs in [Spec, CP] must also bind a gap ((35a)) and cannot be pied-piped and resumed, whether by a clitic ((35b)), a PP headed by the same P but containing a pronoun ((35c)) or a locative or directional pro-form ((35d)).

- (35) a. [l-ja: madina_i]_k intiqlat Joni ___k?
 [to-which city.F.SG_i]_k moved.3.F.SG Joni
 ‘[To which city_i]_k did Joni move ___k?’
- b. * [l-ja: madina_i]_k intiqlat-**lha_k** Joni?
 [to-which city.F.SG_i]_k moved.3.F.SG-**to.it.F.SG_k** Joni
 (int.) ‘[To which city_i]_k did Joni move [to it_i]_k?’
- c. * [l-ja: madina_i]_k intiqlat Joni [**?il-ha_i]_k?
 [to-which city.F.SG_i]_k moved.3.F.SG Joni [**to-it_i]_k
 (int.) ‘[To which city_i]_k did Joni move [to it_i]_k?’****

26. A homophonous (though presumably lexically distinct) verb *iftamad* displays a different selectional pattern, c-selecting a DP like *qarar* ‘decision’ or *fikra* ‘idea,’ in which case the combination of the verb and object together means something like ‘go with that decision/idea.’

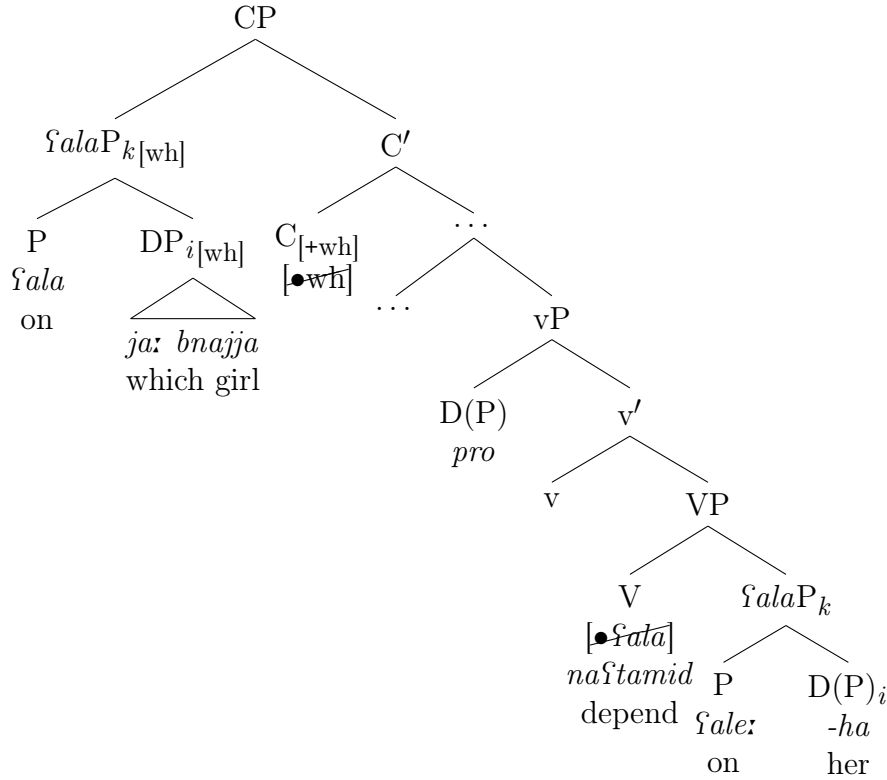
27. The two allomorphs of *ʕala* seen in (34) have a predictable distribution: the form *ʕale:-* occurs before enclitics (including clitic pronouns and the reduced allomorph of the *wh*-word ‘who’ *-man*), and the form *ʕala* appears elsewhere.

- d. * [l-ja: madina_i]_k intiqlat Joni {hna:k_k / [li-hna:k_i]_k}?
 [to-which city.F.SG_i]_k moved.3.F.SG Joni {there_k / [to-there_i]_k}
 (int.) ‘[To which city_i]_k did Joni move {there_k / [to there_i]_k}?’
- (Iraqi)

All other argument PPs that I have tested are restricted in the same way.

Intuitively speaking, the impossibility of argument PP pied-piping resumption appears to be a kind of failed connectivity effect, akin to the absence of case-connectivity under base-generated resumption in Arabic (see section §3.7). That is, there seems to be a parallelism between the fact that DPs bearing non-default case cannot be base-generated in [Spec, CP] and bind a resumptive pronoun, and the fact that PPs selected by lexical heads (e.g. V) cannot be base-generated in [Spec, CP]. However, nothing in our analysis so far predicts this parallelism. It is a standard assumption that prepositions do not require licensing, unlike non-default-case-marked DPs (though see below for a rejection of this assumption). Therefore, we predict that it should be possible for the [\bullet wh] feature on C_[+wh] to trigger External Merge of an argumental PP (i.e. a PP without any remaining selectional features of its own) so long as all other selectional requirements are met in the derivation. The pathological derivation for (34) is given in (36).

(36) *A pathological derivation wrongly ruled in by the analysis thus far*



Rather than defend a single answer to this puzzle, I will present two alternative analyses, each with its own assumptions and shortcomings. The upshot is that it seems necessary to augment the theory of selection in some way to account for the absence of argument PP pied-piping resumption.

The first possible solution is to add a $[\bullet D]$ selectional feature to $C_{[+wh]}$ to limit phrases base-generated in $[Spec, CP]$ to those of category D. Specifically, we might propose that $C_{[+wh]}$ whose specifier is filled by External Merge has as its second selectional feature the conjunctive feature $[\bullet D+wh]$ (its first being $[\bullet T]$ or the like).²⁸ This conjunctive selectional feature would trigger external Merge of a single element bearing both the categorial feature $[CAT: D]$ and the feature $[wh]$. If an element bears only one of these two features, it will not be able to check $C_{[+wh]}$'s selectional feature, and the derivation will crash. While technically feasible, adopting this solution would raise serious questions about cross-linguistic variation

28. For discussion of Agree probes with conjunctive features, see Newman (2023), and see van Urk (2015) for related discussion.

in lexical parameterization. For instance, without additional constraints, this analysis predicts that a language could restrict phrases base-generated in [Spec, CP] to those bearing [CAT: V] or any other categorial feature.²⁹ Such a language would simply have innovated a [\bullet V+wh] or similar feature on C_[+wh].³⁰ An additional possibility predicted by this hypothesis is that C_[+wh] might be able to l-select the phrase base-generated in its specifier. Using English lexical items for illustrative purposes, this would be exemplified by a language having in its lexicon a C_[+wh] bearing [\bullet on+wh] but not a C_[+wh] bearing [\bullet with+wh]. Such idiosyncratic lexical specification would allow the base-generation of PPs headed by *on* in

29. If Donca Steriade’s generalization (reported in Pesetsky, 1991, 9–10) that there is no c-selection for [CAT: P] (i.e. no selection for a PP without specifying the lexical identity of the P, via a feature like [\bullet P]) is correct, then we might not predict any language to innovate a selectional feature like [\bullet P+wh]. Indeed, Merchant (2019) and Hewett (To appear) suggest one possible way to account for Steriade’s generalization: if [CAT: P] does not exist, then it cannot be selected for.

30. As Erik Zyman (*pers. comm.*) reminds me, however, this feature recalls Thoms and Walkden’s (2019) analysis of vP-fronting in English, according to which the left-peripheral vP is not displaced to its surface position in [Spec, CP], but is rather base-generated there and serves as the antecedent for ellipsis of the clause-internal vP. Assuming that vP-fronting involves a discourse-related feature like [topic], one might propose that vP-fronting is triggered by a [\bullet v+topic] feature on the relevant left-peripheral head (which Thoms and Walkden, 2019, 163, (4) take to be C)—a conjunctive selectional feature parallel in all relevant respects to the [\bullet V+wh] feature discussed in the main text (though, as Karlos Arregi points out to me, if the head that triggers vP-fronting is the same head that triggers topicalization of constituents of other categories, then the non-conjunctive feature [\bullet topic] would be sufficient). Furthermore, cross-linguistic variation in the availability of vP-preposing can be explained if conjunctive selectional features can be parameterized on heads in the lexicon. For instance, vP-preposing is possible in English ((i)) and Brazilian Portuguese ((ii)), though not in Spanish ((iii)) or, for many speakers, Italian ((iv)) (‘<...>’ indicates elided material/unpronounced lower copies of movement):

- (i) I said I had studied, and studied I had <studied>.
- (ii) ... e estudado, eu tinha < estudado >.
 - and studied I had studied
 - ‘... and studied, I had.’ (Brazilian Portuguese; Saab, 2022, 3, (9))
- (iii) *... y estudiado, yo había < estudiado >.
 - and studied I had studied
 - (int.) ‘... and studied, I had.’ (Spanish; Saab, 2022, 3, (8))
- (iv) *... e comprato il libro, aveva.
 - and bought the book had.3SG
 - (int.) ‘... and bought the book, s/he had.’ (Italian, slightly adapted from Saab and Stigliano, 2023, 16, (59))

According to the conjunctive feature analysis of base-generated vP-preposing, then, English and Brazilian Portuguese, but not Spanish or Italian, have in their lexicons a C(-like) head bearing [\bullet v+topic]. There is thus some preliminary empirical support for conjunctive selectional features, potentially rendering the existence of a [\bullet D+wh] feature much more plausible.

[Spec, CP], but not the base-generation of PPs headed by *with*. I suspect that this sort of l-selection, triggered by $C_{[+wh]}$, is not particularly well motivated cross-linguistically. This bodes ill for the conjunctive selectional feature analysis of banned argument PP pied-piping resumption in Arabic.

Furthermore, the analysis predicts that a head—and in particular, $C_{[+wh]}$ —could impose restrictions on the category of the phrase internally merged in its specifier. Thus, we predict the following possible feature type, *ceteris paribus*: $[\triangleleft D+wh]$. Empirically, this would correspond to a language which only permits \bar{A} -movement of phrases bearing the feature [CAT: D] to [Spec, CP] (assuming that the language did not also have Cs bearing other conjunctive Move features of this sort). It is an open empirical question whether evidence can be found for either the $[\bullet V+wh]$ -type feature or the $[\triangleleft D+wh]$ -type feature.³¹

A different kind of solution can be found in augmenting (l-)selection with a licensing mechanism to check or value a feature on the selectee. Very roughly, if (l-)selected adpositions are like DPs bearing non-default case in needing to be licensed by a locally c-commanding head (e.g. V), then we can explain why argument PPs can never be base-generated in [Spec, CP]: they are never in a position to be licensed. The parallelism between selected adpositions and non-default case-markers could be explained by positing that both realize a K^0 head³²

31. Baker (1997, 654) claims that pied-piping of PPs is not possible in certain kinds of \bar{A} -movement in Edo and Chichewa, citing evidence from ex-situ focus constructions. If correct, this would seem to provide provisional support for the feature $[\triangleleft D+wh]$. Deeper investigation of these constructions is necessary, however: Omoruyi (1989, 285ff., especially examples (14a–b)) reports that some PPs headed by the locative preposition *vbè* ‘in’ can occur ex-situ in focus constructions in Edo, contrary to Baker’s claim.

The conjoined selectional feature $[\triangleleft D+wh]$ is also highly reminiscent of the \bar{A} -probe features posited by Branan and Erlewine (2022, 6, (9)), which take the form [PROBE: $\bar{A}+D$]. Yet, Newman (2023) argues that the data discussed by Branan and Erlewine do not require such a probe, but instead require only an A-probe searching for the closest DP. As Newman points out, a probe specified as [PROBE: $\bar{A}+D$] is predicted to search for the nearest DP bearing an \bar{A} -feature (i.e. a goal whose features match both probe specifications). On the possible existence of the latter type of probe (roughly corresponding to $[\triangleleft D+wh]$), see Scott (2021a) on Ndengeleko focus movement.

32. Though, as Erik Zyman (*pers. comm.*) points out to me, if the approach to Steriade’s generalization sketched at the end of footnote 29 is on the right track, there can be no feature [CAT: K] (or at the very least, [CAT: K] cannot be selected for). This explains why a head can l-select a particular “K” head, though it cannot c-select a head of category K (i.e. either a DP or PP) without imposing lexical restrictions on the identity of that head. The proposed unification of adpositions with non-default case-markers would then

bearing an unvalued feature [F:___] which can only be valued by a case-assigning/selecting head. If failure to value [F:___] does not necessarily result in a crash (Preminger, 2014), then the default value of [F:___] will be inserted when KP is base-generated in [Spec, CP]. This will yield a nominal bearing default case—the only kind of constituent able to be base-generated in [Spec, CP] in Arabic. By contrast, different values assigned to [F:___] would yield the various prepositions and case-markers in the language.

Alternatively, we could abandon the fallibility of feature valuation by adopting a proposal from Ershova (2019) (inspired by a similar idea in Minimalist Grammars, see e.g. Stabler, 1997, 2011, Lecomte and Retoré, 1999, and Keenan and Stabler, 2003). Ershova proposes that syntactic objects can bear licensee features (notated with circumfixal ‘+’s, i.e. [+F+]) and that licensee features must be checked and deleted under Agree or Merge in the course of the derivation, on pain of a crash. Under this approach, an l-selected P like *ʕala* ‘on’ in (34) would bear a licensee feature—call it [+P+]. The only heads capable of checking and deleting this licensee feature, then, would be the lexical Vs or acategorial roots responsible for l-selection. Consequently, base-generating an *ʕala*P in [Spec, CP] would place it too far from a potential licenser, and the unchecked [+P+] feature on *ʕala* would crash the derivation.

Although both the feature valuation approach and the licensee feature approach achieve some success in accounting for the absence of PP pied-piping resumption, they do so at a non-trivial cost—namely, they invoke Agree (or an Agree-like licensing mechanism) in the analysis of (l-)selection. By requiring that P be licensed during the derivation, and by allowing licensing to take place at a distance, both analyses seem to predict that the domain of licensing under selection and the domain of Agree should be coextensive, all else being equal (à la Collins, 2002, sect. 2). Yet selectional relations tend to be much more local than Agree relations (though see Hewett, To appear for an argument in favor of constrained non-local selection). It thus remains to be seen whether there is a principled way to restrict

rest on the claim that all bear the to-be-licensed feature [F:___].

the distance between the selector qua licensor and the selectee qua licensee.

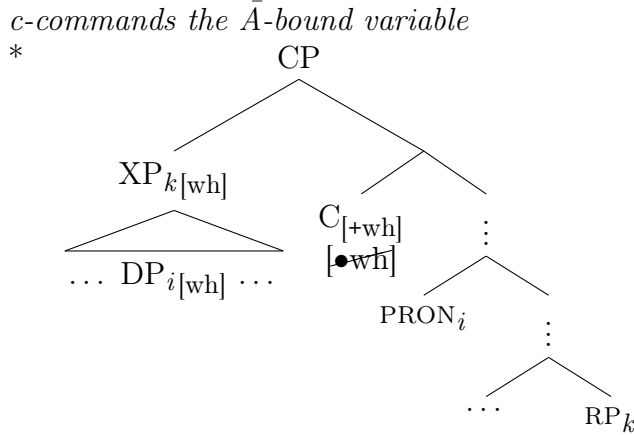
This concludes my excursus into PP pied-piping resumption. I explained the inability of adjunct PPs to be pied-piped and resumed by appealing to two independently motivated assumptions: (i) adjuncts select their hosts, and (ii) unchecked selectional features crash the derivation. Furthermore, I sketched two possible ways to analyze the unacceptability of argument PP pied-piping resumption. The first was to elaborate the selectional feature on $C_{[+wh]}$ to specify the category of the element base-generated in [Spec, CP]. The second was to augment the theory of (l-)selection with a theory of argument licensing, in part building on a proposal in Ershova (2019) and work in Minimalist Grammars.³³

7.4.3 *Secondary crossover effects with gaps and resumptives*

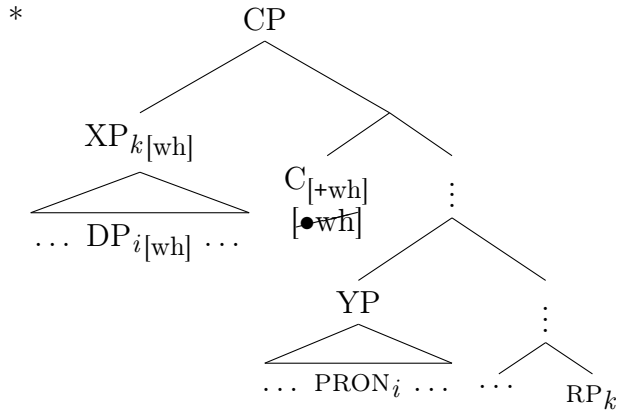
Before moving forward, let us briefly take stock. The overall aim of the current section (section §7.4) is to overcome the ambiguity problem in testing crossover effects under resumption described in section §7.3 by investigating *secondary* crossover. However, secondary crossover configurations crucially involve pied-piping, as illustrated in (37)–(38) (repeated here from (20)–(21)): the quantifier coconstructed with the crossed pronoun is embedded within a pied-piped phrase (here, XP) which binds a resumptive pronoun.

(37) *Secondary strong crossover: the pronoun coconstructed with the embedded QP*

33. There is in fact a third possible way to account for the unavailability of argument PP pied-piping resumption, as pointed out to me by Jason Merchant (*pers. comm.*). He notes that adpositions pied-piped under \bar{A} -movement are standardly assumed to reconstruct to their base positions at LF, given that they cannot be interpreted in [Spec, CP]. If an argument PP is base-generated in [Spec, CP], and if the P cannot be reconstructed to an A-position, we might expect the derivation to crash at LF. I see two problems with this analysis. First, it does not straightforwardly explain why semantically vacuous l-selected prepositions like *řala* ‘on’ in (34), which presumably contribute nothing to the interpretation, should cause a crash if they occupy [Spec, CP] at LF. Second, I have argued in chapter 6 that not all elements base-generated in [Spec, CP] need to be interpreted there. This includes bound variables in the NP restriction of the *wh*-phrase in a base-generated A-dependency which, under reconstruction, must only be interpreted in the elided NP complement of the resumptive pronoun, and not in the matrix scope position. I am not aware of independent reasons to limit LF neglect in A-chains (cf. Sportiche, 2016) to (subconstituents of) NP (though I do admittedly propose a *Principle of LF interpretation of A-chains* in (27) in chapter 6 which only makes reference to NP restrictions in A-chains). Without a principled reason for this restriction, nothing should prevent neglect of P in [Spec, CP] at LF. I therefore leave this alternative aside.



(38) *Secondary weak crossover: neither the pronoun coconstructed with the embedded QP nor the \bar{A} -bound variable c -commands the other*



Although pied-piping resumption has not received much attention previously, I showed in section §7.4.1 that DPs can be pied-piped and resumed in Arabic. We are now in a position to test whether secondary crossover effects are detectable in Arabic resumptive \bar{A} -dependencies.

As the data in (39)–(40) show, secondary strong and weak crossover effects emerge with both gaps and resumptives in Iraqi, Syrian, and Tunisian Arabic *wh*-questions.³⁴ A pronoun

34. I must leave investigating secondary crossover effects in Arabic relative clauses for a future occasion due to two complicating (and potentially confounding) factors. First, secondary crossover effects with pied-piping operators cannot be tested directly in Arabic relatives because Arabic lacks overt relative pronouns (and, as is well known, non-overt elements cannot pied-pipe, see e.g. Chomsky and Lasnik, 1977, 446; Browning, 1987, 138; Grosu, 1994, 46, 76–77; and Heck, 2004, 478–481). This leaves testing secondary crossover effects with QPs contained in the NP modified by the relative clause:

- (i) *Schematic configuration to test secondary crossover effects in (Arabic) relative clauses lacking pied-piping operator phrases*
 [DP D⁰ [NP [NP ... QP_i ...]_k [CP Op_k C⁰ ... ([DP ...) PRON_i (...)] ... ____k/RP_k]]

Unfortunately, it is not clear whether secondary crossover effects are necessarily expected in such examples—

which asymmetrically c-commands the variable site (secondary strong crossover) or which is embedded in a constituent which asymmetrically c-commands the variable site (secondary weak crossover) cannot be coconstrued with the *wh*-phrase contained in the pied-piped DP occupying [Spec, CP].³⁵

(39) *Secondary strong crossover...*

a. ... *with gaps*

- i. * [s^fadi:qat minu_i]_k taʕtaqidi:n pro_i raħ jixta:r ____k
 [friend.F.SG who_i]_k think.2.F.SG FUT choose.3.M.SG
 li-l-liʕba?
 for-the-game
 (int.) ‘[Whose_i friend (f.sg.)]_k do you think he_i will choose ____k for the game?’
 (Iraqi)

- ii. * [uxt min_i]_k b-taʕtaʕidi {pro_i / huwwa_i} raħ jixta:r ____k
 [sister who_i]_k IND-think.2.F.SG { / he_i} FUT choose.3.M.SG
 li-l-liʕbi?
 for-the-game
 (int.) ‘[Whose_i sister]_k do you think he_i will choose ____k for the game?’
 (Syrian)

- iii. * [uxt ʃkum_i]_k joðhor-lək {pro_i / howwa_i} beʃ jəxta:r
 [sister who_i]_k seems.3.M.SG-to.you { / he_i} FUT choose.3.M.SG
 ____k fə-l-muse:bqa?
 in-the-competition
 (int.) ‘[Whose_i sister]_k do you think he_i will choose ____k in the competition?’
 (Tunisian)

b. ... *with resumptives*

- i. * [s^fadi:qat minu_i]_k taʕtaqidi:n pro_i raħ jixta:r-**ha**_k
 [friend.F.SG who_i]_k think.2.F.SG FUT choose.3.M.SG-**her**_k
 li-l-liʕba?
 for-the-game
 (int.) ‘[Whose_i friend (f.sg.)]_k do you think he_i will choose her_k for the

in part because different analyses of relative clauses (i.e. raising vs. matching) seem to make different predictions. Furthermore, the acceptability of corresponding English examples appears to be influenced by as yet unidentified factors; see in particular the discussion surrounding example (69) in the main text, as well as the examples in footnote 39. See footnote 51 for speculation on why secondary (strong) crossover effects appear to be less robust in relative clauses with QPs contained in the relative head than in *wh*-questions.

35. Secondary crossover also emerges with PP pied-piping in all three varieties, but given that there is no PP pied-piping resumption in Arabic (see section §7.4.2), these data obligatorily involve gap-leaving \bar{A} -movement and hence do not shed light on the question whether (base-generated) resumptive \bar{A} -dependencies induce crossover effects.

- game?' (Iraqi)
- ii. * [uxt mi:n_i]_k b-taʕtaʕidi {*pro*_i / huwwa_i} raḥ jixta:r-**ha**_k
 [sister who_i]_k IND-think.2.F.SG { / he_i} FUT choose.3.M.SG-**her**_k
 li-l-liʕbi?
 for-the-game
 (int.) '[Whose_i sister]_k do you think he_i will choose her_k for the game?'
 (Syrian)
- iii. * [uxt ʃku:n_i]_k joðhor-lək {*pro*_i / howwa_i} beʃ
 [sister who_i]_k seems.3.M.SG-to.you { / he_i} FUT
 jəxta:r-**ha**_k fə-l-muse:bqa?
 choose.3.M.SG-**her**_k in-the-competition
 (int.) '[Whose_i sister]_k do you think he_i will choose her_k in the competi-
 tion?' (Tunisian)

(40) *Secondary weak crossover...*

a. ...with gaps

- i. ?? [as^ʕdiqa:ʔ minu_i]_k taʕtaqidi:n s^ʕa:ḥibt-a_i raḥ tixta:r _____k
 [friends who_i]_k think.2.F.SG girlfriend-his_i FUT choose.3.F.SG
 li-l-liʕba?
 for-the-game
 (int.) '[Whose_i friends]_k do you think his_i girlfriend will choose _____k for
 the game?' (Iraqi)
- ii. * [fari:ʔ mi:n_i]_k bi-taʕtaʕidi uxt-u_i raḥ tixta:r _____k
 [team who_i]_k IND-think.2.F.SG sister-his_i FUT choose.3.F.SG
 li-l-liʕbi?
 for-the-game
 (int.) '[Whose_i team]_k do you think his_i sister will choose _____k for the
 game?' (Syrian)
- iii. * [taswirət ʃku:n_i]_k joðhor-lək omm-u_i beʃ təxta:r
 [picture.F.SG who_i]_k seems.3.M.SG-to.you mother-his_i FUT choose.3.F.SG
 _____k fə-l-muse:bqa?
 in-the-competition
 (int.) '[Whose_i picture]_k do you think his_i mother will choose _____k in the
 competition?' (Tunisian)

b. ...with resumptives

- i. ?? [as^ʕdiqa:ʔ minu_i]_k taʕtaqidi:n s^ʕa:ḥibt-a_i raḥ tixta:r-**hum**_k
 [friends who_i]_k think.2.F.SG girlfriend-his_i FUT choose.3.F.SG-**them**_k
 li-l-liʕba?
 for-the-game
 (int.) '[Whose_i friends]_k do you think his_i girlfriend will choose them_k for
 the game?' (Iraqi)
- ii. * [fari:ʔ mi:n_i]_k bi-taʕtaʕidi uxt-u_i raḥ tixta:r-**u**_k
 [team who_i]_k IND-think.2.F.SG sister-his_i FUT choose.3.F.SG-**it.M.SG**_k

li-l-liḡbi?

for-the-game

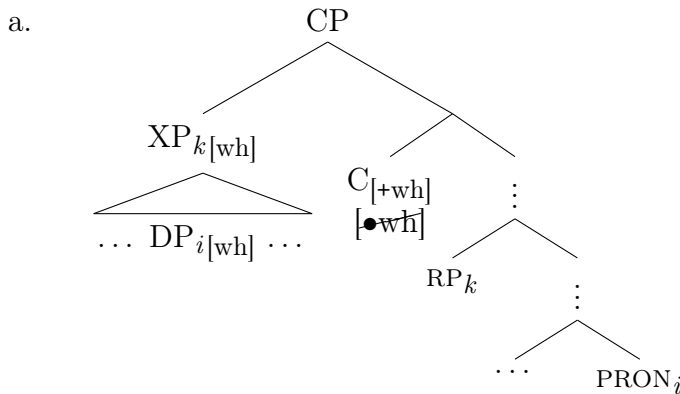
(int.) ‘[Whose_i team]_k do you think his_i sister will choose it_k for the game?’ (Syrian)

- iii. * [taswir:ət ʃku:n_i]_k joḏhor-lək omm-u_i beḡ
 [picture.F.SG who_i]_k seems.3.M.SG-to.you mother-his_i FUT
 təxta:r-**ha**_k fə-l-muse:bqa?
 choose.3.F.SG-**it.F.SG**_k in-the-competition

(int.) ‘[Whose_i picture]_k do you think his_i mother will choose it_k in the competition?’ (Tunisian)

Crucially, reversing the positions of the resumptive pronoun and the non-resumptive, bound pronoun leads to acceptability. The Syrian data in (41)–(42) are illustrative. Coconstrual between the embedded *wh*-phrase *mi:n* ‘who’ and the object clitic *-u* ‘him’ is judged to be acceptable when the latter is c-commanded by the (YP containing the) resumptive pronoun. The slight marginality of having an overt resumptive subject *hijja* ‘she’ in (41b) is due to a pro-drop preference in the language.³⁶

- (41) *No secondary strong crossover expected when the \bar{A} -bound variable asymmetrically c-commands the pronoun coconstrued with the embedded QP*

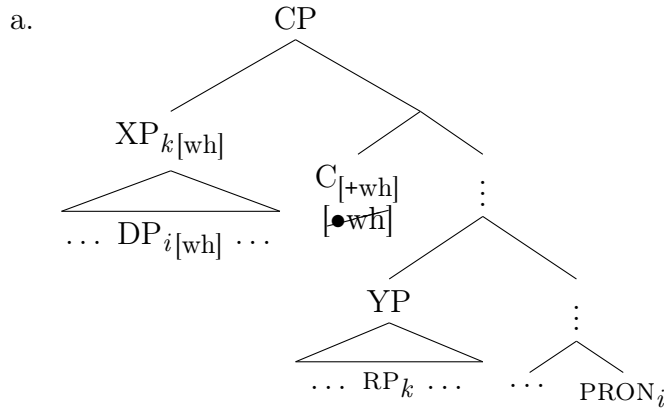


36. Demonstrating this is straightforward: examples in which the resumptive pronoun is not a strong subject pronoun are fully acceptable.

- (i) [ʃari:k ajja binit_i]_k ʃarrafti:∅_k ʃale:r-ha_i li-ʔawwəl marra?
 [partner which girl_i]_k introduced.2.F.SG-**him**_k to-her_i for-first time
 (lit.) ‘[Which girl_i’s partner]_k did you introduce him_k to her_i for the first time?’ (Syrian)
- (ii) [ʔəmm mi:n_i]_k waʃadtu:-**ha**_k innu raḥ nwaz^ʕz^ʕif-u_i?
 [mother who_i]_k promised.2.PL-**her**_k that FUT hire.1.PL-him_i
 (lit.) ‘[Whose_i mother]_k did you promise her_k that we would hire him_i?’ (Syrian)

- b. [uxt min_i]_k b-taftaʔidi (?hijja_k) raḥ tixtar-u_i
 [sister who_i]_k IND-think.2.F.SG (?she_k) FUT choose.3.F.SG-him_i
 li-l-liʔbi?
 for-the-game
 ‘[Whose_i sister]_k do you think (she_k) will choose him_i for the game?’ (Syrian)

(42) *No secondary weak crossover expected when the phrase containing the \bar{A} -bound variable asymmetrically c-commands the pronoun coconstrued with the embedded QP*³⁷



- b. [ḥabi:bet min_i]_k b-taftaʔidi ʔit^tat-**ha**_k bi-tḥibb-u_i?
 [girlfriend who_i]_k IND-think.2.F.SG cat.F.SG-**her**_k IND-like.3.F.SG-him_i
 (lit.) ‘[Whose_i girlfriend]_k do you think her_k cat likes him_i?’ (Syrian)

These data show that it is in principle possible for a *wh*-phrase embedded within a phrase XP in [Spec, CP] to be coconstrued with a pronoun PRON that the *wh*-phrase does not c-command. Such coconstrual is only possible, however, when the resumptive pronoun bound by the pied-piped XP (or a phrase containing the resumptive) asymmetrically c-commands PRON from an A-position, as in (41)–(42); when PRON (or a phrase containing it) asymmetrically c-commands the resumptive, a crossover violation ensues, as in (39)–(40).

In all of the preceding examples of secondary crossover, the crossed pronoun (or the DP

37. Despite the fact that neither the resumptive pronoun nor the non-resumptive pronoun c-commands the other, we do not necessarily expect a secondary weak crossover effect in (42). The crucial determining factor for secondary weak crossover seems to be that a constituent containing the \bar{A} -bound variable must asymmetrically c-command the pronoun coconstrued with the embedded *wh*-phrase. The following pair illustrates the same point with English data:

- (i) ? [Whose_i parents]_k did you tell several friends of ____k that we want to hire her_i?
 (ii) ?* [Whose_i parents]_k did you tell several friends of hers_i that we want to hire ____k?

containing it) occupies a subject position. Note, however, that secondary crossover effects are also present in gapped and resumptive \bar{A} -dependencies when the crossed pronoun is in an object position, as illustrated by the following Syrian data:³⁸

- (43) *Secondary strong crossover with the crossed pronoun in object position*
 *b-taʕrifi [sajja:rat ajja wa:ħhid_i]_k xabbarit-u_i
 IND-know.2.F.SG [car which one.M.SG_i]_k informed.3.F.SG-him_i
 l-furt^ʕa inno liʔat(-ħa_i)?
 the-police.F.SG that found.3.F.SG(-it.F.SG_k)
 (int.) ‘Do you know [which person_i’s car]_k the police informed him_i that they
 found (it_k)?’ (Syrian)
- (44) *Secondary weak crossover with the crossed pronoun in object position*
 *b-taʕrifi [sajja:rat ajja wa:ħhid_i]_k xabbarit l-furt^ʕa
 IND-know.2.F.SG [car which one.M.SG_i]_k informed.3.F.SG the-police.F.SG
 ʕa:ʔilat-u_i inno liʔat(-ħa_k)?
 family-his_i that found.3.F.SG(-it.F.SG_k)
 (int.) ‘Do you know [which person_i’s car]_k the police informed his_i family that
 they found (it_k)?’ (Syrian)

In summary, the data considered so far have demonstrated that both gapped and resumptive \bar{A} -dependencies in Arabic display secondary weak and strong crossover effects.³⁹ In the

38. Demirdache and Percus (2011) analyze Jordanian Arabic sentences similar to (43)—also using the verb ‘inform’, but with primary crossover (and a crossed epithet) instead of secondary crossover—as involving *weak*, rather than strong crossover. This would entail that the direct object of the verb ‘inform’ must not c-command into the complement clause. Binding facts seem to argue against such an analysis for Arabic: direct object (clitic) pronouns trigger disjoint reference effects (i.e. Condition C) with R-expressions contained in the complement clause.

- (i) l-furt^ʕa xabbarit-u*_{i/k} inno liʔat sajja:rat Matt_i.
 the-police.F.SG informed.3.F.SG-him*_{i/k} that found.3.F.SG car Matt_i
 ‘The police informed him*_{i/k} that they found Matt_i’s car.’ (Syrian)

If Condition C violations are calculated over c-command relations (but see Bruening, 2014 for an alternative perspective), this suggests that object pronouns c-command into clause-mate complement clauses and that (43) does indeed involve secondary strong crossover.

39. While this is the first time such a claim has been made for a language which productively employs base-generated resumptives (and see Martinović, To appear, 2–3 for a similar claim for movement-derived resumptives in Igala *wh*-questions), Safir (1996) actually presents the first investigation into secondary crossover effects under resumption in *any* language, to my knowledge. Safir reports that resumption in English restrictive relative clauses obviates secondary crossover effects when a quantifier is contained in the relative head. This claim is ostensibly supported by contrasts such as the following:

- (i) *Resumption disarms secondary strong crossover in English restrictive relatives*

next section (section §7.4.4), I show that secondary crossover effects do not pattern with locality (see Salzmann, 2017b, 356–357), reinforcing the conclusion that secondary crossover

-
- a. *I can think of [no one else_i's mother]_k who we would have to keep begging him_i to tell us about _____k.
 - b. ?I can think of [no one else_i's mother]_k who we would have to keep begging him_i to tell us about what **she**_k was like. (Safir, 1996, 327, (38a–b))
- (ii) *Resumption disarms secondary weak crossover in English restrictive relatives*
- a. *I can think of [no one else_i's mother]_k who we would have to keep begging [his_i brother] to tell us about _____k.
 - b. ?I can think of [no one else_i's mother]_k who we would have to keep begging [his_i brother] to tell us about what **she**_k was like. (Safir, 1996, 328, (40a–b))

Unfortunately, Safir's data are not as minimal as they could be: (ib) and (iib) position the variable site inside a *wh*-island immediately following a left-peripheral *wh*-phrase to boost the acceptability of the use of a resumptive pronoun for those idiolects which disprefer resumption in English. As Erik Zyman (*pers. comm.*) suggests to me, we can tighten the vise on these contrasts by making the examples perfectly minimal. As indicated in (iii), the ameliorating affect of resumption in secondary strong crossover configurations can still be detected, though secondary weak crossover seems to exhibit the reverse pattern ((iv)) (judgments due to Erik Zyman).

- (iii) a. ??I can think of [no one else_i's mother]_k who we would have to keep begging him_i to tell us about _____k.
 - b. (?) I can think of [no one else_i's mother]_k who we would have to keep begging him_i to tell us about **her**_k.
- (iv) a. (?) I can think of [no one else_i's mother]_k who we would have to keep begging his_i brother to tell us about _____k.
 - b. ??I can think of [no one else_i's mother]_k who we would have to keep begging his_i brother to tell us about **her**_k.

Note furthermore that Safir's examples (and the modified examples in (iii)–(iv)) are more indirect than the Arabic ones discussed in the main text: the resumptive is arguably bound by the relative pronoun *who* in the English examples and not directly by a complex operator containing the quantifier, as in Arabic. The examples in (v)–(vi) thus more closely parallel the Arabic examples. Crucially, and in contrast to Arabic, the ameliorating effect of resumption persists, in this case with both secondary strong and weak crossover (judgments due once again to Erik Zyman, though I find all the relevant examples severely degraded).

- (v) a. *I can think of no one else [whose_i mother]_k we would have to keep begging him_i to tell us about _____k.
 - b. (?) I can think of no one else [whose_i mother]_k we would have to keep begging him_i to tell us about **her**_k.
- (vi) a. (?)? I can think of no one else [whose_i mother]_k we would have to keep begging his_i brother to tell us about _____k.
 - b. ? I can think of no one else [whose_i mother]_k we would have to keep begging his_i brother to tell us about **her**_k.

These facts would seem to suggest a parametric difference between English and Arabic in whether or not resumption ameliorates secondary crossover effects. While I do not have a detailed explanation for this difference, I will raise a caveat about the English resumption examples. Erik Zyman notices that, in his

is not exclusively a property of movement but rather is a more general property of \bar{A} -binding dependencies. Finally, in an appendix to this section (section §7.4.5) I provide several arguments that secondary strong crossover is not reducible to a Condition C violation under reconstruction induced by a representation of the *wh*-phrase in the variable site.

Before moving on, however, it is worth briefly addressing a plausible but ultimately untenable alternative analysis of the secondary crossover data from Arabic. I have argued that the observed unacceptability is induced by the attempted coconstrual between the embedded *wh*-phrase and the pronoun crossed by the \bar{A} -dependency—whether that dependency is generated by movement or base-generated binding. However, if the dependency between a quantifier and a variable dependent on it requires the former to asymmetrically c-command the latter (see Reinhart, 1983a and Déchaine and Wiltschko, 2017), then the *wh*-phrase will need to be covertly moved out of the containing DP at LF via QR (e.g. May, 1977; Von Stechow, 1996).⁴⁰ For examples like (39)–(40) and (43)–(44), QR would be expected to induce a (primary) weak crossover violation, in view of the fact that neither the trace contained inside the pied-piped DP nor the coconstrued pronoun c-commands the other. Example (45) illustrates the putative weak-crossover-inducing QR for (39b-ii); the trace of QR and the

idiolect, resumption is strongly degraded in English relatives *in the absence of a crossover-inducing context*. The key contrast is between the following pairs of examples: when there is no potential crossover violation at stake, resumption is severely degraded ((viiib)) or highly marginal ((viiiib)).

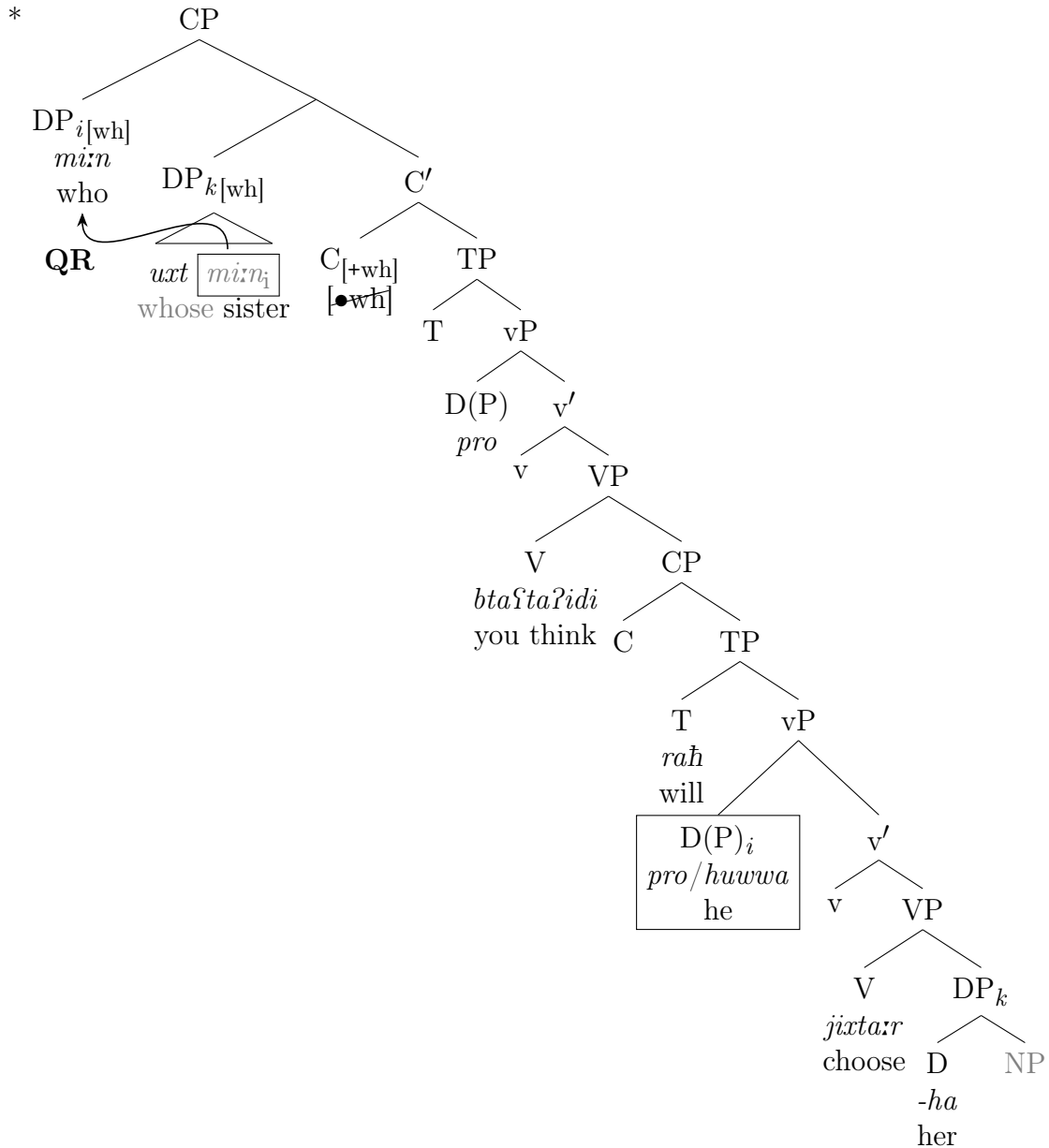
- (vii) a. I can think of [no one else_{*i*}'s mother]_{*k*} who we would have to keep begging you to tell us about
 —_{*k*}.
 b. ?*I can think of [no one else_{*i*}'s mother]_{*k*} who we would have to keep begging you to tell us about
 her_{*k*}.
- (viii) a. I can think of no one else [whose_{*i*} mother]_{*k*} we would have to keep begging you to tell us about
 —_{*k*}.
 b. ??I can think of no one else [whose_{*i*} mother]_{*k*} we would have to keep begging you to tell us about
 her_{*k*}.

This suggests that there are as yet ill-defined factors influencing the acceptability of the English examples (perhaps amounting to a transderivational constraint penalizing resumption unless it obviates crossover). An empirically adequate analysis of secondary crossover amelioration under resumption in English must take into account the many dimensions of variation documented here.

40. But see Safir (2004b) and Barker (2012) for theories of quantifier-variable dependencies which eschew the c-command requirement.

crossed pronoun are boxed for saliency, and I ignore representing the final adjunct *li-l-liṣbi* ‘for the game’ for simplicity:

- (45) *Putative derivation of (39b-ii) with weak-crossover-inducing QR of the embedded wh-phrase min ‘who’*



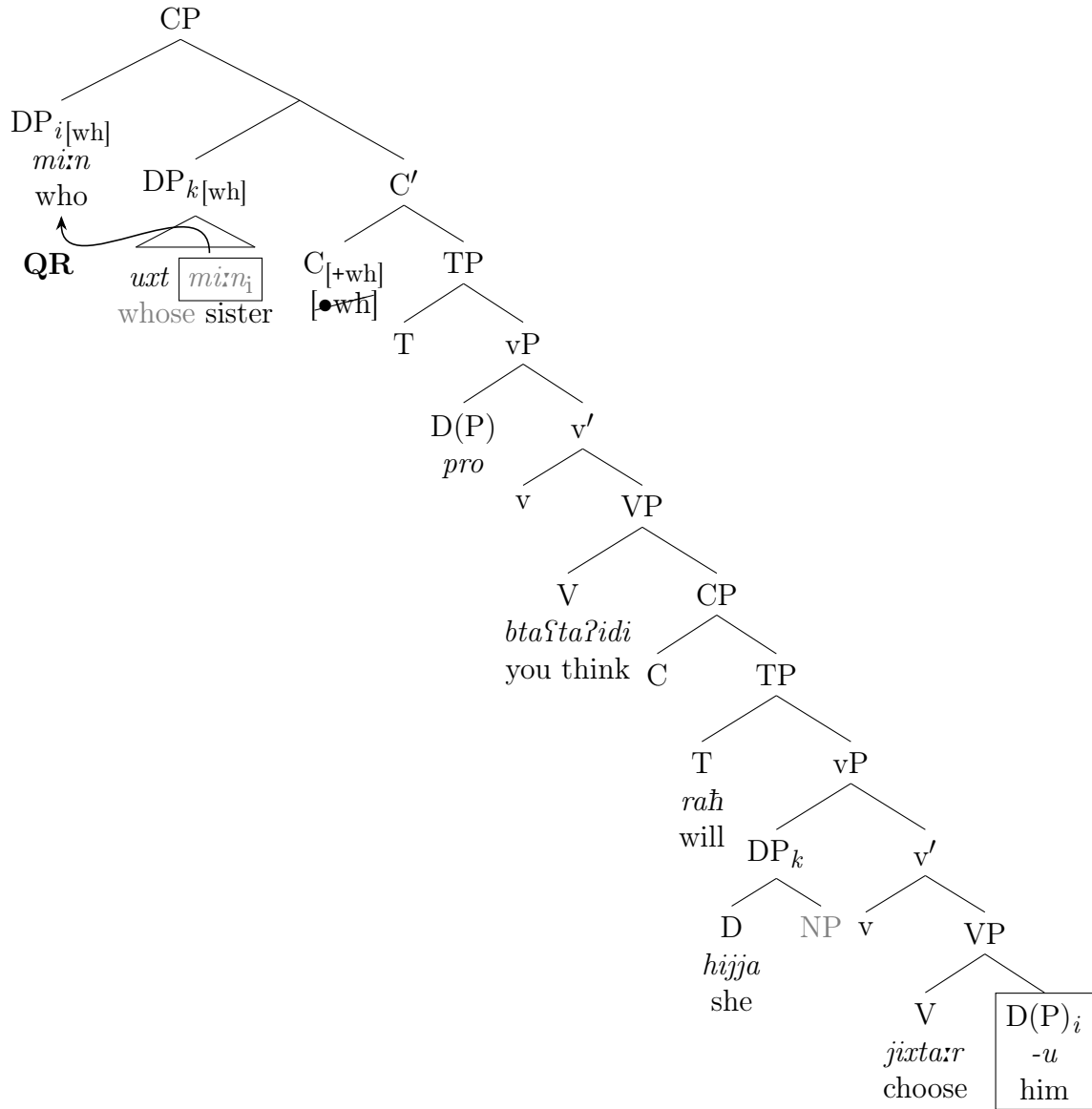
Consequently, one might wonder whether all of the examples of secondary crossover discussed so far could be reanalyzed as instantiating primary weak crossover triggered by QR of the *wh*-phrase at LF.

We can defuse this objection by considering acceptable examples like (46) (repeated here from (41b)):

- (46) [uxt mi:n_i]_k b-taʕtaʕidi (?hijja_k) raḥ tixtar-u_i li-l-liʕbi?
 [sister who_i]_k IND-think.2.F.SG (?she_k) FUT choose.3.F.SG-him_i for-the-game
 ‘[Whose_i sister]_k do you think (she_k) will choose him_i for the game?’ (Syrian)

In (46), coconstrual between the embedded *wh*-phrase and the object clitic ‘him’ is judged to be perfectly acceptable (modulo a preference for pro-drop). As previously discussed, this example differs from (39b-ii)/(45) only in the relative height of the resumptive pronoun and the non-resumptive, bound pronoun. In (39b-ii), the non-resumptive, bound pronoun asymmetrically c-commands the resumptive pronoun, and in (46), the resumptive pronoun asymmetrically c-commands the non-resumptive, bound pronoun. Only the latter is acceptable. If the source of the unacceptability of (39b-ii) were weak-crossover-inducing QR as sketched in (45), then we would expect the same unacceptability to arise in the case of (46), contrary to fact. Simply changing the order of the pronominal variables should not matter. The pathological derivation of (46) involving QR, which should then lead to a primary weak crossover violation, is shown in (47):

- (47) *Pathological derivation of (46) which incorrectly predicts a primary weak crossover violation due to QR of minn ‘who’*



Given that the relative height of the resumptive pronoun and the other bound pronoun *does* matter, I take it that Arabic resumptive \bar{A} -dependencies display true secondary (strong and weak) crossover and not merely primary weak crossover triggered by QR of the embedded *wh*-phrase. A consequence of this analysis is that the interpretation of pied-piped structures must not involve covert movement of the embedded operator to take scope over the entire sentence at LF.⁴¹ Section §7.6.4 provides one option for interpreting pied-piping at LF. I

41. See Hagstrom (1998), Sharvit (1998), Sternefeld (2001a), and Cable (2007), among others, for some approaches to the interpretation of pied-piping structures which do not propose structural manipulations prior to LF interpretation.

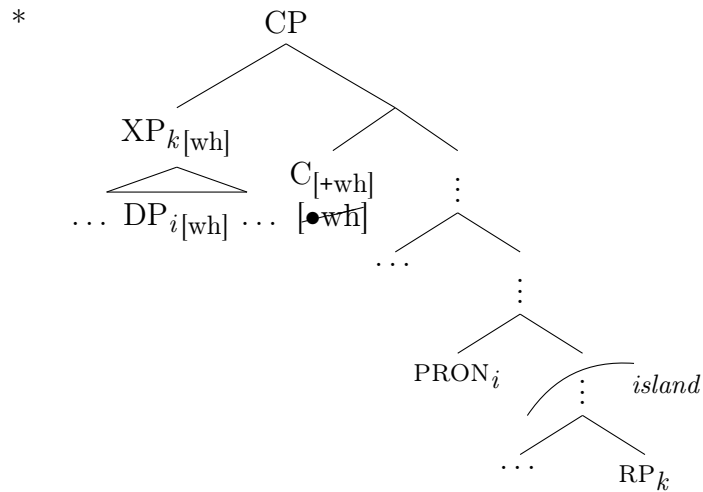
return to the issue of how the second pronoun in (46) gets a covarying interpretation in section §7.6, where I will propose that it is an E-type pronoun (in)directly A-bound by the higher, resumptive pronoun.

7.4.4 *Secondary crossover effects persist with in-island resumption*

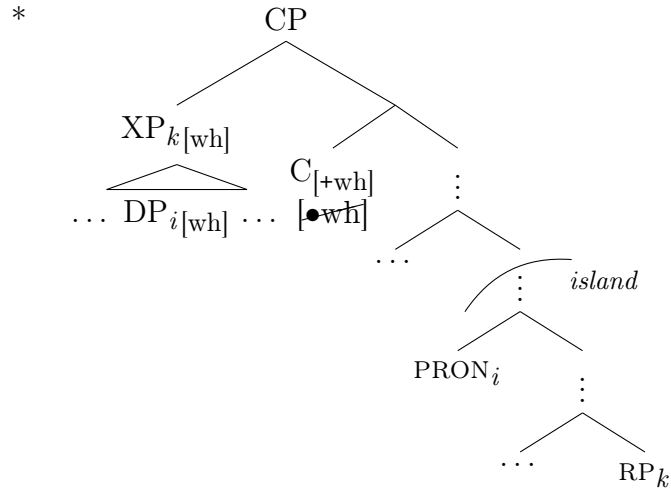
In this section, I show for the first time for Arabic (and for any language, to the best of my knowledge) that secondary strong and weak crossover effects obtain even when the resumptive pronoun is embedded inside an island, whether or not the crossed pronoun is contained inside the same island. The key test configurations and results are schematized in (48)–(49).

(48) *Secondary strong crossover effects persist with in-island resumption...*

a. ... when the crossed pronoun is outside the island.

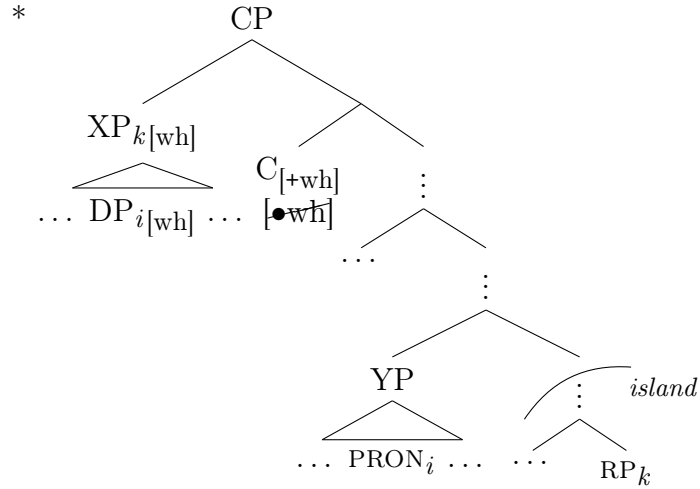


b. ... when the crossed pronoun is inside the island.

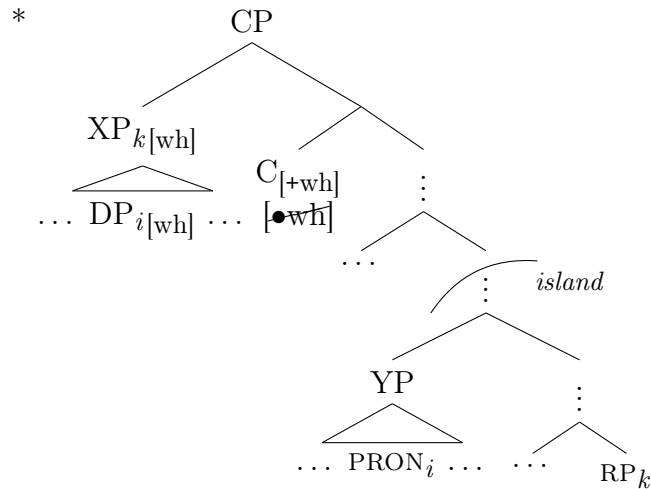


(49) *Secondary weak crossover effects persist with in-island resumption...*

a. *... when the crossed pronoun is outside the island.*



b. *... when the crossed pronoun is inside the island.*



This finding dictates that (secondary) crossover must not exclusively be a property of \bar{A} -

movement dependencies (contra e.g. Ross, 1967; Postal, 1971) or of structural representations created by \bar{A} -movement (contra e.g. Demirdache and Percus, 2011, 2012). Rather, I will argue that secondary crossover must be stated as a representational constraint on binding dependencies.

The examples in (50)–(51) illustrate the configurations in which both pronouns are contained inside an island with data from Syrian Arabic (the same pattern of judgments obtains in Iraqi and Tunisian). Examples (50a)/(51a) demonstrate that adjuncts/relative clauses are strong islands in Syrian: \bar{A} -dependencies spanning them require the use of base-generated resumptive pronouns. Examples (50b)/(51b) establish that secondary strong crossover effects persist when the resumptive dependency spanning the adjunct/relative clause island boundary crosses a pronoun (i.e. *-ha* ‘her’) (i) which is coconstructed with the embedded *wh*-phrase (i.e. *ajja binit* ‘which girl’), (ii) which is also contained inside the island, and (iii) which c-commands the resumptive pronoun $-\emptyset$ ‘him’. Examples (50c)/(51c) bear out a similar conclusion for secondary weak crossover, where the crossed pronoun itself does not c-command the resumptive pronoun inside the island, but rather a DP containing the crossed pronoun does.

(50) Secondary crossover effects persist into adjunct islands in Syrian

a. *Adjuncts are strong islands*

b-titzakkiri ajja binit_i ma kənti ħa:d^firi lamma
 IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG when
 {ʔarrafnɑ:**ha**_i / *ʔarrafnɑ ____i} ʔa-ʔari:k-ha_i?
 {introduced.1.PL-**her**_i / *introduced.1.PL } to-partner-her_i
 (lit.) ‘Do you remember which girl_i you were absent when we introduced {her_i / *____i} to her_i partner?’

b. *Secondary strong crossover*

*b-titzakkiri [ʔari:k ajja binit_i]_k ma kənti ħa:d^firi
 IND-remember.2.F.SG [partner which girl_i]_k NEG were.2.F.SG present.F.SG
 lamma ʔarrafnɑ:**ha**_i ʔale: $-\emptyset$ _k?
 when introduced.1.PL-her_i to-**him**_k
 (int.) ‘Do you remember [which girl_i’s partner]_k you were absent when we introduced her_i to him_k?’

c. *Secondary weak crossover*

*b-titzakkiri [zo:ʒ ajja binit_i]_k ma kənti ħa:d^ʕiri
 IND-remember.2.F.SG [husband which girl_i]_k NEG were.2.F.SG present.F.SG
 lamma ʕarrafna ixwa:t-ha_i ʕale:-Ø_k?
 when introduced.1.PL siblings-her_i to-**him**_k
 (int.) ‘Do you remember [which girl_i’s husband]_k you were absent when we
 introduced her_i siblings to him_k?’

(51) Secondary crossover effects persist into relative clause islands in Syrian

a. *Relative clauses are strong islands*

b-titzakkiri ajja binit_i ma kənti ħa:d^ʕiri l-yom_m
 IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG the-day.M.SG_m
 lli {ʕarrafna:-**ha**_i / *ʕarrafna ____i} ʕa-ʕari:k-ha_i fi:-Ø_m?
 that {introduced.1.PL-**her**_i / *introduced.1.PL ___} to-partner-her_i in-it_m
 (lit.) ‘Do you remember which girl_i you were absent the day that we intro-
 duced {her_i / *____i} to her_i partner?’

b. *Secondary strong crossover*

*b-titzakkiri [ʕari:k ajja binit_i]_k ma kənti ħa:d^ʕiri
 IND-remember.2.F.SG [partner which girl_i]_k NEG were.2.F.SG present.F.SG
 l-yom_m lli ʕarrafna:-ha_i ʕale:-Ø_k fi:-Ø_m?
 the-day_m that introduced.1.PL-her_i to-**him**_k in-it_m
 (int.) ‘Do you remember [which girl_i’s partner]_k you were absent the day that
 we introduced her_i to him_k?’

c. *Secondary weak crossover*

*b-titzakkiri [zo:ʒ ajja binit_i]_k ma kənti ħa:d^ʕiri
 IND-remember.2.F.SG [husband which girl_i]_k NEG were.2.F.SG present.F.SG
 l-yom_m lli ʕarrafna ixwa:t-ha_i ʕale:-Ø_k fi:-Ø_m?
 the-day_m that introduced.1.PL siblings-her_i to-**him**_k in-it_m
 (int.) ‘Do you remember [which girl_i’s husband]_k you were absent the day
 that we introduced her_i siblings to him_k?’

Similar facts hold when the crossed pronoun is not contained inside the island, as shown by the following examples of secondary strong and weak crossover from Iraqi Arabic.

(52) Secondary crossover effects with in-island resumption when the crossed pronoun is outside the island

a. *Secondary strong crossover*

titðakkiri:n [uxut minu_i]_k waʕadna:-Ø_{*i/j} innu raħ nismaʕ
 remember.2.F.SG [sister who_i]_k promised.1.PL-him_{*i/j} that FUT listen.to.1.PL
 ajj uynijja_m {**pro**_k / ?**hijja**_k} tit^ʕalliʕ-ha_m?
 any song_m { / ?**she**_k} puts.out.3.F.SG-it_m
 (lit.) ‘Do you remember [whose_i sister]_k we promised him_{*i/j} that we would
 listen to any song_m she_k puts it_m out?’ (Iraqi)

b. *Secondary weak crossover*

titðakkiri:n [firqat minu_i]_k waʕadna ahl-a*_{i/j} innu raḥ
 remember.2.F.SG [band who_i]_k promised.1.PL family-his*_{i/j} that FUT
 nismaʕ ajj uynijja_m {*pro*_k / ?*hijja*} titʕalliʕ-ha_m?
 listen.to.1.PL any song_m { / ?*it*_k} puts.out.3.F.SG-it_m
 (lit.) ‘Do you remember [whose_i band]_k we promised his*_{i/j} family that we
 would listen to any song_m it_k puts it_m out?’ (Iraqi)

The subject resumptive pronouns ‘she’ and ‘it’ (which are preferably pro-dropped) are contained inside a relative clause island, while the crossed pronouns -Ø ‘him’ and -a ‘his’ are contained in a higher clause, outside of the island. As with the preceding examples from Syrian Arabic, we find robust secondary crossover effects. Note, however, that if the crossed pronoun is not coconstrued with the *wh*-phrase *minu* ‘who’ (indicated via conindexing), both examples are perfectly acceptable.

The central finding reported in this section is simple, but has far-reaching consequences for our understanding of movement and binding: secondary crossover effects obtain with resumption inside islands, whether or not the crossed pronoun is also contained inside the same island. Consequently, secondary crossover cannot exclusively be attributed to \bar{A} -movement. This is because, as I have shown in chapter 3, resumptive dependencies in Arabic varieties do not exhibit the hallmarks of \bar{A} -movement in any portion of the chain. Hence, we should not be tempted to attribute secondary crossover to some hidden step of \bar{A} -movement. For those cases in which both the resumptive and the crossed pronoun are contained inside an island ((50)–(51)), this would require local \bar{A} -movement within the island from the position of the resumptive over the crossed pronoun; but there is no evidence of \bar{A} -movement local to resumptive pronouns in Arabic (e.g. resumptive pronouns do not license local parasitic gaps in Arabic, see section §3.4.1). For those cases in which only the resumptive is contained inside the island ((52a)–(52b)), an \bar{A} -movement account of crossover would need to posit either (i) island-crossing \bar{A} -movement from the position of the resumptive over the crossed pronoun, a possibility which I argued against extensively in chapter 3, or (ii) a mixed chain

with operator movement from the edge of the island over the crossed pronoun. The contrast between (53a) and (53b) in Iraqi Arabic, repeated from (152b) and (152d) in chapter 3, respectively, illustrates once again that mixed chains are lacking in these Arabic varieties: a resumptive pronoun inside an island cannot license a parasitic gap in an adjunct attached outside of the island (and see the arguments in section §3.6 for a similar conclusion from *exactly* stranding):

- (53) a. ja: bnajja_i siʔlat-itʃ Hend [CP iða raħ {??aħibb ____i /
 which girl_i asked.3.F.SG-you.F.SG Hend if FUT {??like.1.SG /
 aħibb-**ha**_i}] [ħatta min gabl ma a:ni aʃu:f-ha_i]?
 like.1.SG-**her**_i until from before C I see.1.SG-her_i
 ‘Which girl_i did Hend ask you if I would like {??____i / her_i} before I ever met
 her_i?’
- b. *ja: bnajja_i siʔlat-itʃ Hend [CP iða raħ aħibb-**ha**_i]
 which girl_i asked.3.F.SG-you.F.SG Hend if FUT like.1.SG-**her**_i
 [ħatta min gabl ma a:ni aʃu:f *pg*_i]?
 until from before C I see.1.SG
 ‘Which girl_i did Hend ask you if I would like her_i before I ever met *pg*_i?’
 (Iraqi)

7.4.5 Appendix: Secondary strong crossover is not reducible to Condition C

In this appendix, I will argue that secondary strong crossover should not be reduced to a Condition C violation under reconstruction, (contra e.g. Chomsky 1976, 334–335, 1981, 193ff.; Lasnik and Funakoshi, 2017; Bhatt and Keine, 2019; Bruening, 2021; and the references cited in Postal, 2004, 206–207),⁴² at least not in Arabic. The primary evidence for disentangling secondary strong crossover from Condition C comes from the fact that the two do not march in lockstep in Arabic.⁴³ Consider (what I henceforth refer to as) *wh*-within-

42. For additional arguments against deriving (primary) strong crossover from obligatory Condition C reconstruction, see Higginbotham (1980b, 1983), Cinque (1990, 150), Postal (2004, ch. 7), Safir (2004b, 62–63), Buring (2005, 172–174), Davis et al. (2007), Cable (2008), and Nediger (2017, 119–120).

43. Nor do they seem to march in lockstep for English, as illustrated by the following example:

- (i) [Which book that John₁ gave to who₂]₃ did he_{1/*2} like ___₃? (Tada, 1993, 160, (84))

wh-questions, first discussed to my knowledge by Higginbotham (1980a,b, 1983) (and see Engdahl, 1986, §7.3 for potentially related discussion). As the example in (54) from Syrian shows, multiple *wh*-phrases (neither of which binds a variable in C') may appear inside a pied-piped constituent in [Spec, CP] in a base-generated resumptive dependency.⁴⁴

- (54) [s^fu:rat mi:n tabaʕ ajja mmassli]_k ḥaku l-ḥukka:m ʕale:ha_k
 [picture.F.SG who of which actress]_k talked.3.PL the-judges about-it.F.SG_k
 kull l-yom?
 all the-day
 (lit.) ‘[Whose picture of which actress]_k did the judges talk about it_k all day?’
 (Syrian)

In (54), the resumptive pronoun *-ha* ‘it (F.SG)’ matches the head noun *s^fu:ra* ‘picture (F.SG)’ (realized in its construct state form as *s^fu:rat*) in φ -features and is bound by it. Crucially, if we insert a pronoun coconstructed with the embedded *wh*-phrase *ajja mmassli* ‘which actress’ either in a position *c*-commanding the resumptive ((55)) or inside a nominal which *c*-commands the resumptive ((56)), we trigger a secondary crossover effect.

Whereas the *wh*-phrase *who* within the relative clause modifying *which book* induces a secondary strong crossover effect with the matrix subject *he*, there is no obligatory disjoint reference (i.e. Condition C) effect between *he* and the R-expression *John* within the relative clause. I will add that, in my judgment, while there is no Condition C reconstruction effect in either (iia) or (iib), secondary strong crossover effects are robust in the same environments ((iia)–(iib)) (see Higginbotham, 1983, 408, 411 and Postal, 1993, 543, fn. 8, (i) for similar contrasts):

- (ii) a. [Whose photo of Matt_i’s desk]_k does he_i think ____k deserves a prize?
 b. [Whose photo on Matt_i’s desk]_k does he_i think ____k deserves a prize?
 (iii) a. * [Whose photo of which student_i’s desk]_k does he_i think ____k deserves a prize?
 b. * [Whose photo on which student_i’s desk]_k does he_i think ____k deserves a prize?

44. Note that these *wh*-within-*wh* questions seem to require single pair answers and to forbid pair-list answers (Von Stechow, 1996, 72–73). This is potentially related to the fact that, when one quantifier is embedded within another, the two cannot take independent scope with respect to a separate scope-bearing element in the clause (Larson, 1985; May, 1985, 69ff.; and Büring, 2005, 182–183). The latter fact has been interpreted by some to indicate that QR of a quantifier embedded within DP can move to the edge of DP, but it cannot escape DP and scope independently of it. If pair-list readings in multiple *wh*-questions require each *wh*-phrase (or the pied-piped phrase containing it) to occupy a distinct specifier of C at LF, then we could pursue a comparable explanation for the absence of a pair-list answer to *wh*-within-*wh* questions: the embedded *wh*-phrase cannot move out of its container, and hence the two *wh*-phrases will never occupy distinct [Spec, CP] positions at LF, precluding pair-list answers.

- (55) *Secondary strong crossover in wh-within-wh questions*
 [s^furrat min tabaʕ ajja mmassli_i]_k ʔaket *pro*_{*i/j} ʕale:**ha**_k kull l-yom?
 [picture who of which actress_i]_k talked.3.F.SG about-**it**_k all the-day
 (lit.) ‘[Whose picture of which actress_i]_k did she_{*i/j} talk about it_k all day?’
 (Syrian)
- (56) *Secondary weak crossover in wh-within-wh questions*
 [s^furrat min tabaʕ ajja mmassli_i]_k ʔaku as^fdiqa:ʔ-ha_{??i/j} ʕale:**ha**_k kull
 [picture who of which actress_i]_k talked.3.PL friends-her_{??i/j} about-**it**_k all
 l-yom?
 the-day
 (lit.) ‘[Whose picture of which actress_i]_k did her_{??i/j} friends talk about it_k all
 day?’
 (Syrian)

Reversing the relative positions of the two pronouns results in acceptability. For instance, compare (55) with its acceptable counterpart in (57).

- (57) *No secondary strong crossover when the resumptive pronoun c-commands the pronoun coconstructed with the embedded wh-phrase*
 [s^furrat min tabaʕ ajja mmassli_i]_k b-taʕtaʔidi inn-**ha**_k
 [picture.F.SG who of which actress_i]_k IND-think.2.F.SG that-**it.F.SG**_k
 mkabbrit-ha_i?
 make.look.old.F.SG-her_i
 (lit.) ‘[Whose picture of which actress_i]_k do you think that it_k makes her_i look
 old?’
 (Syrian)

Like (41)–(42), (57) shows that it is possible for the embedded *wh*-phrase to be coconstructed with a pronoun that it does not c-command. The unacceptability of (55)–(56) must therefore be attributed to crossover, and not to any general failure of the embedded *wh*-phrase to covary with a pronoun in *C'*.

Whereas secondary crossover effects are robust in *wh*-within-*wh* questions, replacing *ajja mmassli* ‘which actress’ with the R-expression ‘Joni’ does not induce a Condition C violation; contrast (55) with (58).

- (58) [s^furrat min tabaʕ Joni_i]_k ʔaket {*pro*_i / hijja_i} ʕale:**ha**_k kull l-yom?
 [picture who of Joni_i]_k talked.3.F.SG { / she_i} about-**it**_k all the-day
 (lit.) ‘[Whose picture of Joni_i]_k did she_i talk about it_k all day?’ (Syrian)

Condition C is absent precisely where we previously observed a secondary strong crossover

effect. Based on this divergence, I conclude that the two effects must be differentiated: secondary strong crossover cannot be reduced to Condition C. Rather, I will argue in section §7.6 that secondary (strong) crossover results from the inability of quantifiers to indirectly bind from an \bar{A} -position.

I submit that the absence of a Condition C violation in (58) is due to the availability of vehicle change under ellipsis, as argued in chapter 6. Recall that vehicle change describes a set of permissible mismatches—or alternatively a set of equivalence classes—between an elided nominal element and its correlate in the antecedent for ellipsis. One permissible mismatch is between an R-expression correlate in the antecedent and a pronoun bearing identical φ -features in the E(llipsis)-site (Fiengo and May, 1994, 218ff.). Merchant (1999a) defines the relevant equivalence class as in (59), where \equiv_e is to be read ‘forms an equivalence class under ellipsis with.’

- (59) [-anaphoric, -pronominal] (variable or name) \equiv_e [-anaphoric, +pronominal]
 (pronominal correlate) (slightly adapted from Merchant, 1999a, 483, (15))

In (58), the elided NP complement of the resumptive pronoun *-ha* ‘it’ takes the nominal restriction of the operator (which I assume includes the DP possessor ‘whose,’ see Elbourne, 2001 for supporting arguments) as its antecedent. According to (59), the name ‘Joni’ inside the antecedent is equivalent to a pronoun ‘her’ in the elided NP, as shown in (60) (illustrated with English lexical items for simplicity).

- (60) *Vehicle change explains the lack of Condition C reconstruction under resumption*
 [whose_j picture of Joni_i]_k did she_i talk about [it_k [~~their_j picture of her_i~~]] all day

Because there is no representation of the R-expression ‘Joni’ which is c-commanded by a coindexed pronoun, Condition C is satisfied.

Note, however, that a number of authors beginning with Safir (1999) have argued that vehicle change discriminates between R-expressions and quantifiers, such that quantifiers and their traces are not equivalent to pronouns under ellipsis (see also Bhatt, 2002, 2015, Safir,

2004b, Salzmann, 2006, 2017b, 2019).⁴⁵ According to this analysis, the LF representation of the resumptive *wh*-question in (55) would be along the lines of (61).

- (61) *Secondary strong crossover under resumption as the putative lack of vehicle change of quantifiers and their traces*
 [whose_j picture of which actress_i]_k did she_i talk about [it_k [~~whose_j picture of which actress_i~~]] all day

Assuming that Condition C is an ‘everywhere’ condition, in the sense that *any* offending representation of an R-expression or quantifier c-commanded by a coindexed pronoun suffices to trigger a violation (see Pesetsky, 2013, 135–136), (61) is predicted to be ungrammatical. This is because the quantifier ‘which actress’ in the elided NP complement of the resumptive pronoun is c-commanded by the coindexed pronoun ‘she,’ thereby inducing a Condition C violation. If correct, this would undermine my claim—based on the contrast between (55) and (58)—that secondary strong crossover under resumption in Arabic cannot be chalked up to a Condition C violation under reconstruction. I contend, however, that the claim that quantifiers cannot be vehicle changed (and hence the claim that secondary strong crossover can be derived from Condition C) is untenable.

Safir’s claim is based on pairs of examples like (62). A quantifier contained inside the head of a relative clause in English reportedly cannot be coindexed with a pronoun that c-commands the extraction site inside the relative ((62a)), though coconstrual is possible if the c-command relations between the extraction site and the pronoun are reversed ((62b)).

- (62) a. * Pictures of anyone_i which he_i displays prominently are likely to be attractive ones.
 b. Pictures of anyone_i which put him_i in a good light are likely to be attractive ones. (Safir 1999: 611, (66a–b))

Safir’s (1999) account of the unacceptability of (62a) proceeds from the following assumptions: (i) the extraction site of the relative clause contains a copy of the external head ‘pic-

45. Safir (2004b, 98) actually characterizes vehicle change as a kind of structural manipulation which *converts* nominals into pronouns, rather than as a set of equivalence classes as assumed here. This is in part because Safir assumes that vehicle change can also produce mismatches between an operator and its trace.

tures’ because relative clauses are derived via promotion of the head from a relative-internal position (Kayne, 1994); (ii) the relative-internal copy is a full copy of the external head, including the complement ‘of anyone,’ because only adjuncts can be merged late (Lebeaux, 1991); and (iii) vehicle change cannot apply to quantifiers. Consequently, according to Safir, the presence of the lower copy of the quantifier ‘anyone’ in (63) induces a Condition C effect with respect to the subject pronoun ‘he.’⁴⁶

(63) [pictures of anyone_i] which he_i displays [~~pictures of anyone_i~~] prominently

It is noteworthy, then, that there is evidence that at least some quantifiers and/or their traces are equivalent to pronouns under ellipsis, in line with (59) and contrary to what Safir predicts. I will present four types of examples pointing to this conclusion.

First, Merchant (1999a, 2001) observes that traces of *wh*-phrases and QR-ed quantifiers can antecede E-type pronouns in sluicing. The following examples are illustrative:

(64) a. The report details what_i IBM did *t_i* and why [_{TP} ~~IBM did it_i~~]. (slightly adapted from Merchant, 1999a, 481, (11a))

46. Sichel (2018, 369) provides an alternative account of Safir’s data. She argues instead that the unacceptability of (62a) arises due to obligatory reconstruction of the relative head ‘pictures of anyone’ to a position within the relative clause (presumably the extraction site) to license NPI *any*, which is licensed in non-downward-entailing contexts only if it is associated with a phrasal modifier like a relative clause. Sichel argues that her account correctly predicts that obligatory reconstruction feeds Condition C violations with R-expressions contained in complements of quantificational *any NP* in examples like (i), as would be predicted by syntactic accounts of reconstruction (Romero, 1998b; Sauerland, 1998; Fox, 1999):

(i) * [Pictures of [any friend of John’s₁]₂]₃ that he₁ likes ___₃ were on sale. (Sichel, 2018, 369, (75a))

However, (ii)—which simply removes the pronoun allegedly responsible for the Condition C violation—seems to me to be just as unacceptable as (i).

(ii) * [Pictures of [any friend of John’s₁]₂]₃ that you like ___₃ were on sale.

Examples without this confound (whatever it is, exactly) do not appear to force Condition C effects, contrary to what Sichel predicts: (iii) and (iv) sound equally acceptable to me.

(iii) [Pictures of [any friend of John’s₁]₂]₃ that you displayed ___₃ prominently at the exhibit were on sale.

(iv) [Pictures of [any friend of John’s₁]₂]₃ that he₁ displayed ___₃ prominently at the exhibit were on sale.

- (65) b. $t_{\text{what}} \equiv_e \textit{it}$
 a. The suspect phoned everyone_{*i*} on this list, but we don't know when [<sub>TP the suspect phoned them_{*i*}]. (adapted from Merchant, 1999a, 481, (10a))
 b. $t_{\text{everyone}} \equiv_e \textit{them}$</sub>

Vehicle change of the trace of the quantifier is necessary, since without it, the correlate in the E-site would be an unbound trace and we would incorrectly predict these examples to be unacceptable.

Second, vehicle change of (the trace of) a quantifier appears to be necessary in the following instances of VP ellipsis to circumvent a Condition C violation (see also Merchant, 1999b, 291–292, fn. 23 and Abels, 2022, 2, (4)):

- (66) The kids don't admire any actress_{*i*} as much as she_{*i*} thinks they should [~~admire her_{*i*}].~~

If the evaluation of syntactic identity for ellipsis applies to a post-QR structure, then (66) demonstrates the following equivalence under ellipsis: $t_{\text{any actress}} \equiv_e \textit{her}$. Note too that Binding Theory tests show that there is a pronoun in the E-site in (66): Condition B is violated in (67).

- (67) * The kids don't admire any actress_{*i*} as much as she_{*i*} does [~~admire her_{*i*}].~~

Third, as observed by Vanden Wyngaerd and Zwart (1991), traces of quantifiers can undergo vehicle change in ACD contexts. (68a) can be interpreted along the lines of (68b).

- (68) a. Alfred will kiss any girl that wants him to (Safir, 2004b, 167, fn. 5, citing Vanden Wyngaerd and Zwart, 1991)
 b. [any *x*: *x* girl wants him₁ to kiss [*x* girl]] Alfred₁ ⟨will kiss [*x* girl]⟩.

If QR is necessary in order for VP-ellipsis to be licensed in ACD contexts (Sag, 1976; May, 1985; Kennedy, 1997), then QR of *any girl that wants him to* is predicted to leave an \bar{A} -trace within VP. The elided VP within the QR-ed quantifier cannot also contain an \bar{A} -trace, since this trace would be unbound. So, the elided VP must instead contain an E-type pronoun *her* which is interpretively equivalent to the trace of QR under ellipsis: $t_{\text{any girl}} \equiv_e \textit{her}$.

Fourth, contrary to Safir’s claim, not all quantifiers contained in complements to the relative head give rise to secondary crossover effects. Sauerland (2003), for instance, agrees with Safir that a quantifier which is the complement to the relative head may not covary with a coindexed pronoun that c-commands the extraction site inside the relative clause ((69a)). However, he reports that embedding the quantifier further within the complement of the relative head, for instance in a prenominal possessor position as in (69b), obviates the expected crossover effect.^{47,48}

- (69) a. * Mary exhibited the picture of every boy_i that he_i brought ____.
 b. Mary exhibited the picture of every boy_i’s mother that he_i brought ____.
 (Sauerland, 2003, 223, (53a–b))

Furthermore, and in contrast to (69a), Sichel (2018) claims that secondary crossover effects are lacking with the universal quantifier contained inside relative heads in general, providing the following example as evidence:

- (70) The picture of every boy_i which he_i displays prominently is likely to be attractive.
 (adapted from Sichel, 2018, 369, (74b))⁴⁹

Note that Cinque (2020, 52, fn. 56, (ia–b)) reports a similar finding for comparable examples in Italian relative clauses. I will not attempt to explain the difference in judgments between (69a) and (70).

There also appear to be many examples in which quantificational *any NP* in the complement of a restrictive relative head does not induce a Condition C effect with respect to

47. Salzmann (2017b, 153, fn. 117), however, reports skepticism regarding the acceptability of sentences like (69b), noting that their counterparts in German are strongly unacceptable.

48. If prenominal possessors are adjuncts, then we might expect that late Merge of *every boy* could explain the missing primary strong crossover effect in (69b). However, see Sportiche (2019) for conceptual arguments against late Merge in general on the grounds that it must be unboundedly countercyclic. If prenominal possessors are not adjuncts but arguments, then we expect that they should behave like complements and display obligatory reconstruction (see Safir, 1999, 597–604), contrary to what is observed in (69b). Note that the parallel *wh*-question in (i) in footnote 51 *does* display a secondary strong crossover effect with *every boy* as a prenominal possessor.


49. Sichel attributes this example to Safir (1999, 612, (67a)) but I could find no such example in that work.

a pronoun inside the relative clause. Numerous speakers I have polled find no difference in acceptability between (71a)/(72a), which contain a quantifier in the complement of the relative head, and (71b)/(72b), which contain an R-expression in the complement of the relative head.

- (71) a. Any communication with any witness_i that she_i does not initiate herself is strictly prohibited outside of the courtroom.
 b. Any communication with the witness_i that she_i does not initiate herself is strictly prohibited outside of the courtroom.
- (72) a. The publisher's terms forbid any translation of any author's_i book into another language that she_i doesn't give explicit permission for.
 b. The publisher's terms forbid any translation of Michelle Obama_i's book into another language that she_i doesn't give explicit permission for.

If the absence of Condition C effects in (71b)/(72b) is to be attributed to vehicle change, then the parallel absence of Condition C/secondary strong crossover effects in (71a)/(72a) arguably demonstrates that vehicle change is likewise possible with quantifiers.

Finally, Salzmann (2017b, 153, fn. 117) observes that examples like (73) are problematic for the hypothesis that quantifiers cannot be vehicle changed.

- (73) Which politician_i did you read a [book about ___]_k that he_i dislikes ____k?
- 

That this example is acceptable suggests that the relative-internal representation of the external head must be something like *book about him_i*, despite the fact that the external head is *book about which politician_i* (with an unpronounced lower copy of the moved *wh*-phrase). This is shown in (74).

- (74) ... a [book about ~~which politician_i~~]_k [CP that he_i dislikes [~~the book about him_i~~]_k]

The hypothesis that quantifiers cannot undergo vehicle change predicts (73) to be ungrammatical, contrary to fact. We can instead account for (73) by assuming that the relative-internal representation of the external head contains the E-type pronoun *him*, which is

equivalent under ellipsis to the lower copy of *which politician*.⁵⁰

While I am unable to do justice here to the full range of reported facts, it is clear that there can be no blanket ban on vehicle change of quantifiers and their traces, contrary to what Safir (1999, 2004b) and others have proposed.⁵¹ Without independent evidence suggesting otherwise, then, I conclude that secondary strong crossover under resumption in Arabic is not reducible to obligatory Condition C reconstruction. Note, however, that even if some or all of the aforementioned examples could be reinterpreted as Condition C violations induced by a (lower copy of a) quantifier, we would still need an explanation for secondary *weak* crossover effects under resumption in Arabic which are not expected to trigger Condition C effects. Likewise for the primary weak crossover effects described in section §7.7.1.

50. See Salzmann (2017b, 2019) for a matching analysis of relative clauses that invokes ellipsis of the NP complement of the relative operator and predicts precisely this kind of vehicle change.

51. This raises the question why secondary (strong) crossover effects with quantifiers contained in the external head of a relative clause should not be as robust as secondary (strong) crossover effects in *wh*-questions in the same environments, as seems to be the case:

- (i) (cf. (69b))
*[Which picture of every boy_i's mother]_k did he_i bring _____k?
- (ii) (cf. (70))
*[Which picture of every boy_i]_k does he_i display _____k prominently?
- (iii) (cf. (73))
*[Which book about which politician_i]_k does he_i usually dislike _____k?

One possible explanation emerges if we take the external head of the relative clause to be distinct from the relative-internal operator, as proposed in the head external analysis of relatives (e.g. Montague, 1973; Partee, 1975; Chomsky, 1977; Jackendoff, 1977) and the matching analysis of relatives (e.g. Lees, 1960, 1961; Chomsky, 1965; Sauerland, 1998, 2003; Citko, 2001; Bhatt, 2002; Salzmann, 2017b, 2019): the external head of the relative clause is in an A-position and hence may be able to indirectly A-bind pronouns inside the relative which \bar{c} -command the extraction site. By contrast, relative-internal operators and *wh*-phrases, which land in an \bar{A} -position, will not be able to indirectly bind crossed pronouns due to the fact that indirect \bar{A} -binding is not possible, as argued in section §7.6.

7.5 Interim summary & desiderata for an account of crossover effects

Let me summarize the argumentation so far. Previous investigations into crossover effects under resumption have been faced with a troublesome ambiguity inherent in the data: when there are multiple pronominal elements both coconstructed with an \bar{A} -operator, it is not possible to determine *a priori* which of them is functioning resumptively; hence, it is not possible to determine if crossover effects with base-generated resumptive pronouns are not to be expected or if they are expected but absent (section §7.3). This led me to propose probing secondary crossover as a novel disambiguation strategy: the crossed pronoun and \bar{A} -bound variable bear different indices, hence crossover can be reliably diagnosed. Indeed, I have argued that secondary strong and weak crossover effects are robust with both gaps and resumptive pronouns in Iraqi, Syrian, and Tunisian Arabic (section §7.4.3). This conclusion was reinforced by the observation that reversing the relative height of the resumptive pronoun and the non-resumptive, bound pronoun results in acceptability. Finally, I argued from novel data that secondary strong and weak crossover effects obtain even inside islands, ruling out any analysis on which secondary crossover effects are uniquely tied to \bar{A} -movement dependencies (section §7.4.4).

I also argued in section §7.4.5 against an alternative account of secondary (strong) crossover effects in Arabic as Condition C violations under reconstruction. Accounts based on Condition C fail for at least two reasons: (i) the domain of (non-)reconstruction for Condition C with R-expressions is not coextensive with the domain of secondary strong crossover, and there is some evidence to suggest that vehicle change of both R-expressions and of quantifiers is available in natural language; and (ii) secondary *weak* crossover effects remain unexplained under Condition C accounts.

Another plausible, though ultimately empirically inadequate, analysis of crossover under resumption would be to propose that resumptive pronouns and traces are assigned certain

interpretations which are unavailable to ‘regular’ pronouns. Such an account could build on the idea from Sauerland (1998), Ruys (2000), and van Urk (2015), among others, that crossover results from a semantic parallelism constraint on the types of variables bound by a single operator.⁵² If resumptive pronouns and traces, but not ‘regular’ pronouns, are interpreted alike, then neither a resumptive pronoun nor a trace could be bound in parallel to a non-resumptive pronoun. A core problem with this proposal is that it runs counter to the Doron–Engdahl–McCloskey Generalization, repeated in (75):

(75) **The Doron–Engdahl–McCloskey Generalization**

Resumptive pronouns are ordinary pronouns. (adapted from Asudeh, 2015, 10, (36))

If resumptive pronouns were to be semantically distinguished from ordinary pronouns to make them interpreted like traces, resumptives would require a distinguishing featural diacritic like $[\pm\text{resumptive}]$. However, positing such a feature in the lexicon would predict that some language might morphologically differentiate a ‘resumptive’ series of pronouns, contrary to the generalization in (75). Since (75) appears to be exceptionless, it is a desideratum of any empirically adequate account of crossover that resumptive pronouns not be assigned interpretations unavailable to non-resumptive pronouns.⁵³ In the following sections, I sketch an account in which crossover falls out from the distribution of binders and bound variables, and not from stipulated differences between resumptive and non-resumptive pronouns.

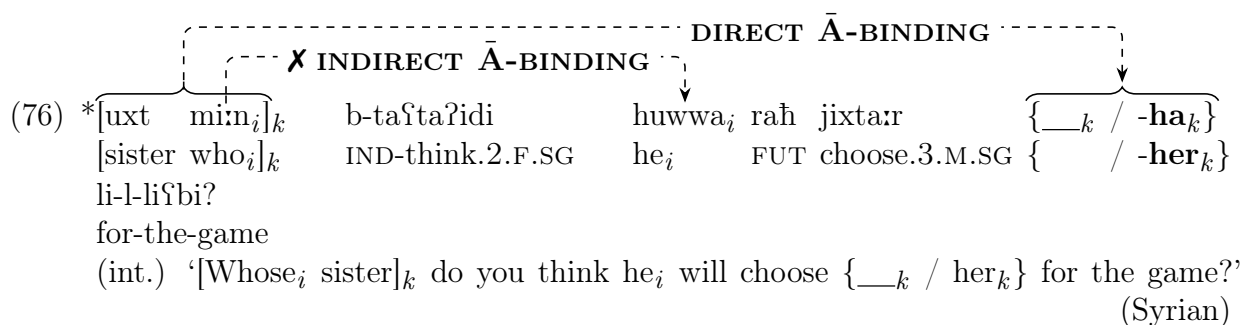
52. As far as I can tell, this analysis ultimately has its roots in Safir’s (1984) *Parallelism Constraint on Operator Binding*, though the latter was not defined relative to the semantic types of the variables. See Chierchia (2020) for an alternative proposal which relies on a semantic difference between ‘binding’ of traces (which is simply predicate abstraction) and binding of pronouns.

Furthermore, secondary crossover seems to remain unexplained by most parallelism-based accounts of crossover if we assume that the two pronouns are bound by distinct operators. To be sure, though, Safir (1984) addresses this very issue by adopting the idea from Haik (1984) that indices of embedded quantifiers can percolate up to their pied-piped phrases, where they are represented as sub-indices; under this analysis, a single operator is responsible for binding both pronouns in secondary crossover, and thus parallelism can apply. Note that such an analysis would still require stipulating a difference between resumptive and non-resumptive pronouns, contrary to the generalization in (75).

53. On the other hand, if, as alluded to in footnote 27 of chapter 5, certain features systematically fail to have an effect on exponence, then we can explain the Doron–Engdahl–McCloskey Generalization while maintaining the idea that resumptive and regular pronouns are interpreted differently by positing a $[\pm\text{resumptive}]$ feature which is only interpreted at LF.

7.6 Accounting for secondary crossover effects with three kinds of binding

The core of my analysis of secondary crossover rests on drawing a distinction between three kinds of binding (section §7.6.1), which are accounted for with three kinds of syntactically represented binder prefixes, following proposals in Büring (2004) (section §7.6.2). While binding under *c-command* (i.e. *direct binding*) is possible from both A- and \bar{A} -positions, I claim that binding out of a containing DP which *c-commands* the bound variable (i.e. *indirect binding*) can only take place from A-positions; there is no indirect \bar{A} -binding. The example in (76) illustrates for secondary strong crossover: the pied-piped phrase in (76) can only directly \bar{A} -bind the gap/lower pronoun; coconstrual between the embedded *wh*-phrase and the crossed pronoun cannot be established. This is the secondary crossover effect.



Because secondary crossover effects are derived by restricting indirect binding to A-positions, they are not essentially linked to properties of \bar{A} -movement and we correctly predict that base-generated resumptive dependencies, like gapped dependencies, should display secondary effects.

The rest of this section is organized as follows. In section §7.6.1, I introduce the tripartite taxonomy of binding types and, in section §7.6.2, I show how Büring's (2004) system of binders derives this taxonomy: specifically, the binder prefix responsible for indirect binding— Σ_n —can only adjoin to the sister of an A-position. I also argue in the brief excursus at the end of section §7.6.2 that transderivational competition among related LFs

constrains the distribution of these syntactically represented binders and accounts for the distribution of, among other things, Condition B effects. In section §7.6.3, I detail how variables are structurally represented within the DP. Building on the E-type analysis of pronouns as disguised definite descriptions (Elbourne, 2001; see also Postal, 1966; Guillot and Malkawi, 2006; Salzmann, 2017b) and the definite description analysis of traces (Fox, 1999, 2002; Poole, 2017), I argue for a unified analysis of non-pronominal DPs, pronouns, and traces as definite descriptions. Section §7.6.4 sketches one possible way to interpret pied-piping structures without covert syntactic movement⁵⁴ or obligatory reconstruction—namely, by interpreting the (pied-piping) *wh*-phrase as an existentially bound variable over choice functions. Finally, in section §7.6.5, I explain how the hypothesized lack of indirect \bar{A} -binding accounts for the existence of secondary crossover effects with gaps and resumptive pronouns.

7.6.1 Three kinds of binding

Building on insights from Buring (2004), I propose to differentiate the three kinds of binding defined and exemplified in (77)–(79) based on variation along two separate dimensions: A-binding vs. \bar{A} -binding, and direct binding vs. indirect binding. I use the term ‘variable’ to refer to bound (indices borne by) gaps and pronouns.⁵⁵

(77) **Direct A-binding**

- a. The QP occupies an A-position and c-commands the variable it is coconstructed with.
- b. ma xabbarna wala wa:ħid_i innu raħ nwaz^z_Zif-u_i.
 NEG informed.1.PL no one.M.SG_i that FUT hire.1.PL-him_i
 ‘We didn’t inform anyone_i that we would hire him_i.’ (Syrian)

54. Which, to reiterate, requires island-violating movement (typically left branch extraction) and predicts primary weak crossover effects where there are none (see (46)–(47)). Hence, I do not pursue such an approach.

55. I henceforth refer to the (relevant) antecedent of the bound variable pronoun/gap as “QP” because I am primarily concerned with the binding properties of QPs, including *wh*-phrases. Of course, non-quantificational DPs can also bind (e.g. *Jon_i admires herself_i*), though I abstract away from this possibility for simplicity.

(78) **Indirect A-binding**

- a. A DP properly containing the QP occupies an A-position and c-commands the variable the QP is coconstrued with.
- b. ma xabbarna [umm wala wa:ħid_i]_k innu raħ nwaz^zif-u_i.
NEG informed.1.PL [mother no one.M.SG_i]_k that FUT hire.1.PL-him_i
‘We didn’t inform [anyone_i’s mother]_k that we would hire him_i.’ (Syrian)

(79) **Direct \bar{A} -binding**

- a. The QP occupies an \bar{A} -position and c-commands the variable it is coconstrued with.
- b. ajja wa:ħid_i {xabbartu ____i / xabbartu:-∅_i} innu raħ
which one_i {informed.2.PL / informed.2.PL-him_i} that FUT
nwaz^zif-kon?
hire.1.PL-you.2.PL
‘Which one_i did you inform {____i / him_i} that we would hire you?’ (Syrian)

Let us consider each of these types of binding in turn. In (77b), the QP *wala wa:ħid* ‘no one’ is the object of the matrix verb ‘inform’ and thus occupies an A-position, and it c-commands the pronominal variable *-u* ‘him’ that it is coconstrued with (see footnote 38 for evidence from Condition C effects that the DP object of *xabbar* ‘inform’ c-commands into the clause-mate complement CP). I will say that *wala wa:ħid* directly A-binds *-u*.⁵⁶ In (78b), the QP *wala wa:ħid* ‘no one’ is a possessor embedded within a larger DP that occupies the matrix object position—an A-position—and the container DP c-commands the pronominal variable *-u* ‘him’ that *wala wa:ħid* is coconstrued with. I will say that *wala wa:ħid* indirectly A-binds *-u*; I hypothesize that indirectly bound variables are uniformly E-type (i.e. they are expressions which covary with a QP ostensibly in the absence of c-command). Finally, in (79b), the QP *ajja wa:ħid* ‘which one’ occupies the matrix [Spec, CP] position—an \bar{A} -position—and it c-commands the resumptive pronominal variable *-∅* ‘him’ that it is coconstrued with. I will say that *ajja wa:ħid* directly \bar{A} -binds *-u*.

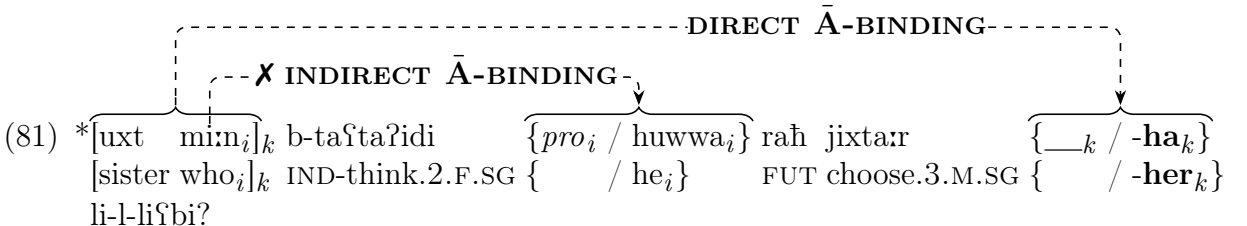
Crucially, I hypothesize that there is no indirect \bar{A} -binding along the lines of (80).⁵⁷

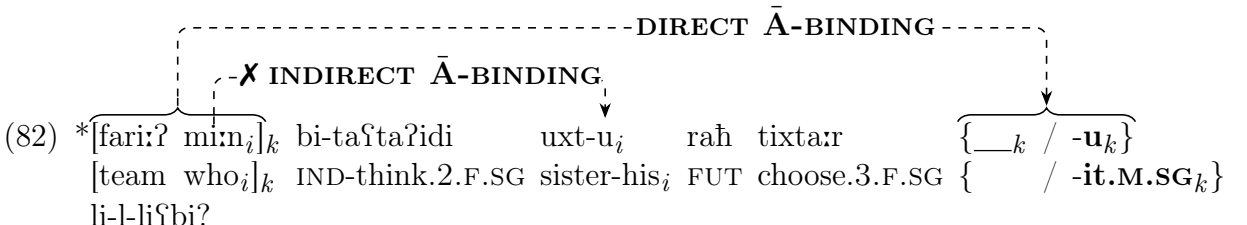
56. Büring (2004) refers to the configuration necessary for direct A-binding as “a-command,” namely c-command from an A-position.

57. See Déchaine and Wiltschko (2017, 13–14) for the related claim that \bar{A} -binding requires c-command between the operator and the bound variable.

- (80) *A definition for indirect \bar{A} -binding, which does not exist by hypothesis*
 A DP properly containing the QP occupies an \bar{A} -position and c-commands the variable the QP is coconstructed with.

The absence of indirect \bar{A} -binding accounts for secondary crossover effects. Examples (81)–(82) illustrate for secondary strong and weak crossover, respectively, in Syrian Arabic.

- (81) 
 * $\left[\begin{array}{l} \text{uxt} \quad \text{mi:n}_i \end{array} \right]_k$ b-taʕtaʕidi $\left\{ \begin{array}{l} \text{pro}_i / \text{huwwa}_i \\ / \text{he}_i \end{array} \right\}$ raḥ jixta:r $\left\{ \begin{array}{l} __k / \text{-ha}_k \\ / \text{-her}_k \end{array} \right\}$
 [sister who_i]_k IND-think.2.F.SG { / he_i } FUT choose.3.M.SG { / -her_k }
 li-l-liʕbi?
 for-the-game
 (int.) ‘[Whose_i sister]_k do you think he_i will choose { $__k$ / her_k} for the game?’
 (Syrian)

- (82) 
 * $\left[\begin{array}{l} \text{fari:ʔ} \quad \text{mi:n}_i \end{array} \right]_k$ bi-taʕtaʕidi uxt-u_i raḥ tixta:r $\left\{ \begin{array}{l} __k / \text{-u}_k \\ / \text{-it.M.SG}_k \end{array} \right\}$
 [team who_i]_k IND-think.2.F.SG sister-his_i FUT choose.3.F.SG { / -it.M.SG_k }
 li-l-liʕbi?
 for-the-game
 (int.) ‘[Whose_i team]_k do you think his_i sister will choose { $__k$ / it_k} for the game?’
 (Syrian)

Although the pied-piped DP in [Spec, CP] can directly \bar{A} -bind a resumptive pronoun or a gap in both examples, there is no way to bind the crossed pronoun (*pro/huwwa* ‘he’ in (81) and *-u* ‘his’ in (82)) such that the latter covaries with the embedded *wh*-phrase *mi:n* ‘who.’

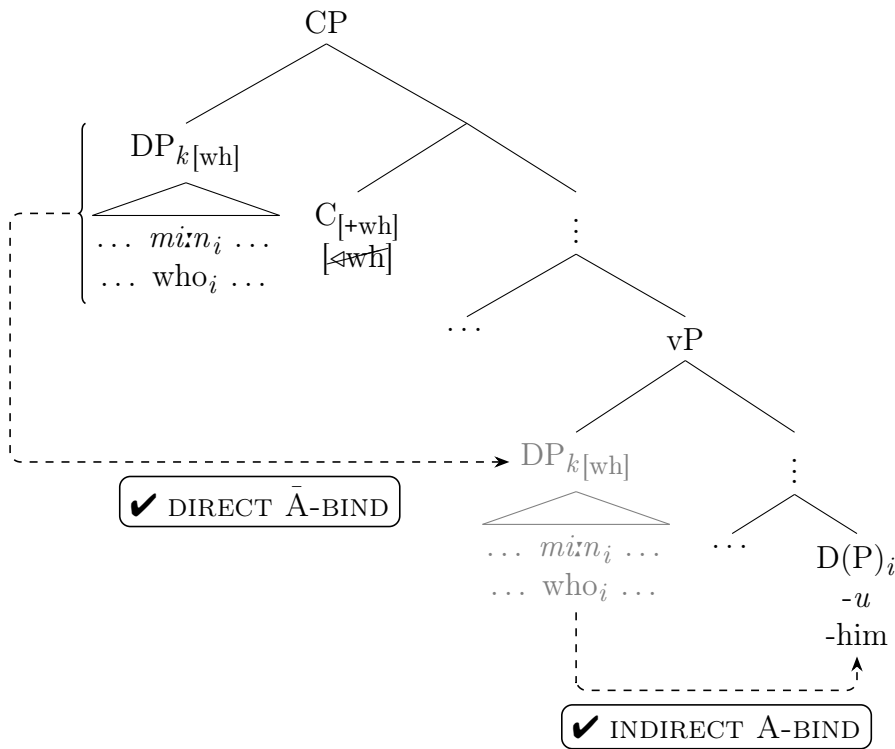
On the other hand, no secondary crossover effect is induced when the relative positions of the pronoun coconstructed with the embedded *wh*-phrase and the \bar{A} -bound variable (i.e. the gap/resumptive) are reversed, as shown by the following data from Syrian Arabic:

- (83) (repeated from (41b), (46))
 $\left[\begin{array}{l} \text{uxt} \quad \text{mi:n}_i \end{array} \right]_k$ b-taʕtaʕidi (?**hijja**_k) raḥ tixta:r-u_i li-l-liʕbi?
 [sister who_i]_k IND-think.2.F.SG (?**she**_k) FUT choose.3.F.SG-him_i for-the-game
 ‘[Whose_i sister]_k do you think (she_k) will choose him_i for the game?’ (Syrian)
- (84) (repeated from (42b))

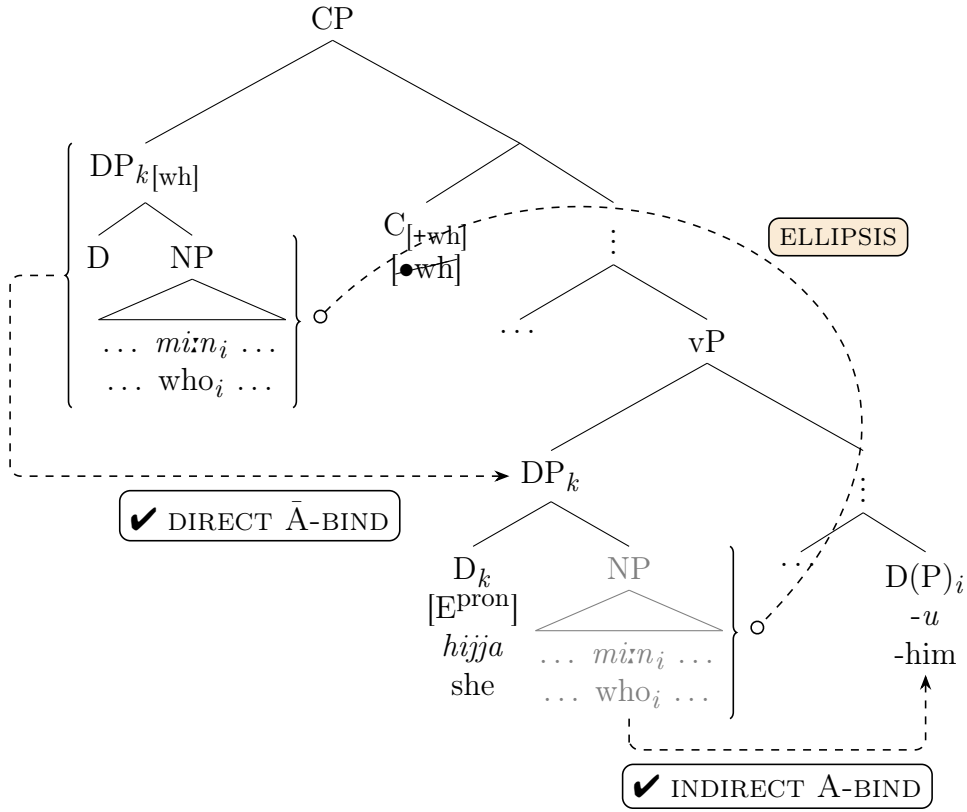
[ħabi:bet min_i]_k b-taftaʔidi ʔit^ʕt^ʕat-ħa_k bi-tħibb-u_i?
 [girlfriend who_i]_k IND-think.2.F.SG cat.F.SG-her_k IND-like.3.F.SG-him_i
 (lit.) ‘[Whose_i girlfriend]_k do you think her_k cat likes him_i?’ (Syrian)

I propose that coconstruction between *min* ‘who’ and *-u* ‘him’ is possible in both (83) and (84) because it is possible for the \bar{A} -bound gap/resumptive pronoun to indirectly bind the lower pronoun *-u* from the subject position (which I take to be [Spec, vP])—an A-position. In a gapped dependency, the lower copy of the operator will indirectly A-bind *-u* ((85)). In a resumptive dependency, the resumptive pronoun is a hidden definite description whose NP complement contains an instance of the operator *min* that is elided under identity with the NP of the DP in [Spec, CP]; this elided instance of *min* can indirectly A-bind *-u* ((86)–(87)).

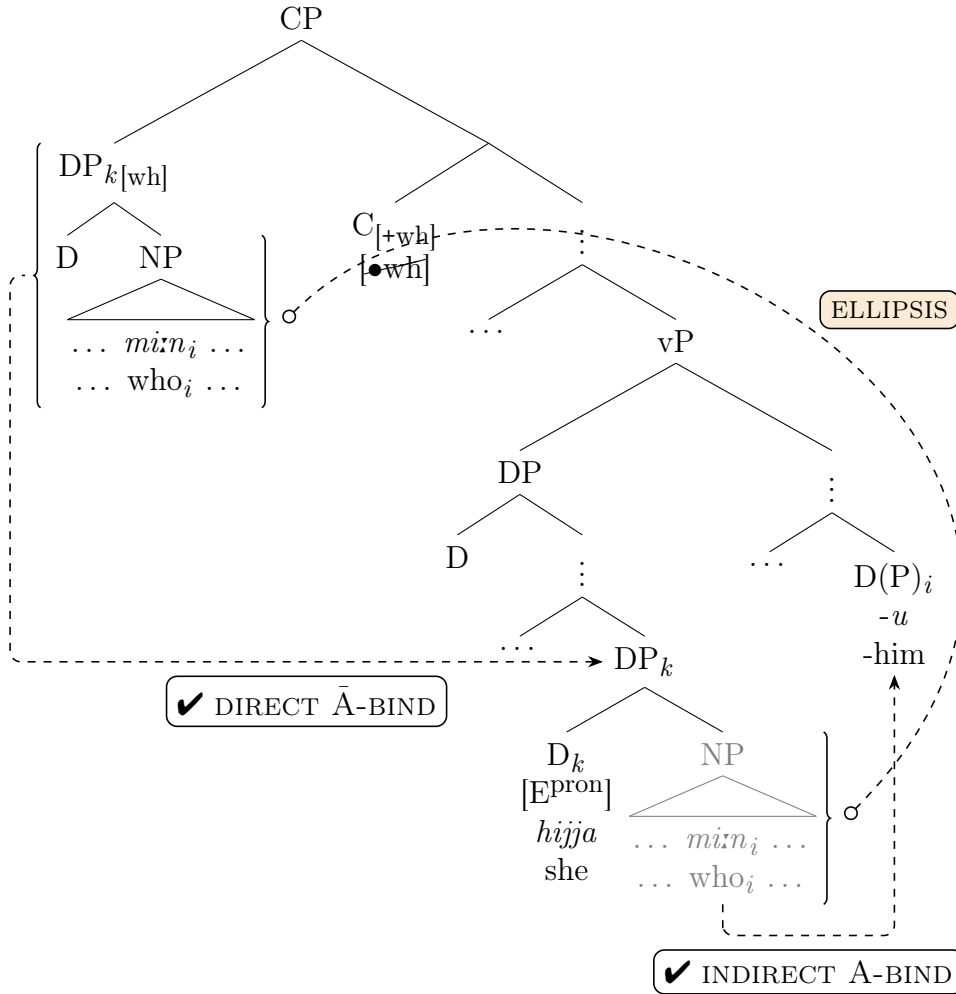
(85) *Indirect A-binding from a lower copy of \bar{A} -movement predicts no secondary strong crossover in (83)*



(86) *Indirect A-binding from a base-generated resumptive pronoun predicts no secondary strong crossover in (83)*



(87) *Indirect A-binding from a base-generated resumptive pronoun predicts no secondary weak crossover in (84)*

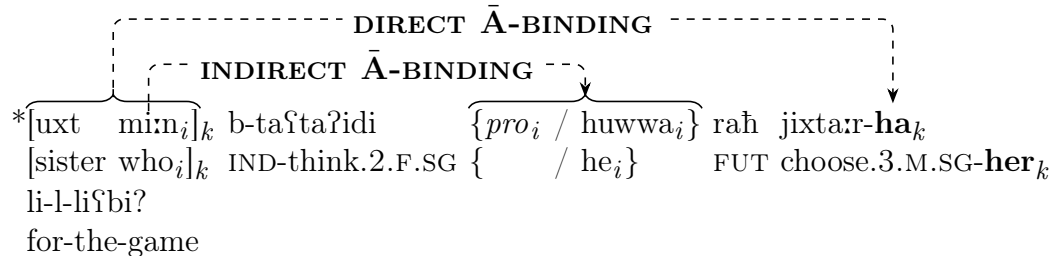


The contrast between (81)–(82), which display secondary crossover effects, and (83)–(84), which do not, would be mysterious if indirect \bar{A} -binding existed. For instance, in both (81) and (83), the resumptive pronoun would be directly \bar{A} -bound by the pied-piped phrase *uxt mi:n* ‘whose sister’, and the non-resumptive pronoun would be indirectly \bar{A} -bound by the embedded operator *mi:n* ‘who.’⁵⁸ According to this analysis, the relative positions of the

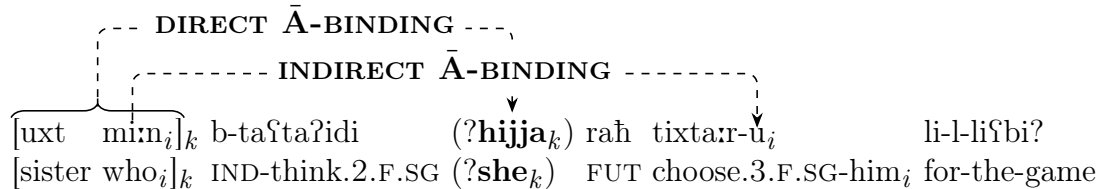
58. See Safir (2004b, 94–95) for an analysis along these lines for apparent cases of obviation of secondary crossover effects in English resumptive restrictive relatives. Safir suggests that either (i) the second pronoun could depend for its interpretation on the first pronoun and the first pronoun could depend on the operator, or (ii) both pronouns could be referentially dependent on the operator, i.e. the operator could (in)directly \bar{A} -bind both pronouns (assuming that an economy constraint on binding dependencies like Fox’s (2000) Rule H does not rule co- \bar{A} -binding out). Translating Safir’s proposal to the Arabic data, the former option—that the pronoun *pro/huwwa* ‘he’ in (88) could depend directly on the pied-piped operator *uxt mi:n* ‘whose sister’

two variables should not matter, contrary to fact, since each can be independently bound by an operator and neither variable bears any relationship to the other.

(88) *Expected binding relations for (81) if indirect \bar{A} -binding exists*



(89) *Expected binding relations for (83) if indirect \bar{A} -binding exists*



Any analysis which permits indirect \bar{A} -binding therefore fails to account for secondary crossover effects without additional assumptions.⁵⁹ I will hence maintain the hypothesis that indirect \bar{A} -binding does not exist. In doing so, I straightforwardly account for the existence of secondary crossover effects in both gapped and base-generated resumptive dependencies. I return to my account of secondary crossover in section §7.6.5 after I detail the

without the latter semantically binding anything—is undermined by the fact that (i) is unacceptable.

- (i) * [umm ajja wa:ḥid_i]_k {xabbartu ___i / xabbartu:∅_i} innu raḥ
 [mother which one.M.SG]_k {informed.2.PL / informed.2.PL-**him_i**} that FUT
 nwazʕzʕif-kon?
 hire.1.PL-you.2.PL
 (int.) ‘[Which one_i’s mother]_k did you inform {___i / him_i} that we would hire you?’ (Syrian)

(i) clearly violates the *Ban on Vacuous Quantification* (see, e.g., Heim and Kratzer, 1998, 126–128), which we may interpret as a ban on vacuous direct \bar{A} -binding (thanks to Chris Kennedy and Jason Merchant for discussion of this point). Thus, *pro/huwwa* ‘he’ cannot be the sole variable dependent on the pied-piped operator *uxt min* ‘whose sister.’ Safir’s second proposal—that both pronouns could depend on the operator—fails to explain the contrast between (88) and (89).

See footnote 39 in this chapter for cautious discussion of absent crossover effects under resumption in English, and see section §7.7.2 for arguments against co- \bar{A} -binding in Syrian Arabic and in English.

59. See May (1985, 146–157) for an account of similar contrasts which adapts Pesetsky’s (1982) *Path Containment Condition*.

specifics of my proposed system for binding. In a nutshell, I will claim with Buring (2004) that secondary crossover is accounted for if the syntactically represented binder prefix responsible for indirect binding—namely, Σ_n —can be adjoined to the sister of an A-position but not to the sister of an \bar{A} -position.

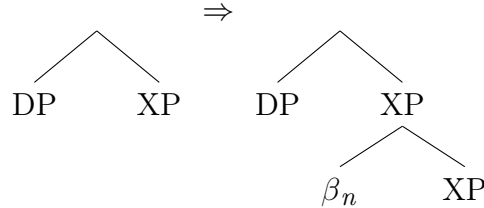
7.6.2 *Three kinds of binders*

To account for the hypothesized tripartite taxonomy of binding types, I will now demonstrate how each can be derived from one or more of the binder prefixes proposed by Buring (2004). Buring pursues an analysis of binding in which structurally represented binder prefixes are adjoined below quantifiers. It is these binder prefixes and not the quantifiers themselves which are responsible for variable binding. Specifically, the binder prefixes trigger binding via semantic composition rules at LF. The three binder prefixes are: β (mnemonic for ‘binding’), Σ (mnemonic for ‘situation’), and μ (mnemonic for ‘movement,’ though I also use μ -prefixes to bind base-generated resumptive pronouns). The analysis in short is as follows: β -prefixes are responsible for direct binding of pronouns from A-positions, Σ -prefixes are responsible for indirect binding of pronouns from A-positions, and μ -prefixes are responsible for direct binding from A- and \bar{A} -positions. Crucially, there is no binder prefix which can yield indirect binding from an \bar{A} -position, accounting for secondary crossover effects. Additionally, I will argue that there is not always a one-to-one correspondence between binder prefixes and associated QPs. Although binder prefixes can occur in isolation, they can also be stacked, one on top of the other, all associated with a single QP, provided that the result is semantically interpretable.

The first type of binder prefix is β and it is responsible for direct A-binding of pronouns. β -prefixes can be freely inserted immediately below a DP occupying an A-position according to the rule in (90a). I will assume that adjunction of the binder prefixes β , Σ , and μ occurs at LF, though nothing in the account hinges on this assumption, as far as I can tell. β -prefixes

trigger the interpretation rule in (90b) at LF: β_n binds a free occurrence of the matching index ‘ n ’ in its c-command domain (see section §7.7.2 for arguments that there is a one-to-one correspondence between β -binders and bound indices), creating a derived predicate, and saturates the open argument slot of this predicate with the DP minimally c-commanding β . Hence, β -binders are given a syncategorematic treatment. The β -adjunction rule in (90a) is optional: if it applies, we get variable binding, but if it does not apply, then any occurrence of ‘ n ’ in XP will remain unbound and its value will be fixed by the context. Note additionally that β -binding is binding of an individual variable: the variable abstracted over in the derived VP rule in (90b) is an individual (x_e).

(90) a. (optionally)



where n is an index, and DP occupies an A-position.

b. $\llbracket \beta_n \text{ XP} \rrbracket^g = \lambda x_e. \llbracket \text{XP} \rrbracket^{g^{n \rightarrow x}}(x)$

(slightly adapted from Büring, 2004, 25, (2a–b))

In addition to β -binding of an index ‘ n ’, I will say derivatively that β_n and the DP immediately c-commanding β_n β -bind a DP bearing the index ‘ n .’ For the moment, indices are represented purely as subscripts, though I will revise this assumption in favor of a structural representation of indices in section §7.6.3.

β -binders are responsible for many instances of *direct A-binding* ((77)) as well as for classical Binding Theory facts. I will focus here on Condition B:⁶⁰

(91) **Condition B**

A non-reflexive pronoun must not be β -bound in its domain.

According to (91), the non-reflexive pronoun *her_n* cannot be locally β -bound by the subject

60. Condition A might also be definable in terms of β -binding, see Büring (2005, 112, 129). It is unclear whether or not β -binding should also account for Condition C effects; see Reinhart (1983a) and Büring (2005, 122–130) for arguments (i) that non-pronominal DPs do not carry referential indices and (ii) that Condition C of the Binding Theory ought to be dispensed with.

‘every girl.’

(92) Every girl β_n likes *her_n/herself_n.

Thus, (77b) would involve β -binding as in (93):

(93) ma xabbarna wala wa:hid β_n innu raħ nwaz^zif- \downarrow u_n.
 NEG informed.1.PL no one.M.SG that FUT hire.1.PL-him_n
 ‘We didn’t inform anyone β_n that we would hire him_n.’ (Syrian)

----- DIRECT A-BINDING -----

Given that β -prefixes can be optionally adjoined below a DP in an A-position, we predict that the rule in (90a) ought to be able to iterate, yielding a ‘stack’ of β -prefixes in the clausal spine, all of which are linked to a single, quantificational DP. This prediction is borne out by English examples like (94):^{61,62}

(94) *β -prefix stacking is possible*
 Every girl [β_n [β_k [talked [to herself_n] [about herself_k]]]].

Stacking β -binders in an A-position can be assigned a well-formed semantic interpretation by iterating the rule in (90b): just as each β -prefix triggers λ -abstraction over a free variable in its scope, so too does it saturate an open argument slot of its sister. The mother of a stack of β -prefixes will therefore still be looking to compose with a single argument; in (94), this is the subject DP.

61. In principle, we could also account for (94) with a single β -prefix if each binder prefix could bind more than one index. However, I will argue in the excursus at the end of section §7.7.3 that many other apparent cases of a one-to-many relationship between β -prefixes and bound indices can be accounted for with Bijection-compliant binding relations. I will therefore tentatively maintain the hypothesis that β -prefixes cannot bind more than one index (i.e. that β -prefixes are subject to a Bijection principle).

62. Another possible parse of this sentence takes *every girl* to β -bind the first reflexive (i.e. the one in *to herself*) and takes that reflexive to β -bind the second reflexive (i.e. the one in *about herself*). In order for such a parse to be possible, DP complements of prepositions must be able to β -bind reflexives outside of PP. Interestingly, examples like (i) provide supporting evidence for this hypothesis: the only possible antecedent for *herself* is *Joni* which is contained inside a PP.

(i) Matt talked [to Joni] β_n [about herself_n].

Σ -binders are the second type of binder prefix and they account for all cases of indirect binding. The use of Σ -binding introduces *situations* into the ontology of semantic types, a hypothesis developed in Kratzer (1989); Heim (1990); Elbourne (2001, 2005, 2013); and Buring (2004), among others. Elbourne (2005, 20) defines situations as “parts of possible worlds, comprising individuals and properties of individuals and the relations between them.” I direct the interested reader to the aforementioned works for more detailed discussion, and to Kratzer (2021) for an overview. It will suffice for our purposes to simply illustrate how the use of situation binding helps to overcome challenges to the hypothesis from Reinhart (1981, 1983a) that variable binding requires c-command.⁶³

Consider the instance of indirect A-binding in (95) (repeated from (78b)): the quantificational possessor DP *wala wa:ħid* ‘no one’ intuitively covaries with the pronoun *-u* ‘him,’ despite the fact that the former does not c-command the latter.

- (95) *ma xabbarna* [umm wala wa:ħid_i]_k innu raħ nwaz^ʃz^ʃif-u_i.
 NEG informed.1.PL [mother no one.M.SG_i]_k that FUT hire.1.PL-him_i
 ‘We didn’t inform [anyone_i’s mother]_k that we would hire him_i.’ (Syrian)

Buring (2004; 2005, 180–187) argues that these instances of apparent binding out of DP (along with donkey sentences and inverse linking) ought to be assimilated to E-type anaphora (following a suggestion in Bach and Partee, 1980, 1984). Adopting Elbourne’s (2001; 2005; 2013) idea that E-type pronouns contain bound *situation* variables, Buring proposes that E-type pronouns are Σ -bound, rather than β -bound.⁶⁴ The core of the proposal is that indirect A-binding does not involve quantification over individuals, but rather over individual+situation pairs. For (95), the claim is that the container DP *umm wala wa:ħid* ‘anyone’s

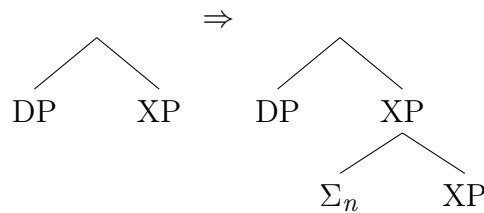
63. Barker (2012) disputes Reinhart’s (1983a, 122) generalization that c-command is a necessary precondition on variable binding, citing systematic counterexamples from English in which a quantifier can merely scope over a covarying pronoun without c-commanding it. Safir (2004a,b) defends a similar view in which quantifier dependent readings do not strictly require c-command. See Déchaine and Wiltschko (2017, 8–13) for arguments that the reported counterexamples to Reinhart’s generalization involve E-type pronouns instead of true bound variable pronouns.

64. Buring’s division of labor between β -binding and Σ -binding is not adopted by Elbourne (2013), where all (A-)binding is taken to be binding of a situation variable.

mother’ quantifies over minimal situations of individuals and their mothers, while the Σ -bound pronoun *-u* ‘him’ is interpreted as ‘the unique (male) individual in that situation.’ Consequently, the embedded quantifier *wala waħid* does not actually bind any variables in the c-command domain of the container DP; instead, the container DP does all the binding.⁶⁵

Like β -prefixes, Σ -prefixes can be freely inserted immediately below a DP occupying an A-position according to the rule in (96a). Σ -prefixes trigger a similar interpretation rule to β -prefixes (compare (96b) with (90b)), with two important differences. First, as previously stated, the Σ -binding rule triggers abstraction over both an individual variable (x_e) and a situation variable (s_s). Second, Σ binds a free occurrence of a matching *situation* index, which I will notate ‘ σ_n ’ following Buring (2004).

(96) a. (optionally)



where n is an index, and DP occupies an A-position.

b. $[[\Sigma_n \text{XP}]]^g = \lambda x_e \lambda s_s. [[\text{XP}]]^{g^{\sigma_n \rightarrow s}}(x)(s)$
 (slightly adapted from Buring, 2004, 47, (47a–b))

I will derivatively say that both Σ_n and the quantifier embedded inside the DP immediately c-commanding Σ_n Σ -bind a DP bearing the index ‘ σ_n .’ Again, indices are represented as subscripts on DPs for the time being, an assumption we will revise in section §7.6.3.

The analysis of (95) with indirect A-binding via Σ_n is shown in (97a), with a rough paraphrase of this sentence’s interpretation in (97b).⁶⁶

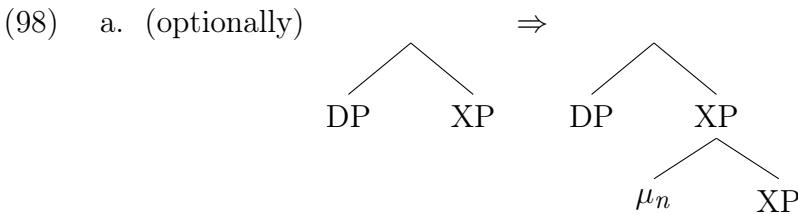
65. See Buring (2005, 182–183) for empirical and conceptual problems with analyses of indirect binding from A-positions which posit subextraction of the embedded quantifier to a position c-commanding the variable it is construed with. Similarly, see the discussion at the end of section §7.4.3 for arguments against QR-ing an embedded *wh*-phrase out of a pied-piped phrase in [Spec, CP] to yield a structure interpretable as a constituent question.

66. As with the β -binder prefixing rule in (90a), the Σ -binder prefixing rule in (96a) allows for Σ -prefix stacking under a single DP in an A-position. The acceptability of examples like (i) seems to indicate that this prediction is a boon of the analysis:

- (97) a. ma xabbarna [umm wala wa:hid] Σ_n innu raḥ nwaz^zz^zif-ū σ_n .
 NEG informed.1.PL [mother no one.M.SG] that FUT hire.1.PL-him σ_n .
 ‘We didn’t inform [anyone’s mother] Σ_n that we would hire him σ_n .’ (Syrian)

- b. it is not the case that for anyone x , we informed [the unique mother y of x in some minimal situation s] that we would hire the unique (male) individual in s

The third and final type of binder prefix is μ , which is responsible for *direct \bar{A} -binding* as well as for direct A-binding of gaps under A-movement. Unlike β - and Σ -prefixes, μ -prefixes can be inserted below a DP occupying either an A- or an \bar{A} -position when the structural description of the rule in (98a) is met. On the other hand, like β - and Σ -adjunction, however, I propose that μ -adjunction applies freely (*pace* Büring, 2004); semantically deviant derivations (e.g. those with too many μ ’s or with μ in the ‘wrong’ position) will be filtered out at LF. Regarding interpretation, μ -prefixes trigger Predicate Abstraction ((98b); Heim and Kratzer, 1998, 186, (4)): μ_n binds one (and only one, see sections §7.7.2–7.7.3) free occurrence of the matching index ‘ n ’ in its c-command domain, turning the denotation of its sister into a predicate with an open argument slot. Like β -binding, μ -binding involves abstraction over an individual variable (x_e). Crucially unlike β - and Σ -binding, μ -binding does not saturate an argument of the denotation of its sister.⁶⁷



where n is an index, and DP occupies an A-position or an \bar{A} -position.

-
- (i) [Every girl’s father] Σ_n Σ_m talked [to her σ_n] [about her σ_m].

Note that the second pronoun cannot be β -bound by the first lest we induce a Condition B violation (and see footnote 62 on the possibility of β -binding out of PP). I will leave formalizing the semantic derivation of stacked Σ -binder prefixes for another occasion.

67. It is this difference which explains why, for instance, μ -binding is impossible from non-derived A-positions: applying Predicate Abstraction to a VP looking for an external argument will create a predicate seeking one too many arguments.

b. $\llbracket \mu_n \text{ XP} \rrbracket^g = \lambda x_e. \llbracket \text{XP} \rrbracket^{g^{n \rightarrow x}}$
 (slightly adapted from Buring, 2004, 25, (3a–b))

The mere existence of resumptive pronouns argues against accounts in which μ -binding obligatorily involves binding of traces (e.g. Buring, 2004; van Urk, 2015); in other words, λ -abstraction cannot solely arise via \bar{A} -movement (see also McCloskey, 2002, 205–206, 218–219). Direct \bar{A} -binding of a gap or resumptive pronoun involves μ -binding, as (99) illustrates for (79b).

(99) μ_n {xabbartu $\underline{\quad}_n$ / xabbartu:- \emptyset_n } innu raħ
 which one {informed.2.PL / informed.2.PL-**him_n**} that FUT
 nwaz^zif-kon?
 hire.1.PL-you.2.PL
 ‘Which one μ_n did you inform { $\underline{\quad}_n$ / him_n} that we would hire you?’ (Syrian)

----- DIRECT \bar{A} -BINDING -----
 ↓
 ↓

μ -prefixes can also be adjoined below DPs in A-positions—specifically, in *derived* A-positions in A-movement. Thus, μ -prefixes are responsible for at least some instances of direct A-binding. Example (100) illustrates for raising to subject in English:

(100) Every girl μ_n seems [$\underline{\quad}_n$ to be a good candidate].

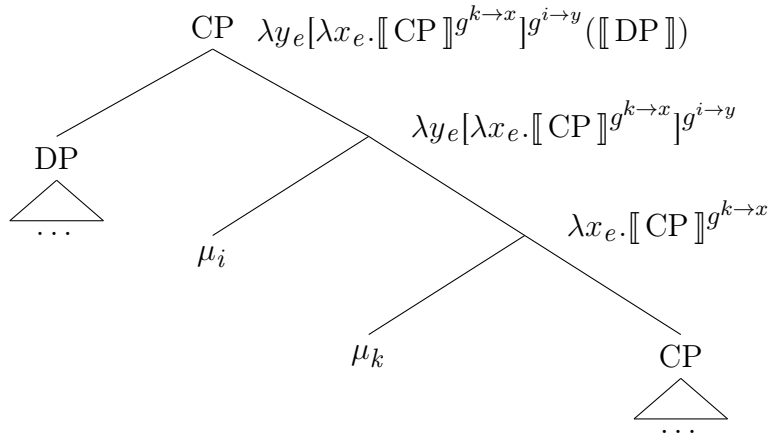
↑ DIRECT A-BINDING ↓
 ↓

Note that the gap in (100) could not have been β -bound, even though both β -binding and μ -binding involve binding of an individual variable: the denotation of the sister of the binder in A-movement is of type t (or more likely $\langle s, t \rangle$) and hence does not have an open argument slot to be saturated via the rule in (90b).

Finally, consider the stacking possibilities of μ -prefixes. μ cannot be iteratively stacked below a single DP in any position due to the fact that μ -binding triggers Predicate Abstraction without argument saturation. As a consequence, each μ -prefix must be paired with a unique DP, else at least one abstracted over argument position will remain unsaturated at

LF.⁶⁸ Example (101) illustrates the issue schematically with two μ 's adjoined below a DP in [Spec, CP]: the sole DP will saturate only one of the open argument slots—specifically, the argument bound by μ_i . Failure to saturate all of the open argument slots will leave CP of the wrong type, and the resulting structure will be semantically deviant.

(101) μ -prefix stacking under a single DP yields a semantically deviant result



μ -prefixes likewise cannot be stacked with β - or Σ -prefixes in an \bar{A} -position due to the fact that β and Σ can only be adjoined below DPs in A-positions, per the rules in (90a) and (96a), respectively (Büring, 2004). On the stacking possibilities of μ -prefixes in A-positions, see section §7.7.2 below.

To summarize, I have proposed that there are three distinct types of binding—direct A-binding, indirect A-binding, and direct \bar{A} -binding—which are derived with three kinds of structurally represented binder prefixes: β , Σ , and μ . The distribution of these binder prefixes was argued to be sensitive to whether the immediately c-commanding DP occupies

68. As Karlos Arregi (*pers. comm.*) points out to me, my proposal is compatible with Nissenbaum's (2000) analysis of multiple parasitic gaps in multiple *wh*-questions as in (i).

- (i) ? Which senator_i did you persuade ____i to borrow which car_k [after getting an opponent of *pg*_i to put a bomb in *pg*_k? (Nissenbaum, 2000, 12, (8a))

According to Nissenbaum, parasitic gap containing adjuncts must attach just below the landing site of (overt or covert) *wh*-movement, in this case [Spec, vP]. The two parasitic gaps in (i) are licensed by movement of each *wh*-phrase to a separate specifier of the same v head. Under my analysis, a different μ -prefix would be adjoined below each *wh*-phrase. Crucially, this does not contradict my claim that μ -prefixes cannot be stacked below a single DP, since (i) would still involve a one-to-one relation between μ -prefixes and *wh*-phrases.

an A- or an \bar{A} -position.⁶⁹ Following Buring (2004), I proposed that β and Σ can only adjoin below DPs in A-positions, while μ is free to adjoin below DPs in A- or \bar{A} -positions. By restricting Σ -binders—the sole binder prefixes responsible for indirect binding—to A-positions, we straightforwardly account for the fact that indirect \bar{A} -binding does not exist (as argued in section §7.6.1). I also showed that, outside of indirect binding, the three binder prefixes and three binding types do not always correspond one-to-one. For instance, no one binder prefix is responsible for all direct A-binding: β -binding is responsible for direct A-binding of pronominal variables, while μ -binding is responsible for direct A-binding of traces of A-movement. Additionally, I argued that, while binder prefix stacking is possible, many logically possible stacks are ruled out at LF due to semantic deviance.

Several questions arise in light of the analysis thus far. One concerns the representation of the indices regulating binding dependencies. In section §7.6.3, I propose that binding indices should be added to the structural representation of DPs and I provide one way of doing so, building on the unificationist analysis of definite descriptions, (E-type) pronouns, and DP traces presented in chapter 6. Section §7.6.4 then sketches one possibility for interpreting pied-piping structures without (covertly) moving the embedded quantifier out of its containing phrase. Then, in section §7.6.5, I show how the analysis accounts for secondary crossover effects under base-generated resumption in Arabic. Briefly, however, I digress into an excursus detailing how transderivational competition between β -binding and Σ -binding accounts for the lack of Condition B circumvention in the standard case.

69. This component of the analysis seems at odds with recent attempts—in particular van Urk (2015) and Safir (2019)—to eliminate the positional A-/ \bar{A} -distinction, or to derive it as epiphenomena. Both of these accounts, however, crucially rely on movement to derive the divergent A- and \bar{A} -properties. van Urk (2015) posits a semantic difference in the types of traces left by A- and \bar{A} -movement, and Safir (2019) proposes that only \bar{A} -movement is fed by penultimate merge—the addition of insulating structure to the moving element which blocks Case and agreement and interferes with binding and licensing. It remains to be seen whether either of these accounts can be modified to account for the Arabic crossover data, which are not amenable to a movement analysis.

Excursus: Preference for β -binding over Σ -binding

The introduction of Σ -binders into our theory of binding raises an important question: how do we preclude Σ -binders from being used in cases of direct A-binding, where they would effectively duplicate the work of β -binders? There is a good empirical reason for wanting to block Σ -binders from directly A-binding in many cases: overproliferation of Σ -binders would predict rampant circumvention of Condition B, which I have claimed only restricts the distribution of β -bound pronouns.

(102) (repeated from (91))

Condition B

A non-reflexive pronoun must not be β -bound in its domain.

Concretely, consider (103), where intended covariation is indicated by means of italics. If a Σ -binder could be adjoined immediately below the quantifier *every girl* as in (103a), binding the situation index ' σ_n ' on *her*, then we predict covariation to be possible, despite the fact that β -binding of her_n in the same context is precluded by Condition B ((103b)).

(103) * *Every girl* likes *her*.

a. *Unconstrained Σ -binding predicts circumvention of Condition B*

i. Every girl Σ_n likes her_{σ_n} .

ii. for every girl x in some minimal situation s , x likes in s (or in a situation s' to which s can be minimally extended) the unique (female) individual in s .

b. *β -binding of her_n is ruled out by Condition B (102)*

*Every girl β_n likes her_n .

The solution, I propose, lies in positing a preference for β -binding over Σ -binding where the two yield indistinguishable interpretations. The use of transderivational competition among LFs is a well-known strategy to account for binding and coreference possibilities in natural language. The original proposal goes back to Reinhart (1983a), though related ideas have been pursued in a number of later works (e.g. Grodzinsky and Reinhart, 1993; Heim,

1998; Fox, 2000; Buring, 2005; Reinhart, 2006; Heim, 2009; Roelofson, 2010; and Drummond, 2021). I propose to encode the relevant preference as in (104):

- (104) *Preference principle for β -binding*
 Σ -binding is possible if and only if replacing Σ_n with β_n and inserting an individual index ‘ n ’ on the bound variable does not yield an indistinguishable interpretation.

This preference principle rules out Σ -binding in most instances of direct A-binding because β -binding will yield an indistinguishable interpretation, hence only β -binding will be permitted.

- (105) * *Every girl likes her.*
- a. Every girl Σ_n likes her_{σ_n} . \sim ‘For every girl x in some minimal situation s , x likes in s (or in a situation s' to which s can be minimally extended) the unique (female) individual in s .’
 \equiv
- b. Every girl β_n likes her_n . \sim ‘For every girl x , x likes x .’

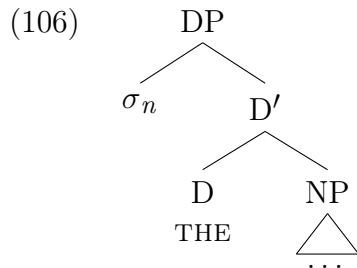
The subject quantifier in (105a) Σ -binds the situation variable in the pronoun her_{σ_n} , so the unique individual in the minimal situation will (indirectly) covary with the subject. In (105b), the subject quantifier β -binds the individual variable in the pronoun her_n , giving rise to covariation. Consequently, Σ -binding and β -binding yield indistinguishable interpretations in this example, and β -binding will be preferred according to (104). However, β -binding triggers a Condition B violation, explaining why (105) is unacceptable under the indicated coconstruction.⁷⁰

This ends our brief excursus into the competition between Σ - and β -binders. As we will see in section §7.7.3, however, Σ -binding can sometimes yield a different interpretation than β -binding, in which case we correctly predict to find circumvention of Condition B. These configurations correspond to what has been called ‘exceptional co-binding’ in the literature, following Heim (1998).

70. Chris Kennedy (*pers. comm.*) also points out that (105b) might be independently ruled out by Condition R (Lidz, 2001), which states that if a predicate is semantically reflexive, then it must be lexically reflexive, and vice versa.

7.6.3 The representation of DPs and the distribution of variables

A prominent recent approach to binding and anaphora holds that the indices used to indicate coreference and/or coindexation are not mere artifacts of the analysis (e.g. subscripted to pronouns, traces, and quantifiers), but are in fact syntactic objects occupying distinct structural positions—a sort of nanosyntacticization of the earlier claim that indices are syntactically represented (e.g. Chomsky, 1981). Representatives of this general approach include Elbourne (2005, 2013); Schwarz (2009); Simonenko (2014); Patel-Grosz and Grosz (2017); and Hanink (2018) (see Hanink, 2018, 12–15 for an overview of the different proposals). I will adopt the specific structure in (106) for definite descriptions: D^0 (here the definite determiner, represented as THE) selects an NP as its complement and selects a situation variable ‘ σ_n ’ as its specifier. Following Elbourne (2013), I propose that situation variables obligatorily accompany all determiners and occur nowhere else. This amounts to a lexical generalization about selectional features: all and only heads of category ‘D’ bear the selectional feature [SEL: σ_n].



The structure in (106) is then interpreted compositionally via Functional Application (Heim and Kratzer, 1998, 44, (3)) using the denotations in (107) (along with a denotation for NP, which is a predicate of type $\langle e, \langle s, t \rangle \rangle$). As (107b) shows, situation variables are interpreted relative to an assignment function g : the denotation of σ_n is the situation that g assigns to the value ‘n.’ The denotation of DP is given in (108):

(107) a. $\llbracket \text{THE} \rrbracket = \lambda P_{\langle e, \langle s, t \rangle \rangle} \lambda s_s. \iota x_e [P(x)(s)]$

b. $\llbracket \sigma_n \rrbracket^g = g(n)_s$

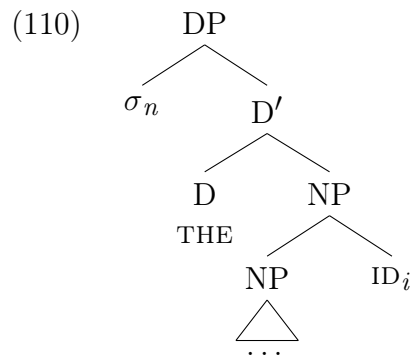
(108) $\llbracket \sigma_n \text{ THE NP} \rrbracket^g = \iota x_e [\llbracket \text{NP} \rrbracket(x)(g(n))]$

Σ -binding is now straightforward: it results from a structurally represented Σ -prefix binding the situation index σ_n in the specifier of a DP that it c-commands.

Individual variables, on the other hand, are contributed by an ID_i morpheme (short for ‘identity’) whose meaning is given in (109): ID is a function whose variable x is equal to the value that the assignment function g assigns to the index ‘ i ’ on ID in the minimal situation s .

$$(109) \quad \llbracket ID_i \rrbracket^g = \lambda x_e \lambda s_s . x = g(i) \text{ in } s$$

I propose that ID_i can be freely adjoined to NP up to LF interpretability.⁷¹ Example (110) illustrates the structure of a DP after ID_i -adjunction.



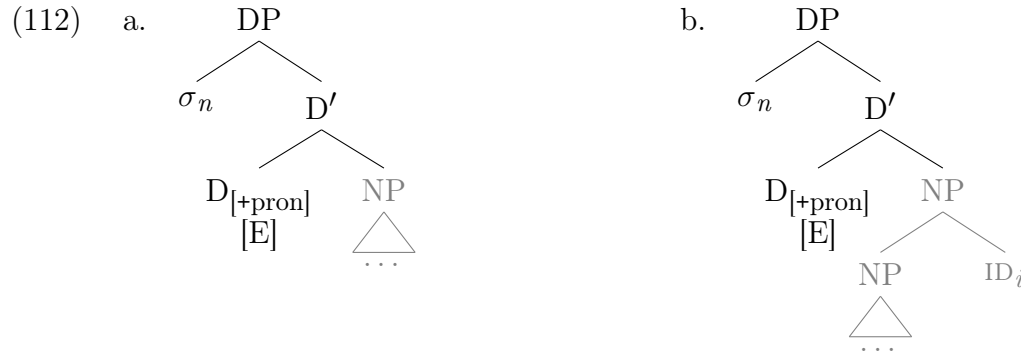
Because both NP and ID are predicates of type $\langle e, \langle s, t \rangle \rangle$, the adjunction structure is interpreted as a complex predicate via Predicate Modification. The denotation of the DP in (110) is given in (111).

$$(111) \quad \llbracket \sigma_n \text{ THE NP } ID_i \rrbracket^g = \iota x_e [\llbracket NP \rrbracket(x)(g(n)) \ \& \ x = g(i) \text{ in } g(n)]$$

(106) and (110) are two possible structures for DPs, and in particular for definite descriptions. In chapter 6, I argued that pronouns are disguised definite descriptions (Postal, 1966; Elbourne, 2001; see Guillot and Malkawi, 2006 and Salzmann, 2017b for an extension of this claim to resumptive pronouns). Hence, both of these structure must also be available

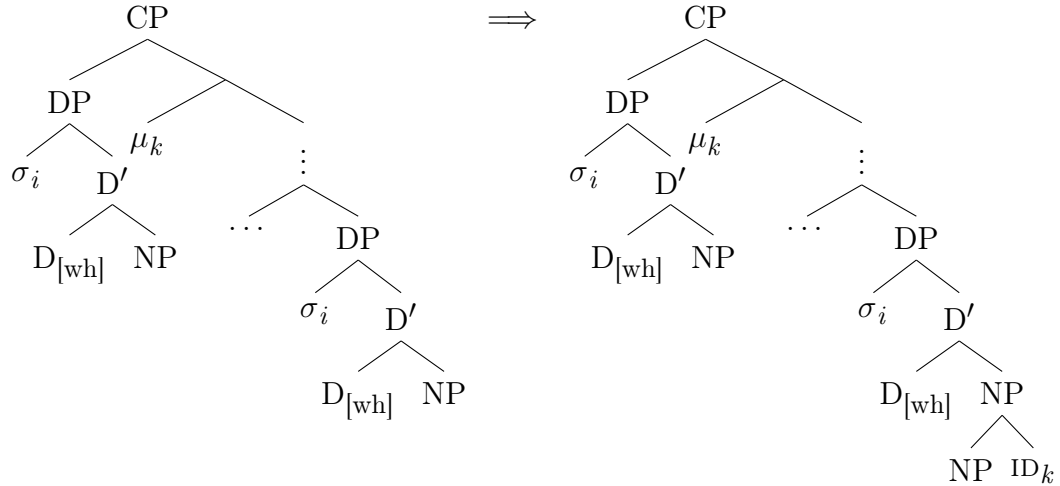
71. If the arguments in section §7.7 in favor of Bijection are on the right track, then the distribution of ID morphemes will be constrained by a unique pairing between ID_i 's and binders with matching indices.

for (resumptive and non-resumptive) pronouns as shown in (112); pronouns are then distinguished from non-pronominal determiners via two features on D^0 : a [+pron] feature and an [E] feature triggering ellipsis of the NP complement of D^0 .

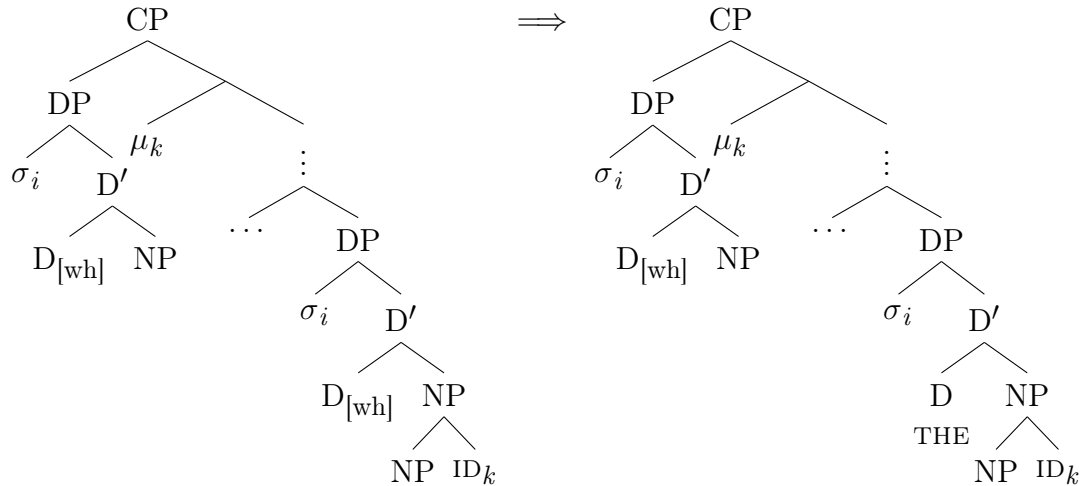


Furthermore, I adopt Fox's (1999; 2002) proposal that lower copies of (\bar{A} -)moved DPs are interpreted as definite descriptions (see Poole, 2017 for discussion and additional references). Fox accounts for this fact with *Trace Conversion*, a rule that alters the structure of lower copies of operators in two specific ways prior to their interpretation: (i) an ID_i morpheme is adjoined to NP inside the lower copy whose index obligatorily matches that of the μ -prefix adjoined immediately below the copy of the operator in [Spec, CP] (i.e. 'Variable Insertion'), and (ii) lower copies of $D_{[wh]}$ are replaced by the definite determiner (i.e. 'Determiner Replacement').

- (113) *Trace Conversion*
 a. Variable Insertion:



b. Determiner Replacement:



As can be seen in (113b), the structure of lower copies of movement after Trace Conversion is identical to the proposed structure of definite descriptions after ID-insertion in (110) (see also Elbourne, 2005, 119–120). Consequently, non-pronominal DPs, pronouns, and traces receive a unified analysis as definite descriptions.

7.6.4 Interpreting pied-piping structures

Before I explain how the proposed system of binders accounts for secondary crossover effects in section §7.6.5, I must briefly explain how I assume pied-piping structures are interpreted. As argued at the end of section §7.4.3, I do not assume that the embedded *wh*-phrase moves out of the pied-piped phrase prior to LF interpretation. This then begs the question why

a pied-piping *wh*-question like (114) is interpreted as asking about sailors, permitting the answers in (114a), and not as asking about boats, forbidding the answers in (114b).

- (114) [Which sailor’s boat]_{*i*} did you see ____{*i*} in the harbor?
- a. Possible answers: {Joni’s, Russ’, that sailor’s} (boat)
 - b. Impossible answers: {The *Niña*, the *Pinta*, the *Santa María*}

For explicitness, I will present one analytical option for interpreting pied-piping structures. However, choosing between this and other alternatives is orthogonal to my analysis and does not bear directly on the question of deriving secondary crossover effects.

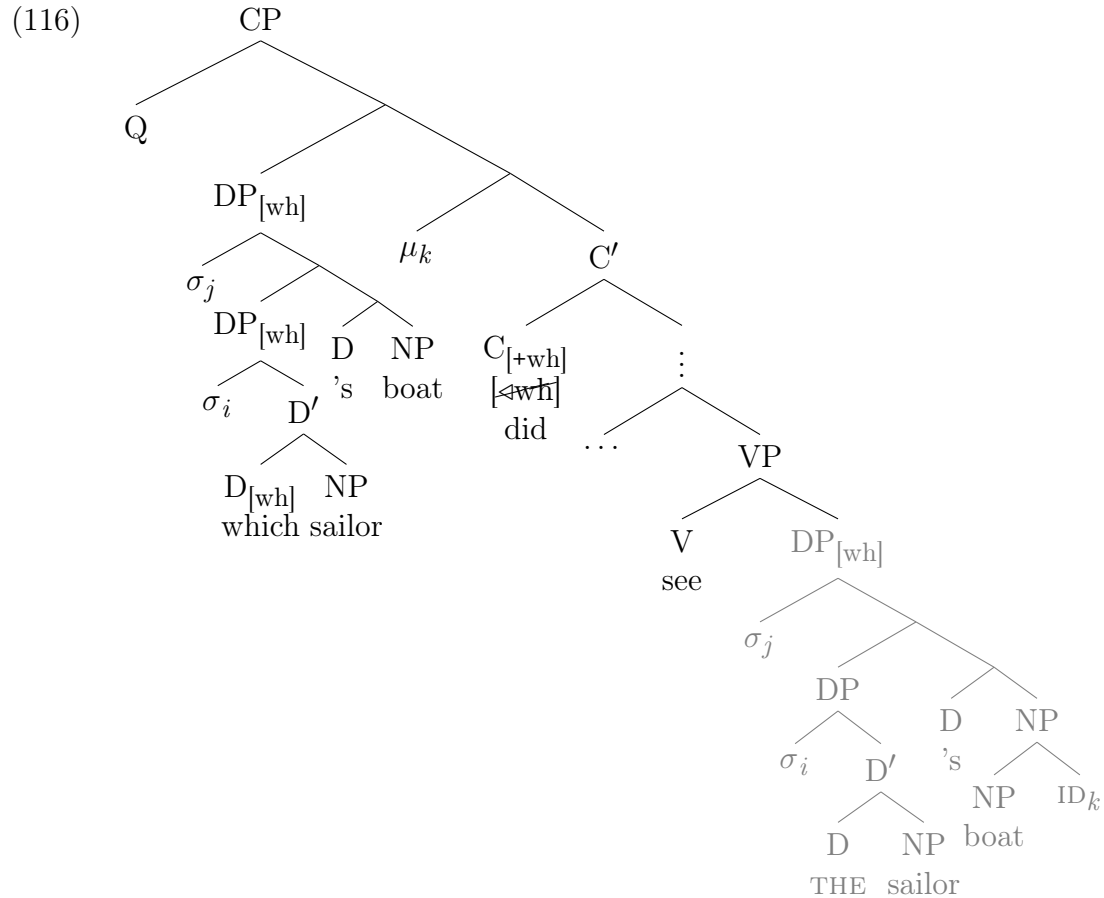
I propose that (pied-piping) \bar{A} -dependencies are crucially interpreted through binding of a *choice function* variable. Choice functions are functions which take a non-empty set and return a unique member of that set. The choice function approach to constituent questions has been explored in work by Reinhart (1998), Sauerland (1998), Ruys (2000), Sternefeld (2001a), Cable (2010b), van Urk (2015), Poole (2017, 138–154), and many others. In the realm of *ex situ wh*-questions, it is typically proposed that the operator existentially quantifies over choice functions and that the trace of \bar{A} -movement supplies the necessary choice function variable. I will diverge from this standard account in two ways. First, I propose that it is the *wh*-determiner itself which is interpreted as a choice function variable and which takes the set defined by its NP sister as its domain (see Reinhart, 1992 for an important precedent for this idea in the analysis of *wh*-in-situ);⁷² this is shown in (115) for ‘which sailor.’

$$(115) \quad \llbracket \text{which sailor} \rrbracket = f(\text{sailor})$$

Second, adapting an idea from Cable (2010b, 78–83), I propose that the choice function variable contributed by the *wh*-determiner is ‘question’-bound (potentially *existentially* bound)

72. Interestingly, though Reinhart (1992, fn. 7) considers the possibility of extending this analysis to moved *wh*-phrases as I have done, she dismisses it on the grounds that doing so would require positing what she perceives to be unmotivated λ -abstraction below the *wh*-phrase (which has become standard since Heim and Kratzer, 1998).

by an operator I dub ‘Q’ which, adopting a Hamblin-Karttunen semantics for questions, introduces abstraction over propositions. Q c-commands the pied-piped phrase, as shown in (116).



The interpretation of (116) is paraphrasable as (117):

(117) ‘What is the (choice) function f such that there is a unique boat y_e of the individual picked out by f from the set of sailors such that you saw the boat y of the sailor?’

One of the advantages of this proposal over alternatives in which it is traces of \bar{A} -movement which contribute the choice function variable is that it does not require us to proliferate the types of μ -bound variables. We can maintain the simpler hypothesis that μ -binding involves binding of an individual variable supplied by ID, while the choice function variable is exclusively contributed by the *wh*-determiner and bound by Q.

7.6.5 Deriving secondary crossover

Now we are in a position to derive secondary crossover effects with both gaps and resumptives.

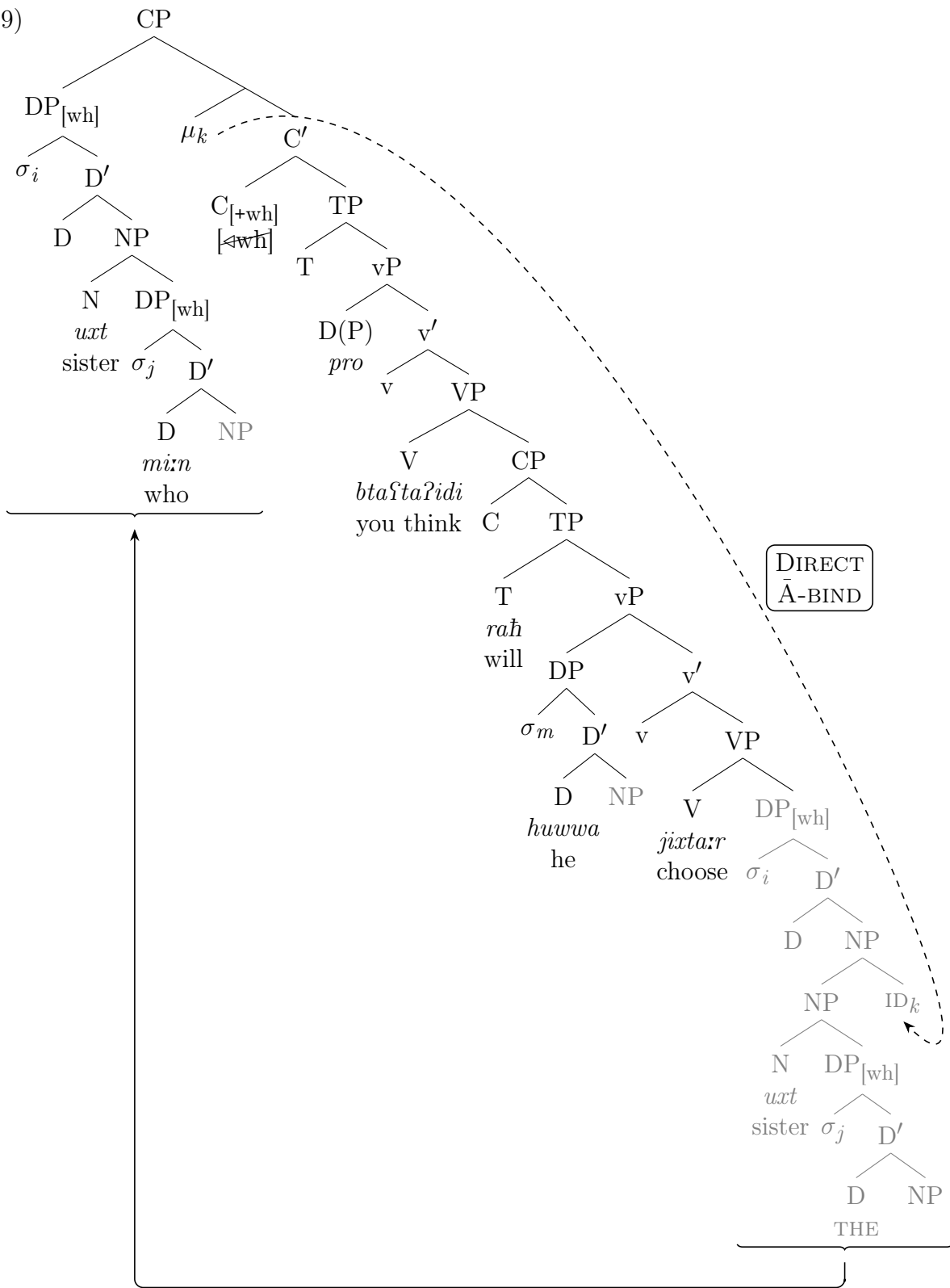
Consider again the case of secondary strong crossover in (118).

- (118) * [uxt min_i]_k b-taʕtaʕidi {pro_i / huwwa_i} raħ jixtar {___k /
 [sister who_i]_k IND-think.2.F.SG { / he_i} FUT choose.3.M.SG { /
 -**ha**_k} li-l-liʕbi?
 -**her**_k} for-the-game
 (int.) ‘[Whose_i sister]_k do you think he_i will choose {___k / her_k} for the game?’
 (Syrian)

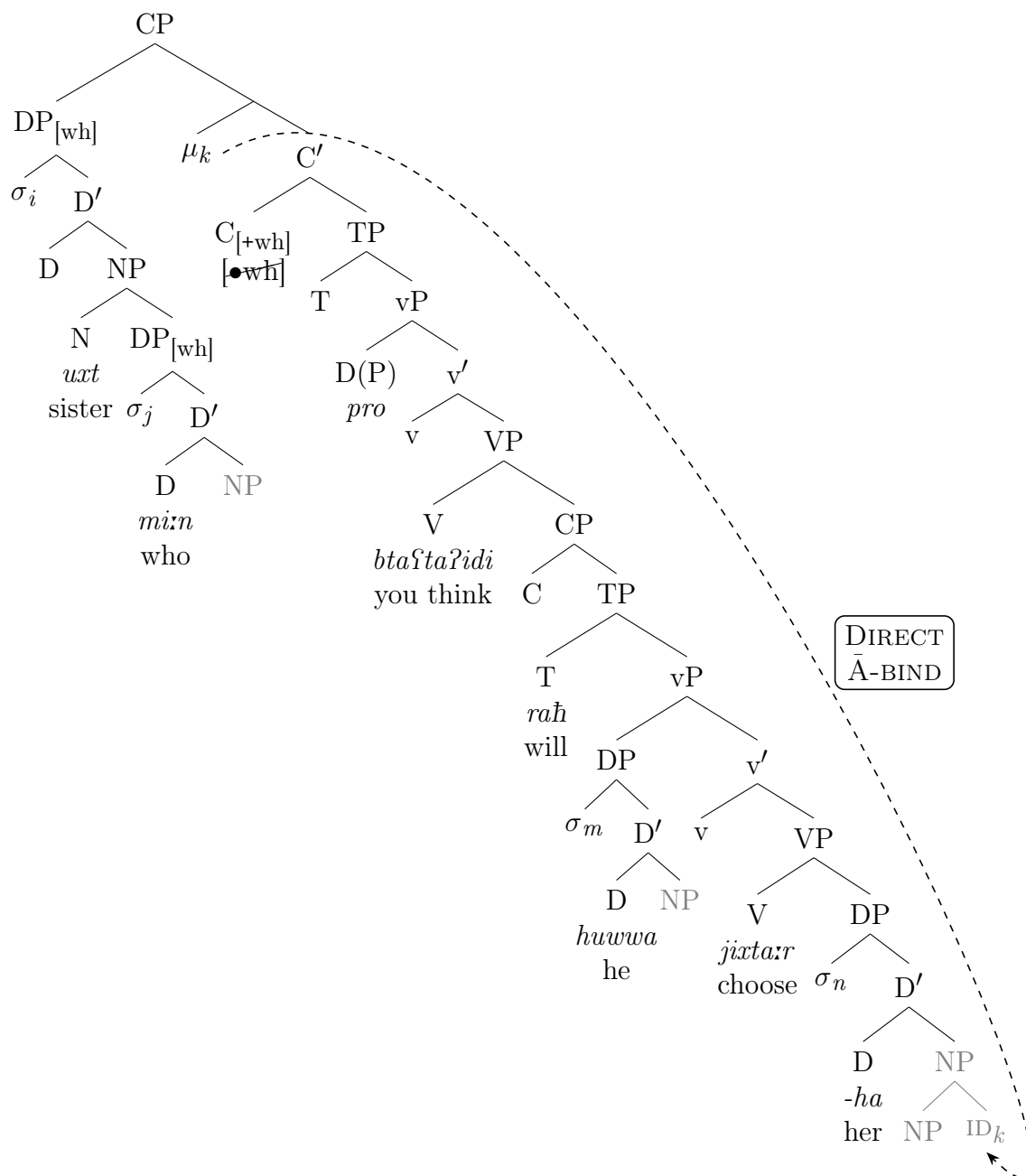
My explanation for the existence of secondary crossover effects with both gaps and base-generated resumptive pronouns rests on my claim that indirect \bar{A} -binding does not exist. Because indirect binding is not possible from an \bar{A} -position, there is no way to force the crossed pronoun to covary with the embedded *wh*-phrase. Examples (119) and (120) illustrate for the gapped and resumptive variants of (118), respectively. I represent the possessor DP as a complement of the construct state head noun, though this assumption is not necessary.⁷³ Note too that I represent the lower copy of \bar{A} -movement in (119) as already having undergone Trace Conversion ((113)). I also do not explicitly represent the internal structure of the elided NP complement of the resumptive in (120) (roughly corresponding to ‘sister of THE NP’) and in similar examples for reasons of space.

73. See Ritter (1988) for an account of the construct state in Hebrew which posits head movement of the head noun to a higher functional projection above the possessor, which occupies the specifier position of a lower functional head within DP. On the other hand, see Bruening (2022a) for an account of the Hebrew construct state which relies on rightward projection of specifiers and rightward movement within an NP surmounted by no nominal functional projections.

(119)



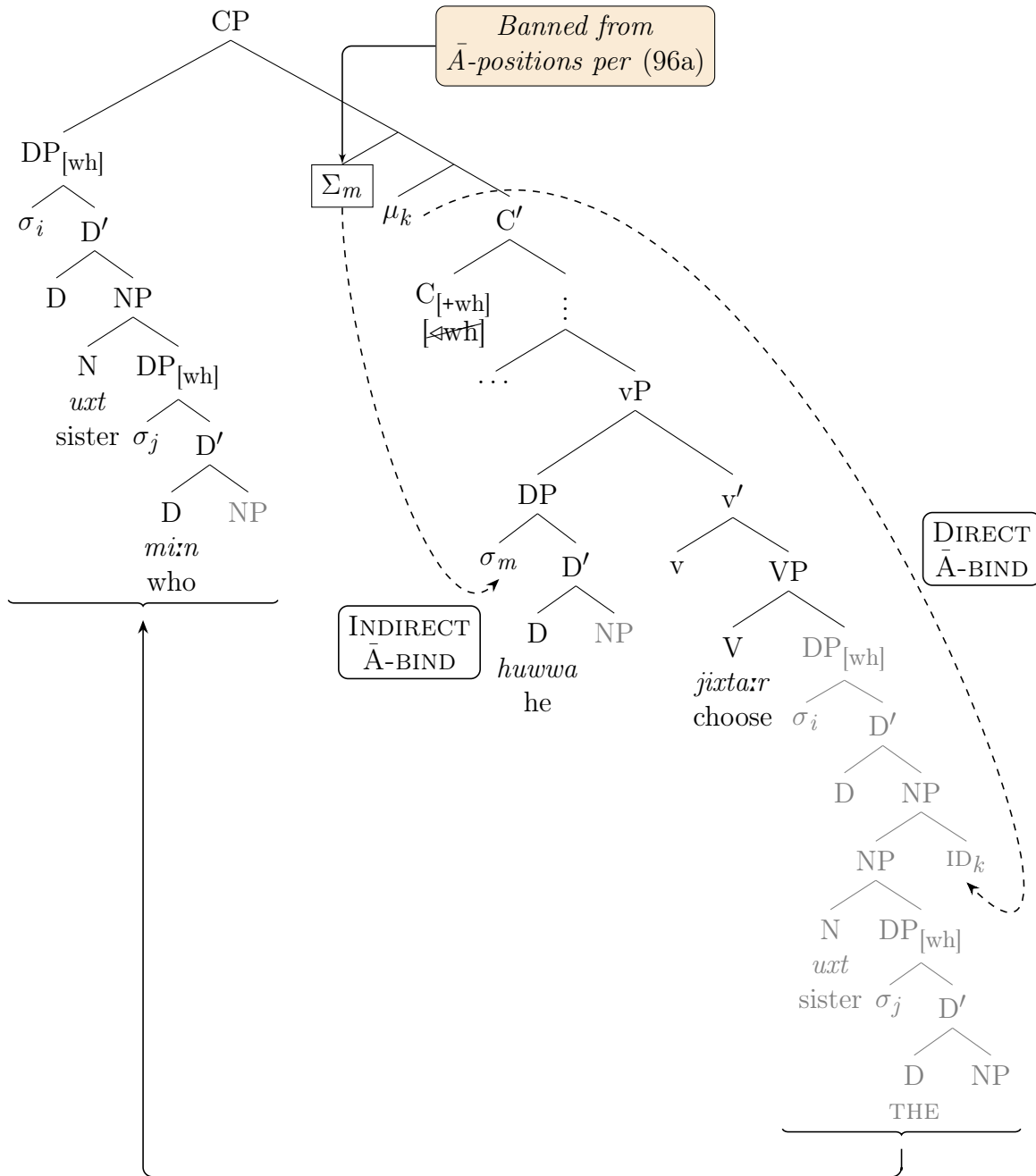
(120)



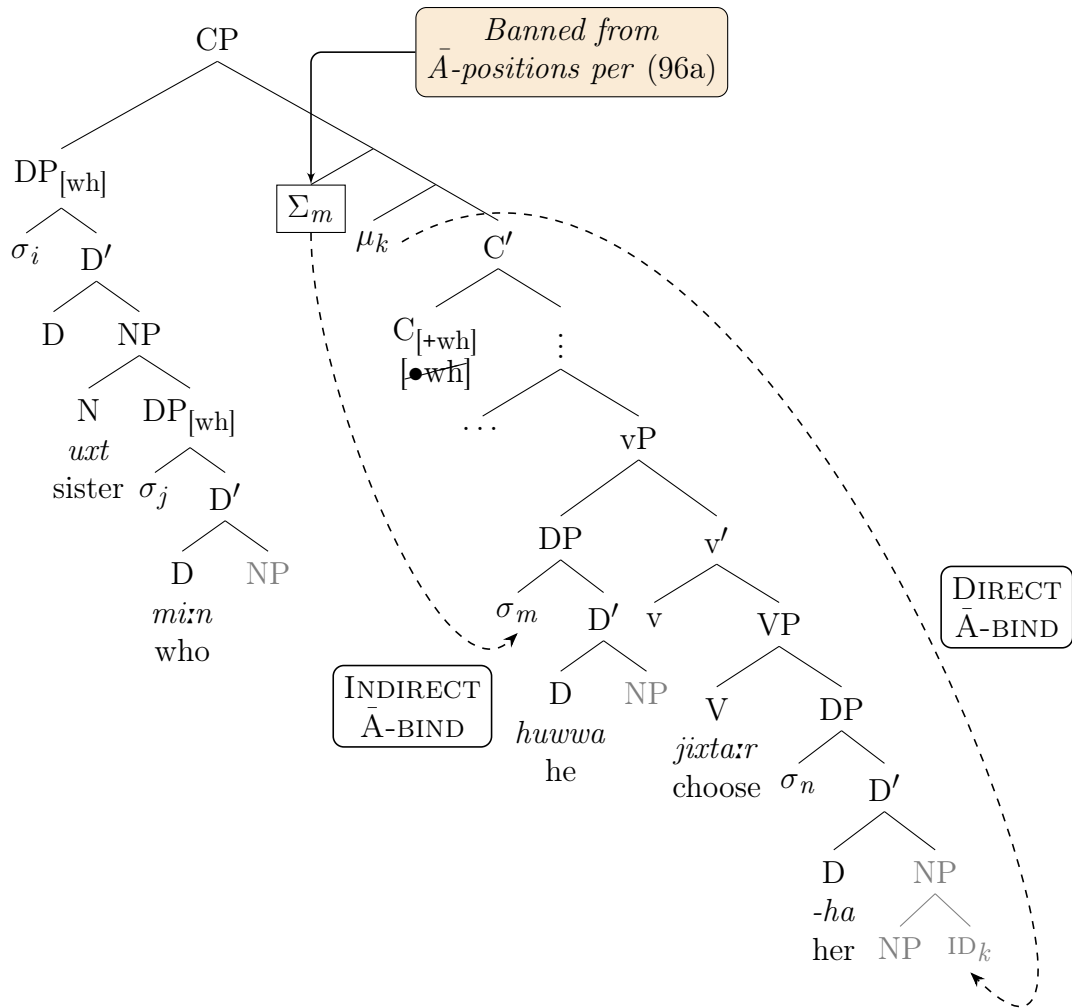
The pied-piped phrase *uxt mi:n* ‘whose sister’ in [Spec, CP] directly \bar{A} -binds the lower variable contributed by ID in the gap or resumptive pronoun *-ha* ‘her’ via μ . μ cannot bind the higher pronoun *huwwa* ‘he’ without changing the interpretation (which would in this case be infelicitous due to a clash in gender features between the binder ‘sister’ and the resumptive ‘he’). Furthermore, as first proposed by Buring (2004), Σ —the binder prefix responsible for

indirect A-binding—is restricted to adjoining below DPs in A-positions per (96a), hence it cannot be adjoined immediately below a pied-piped phrase in [Spec, CP]; consequently, *min* cannot bind out of the container DP via situation variable binding. Examples (121) and (122) show failed derivations in which Σ has been adjoined to an \bar{A} -position.

(121) *Failed indirect \bar{A} -binding in a gapped dependency*



(122) *Failed indirect \bar{A} -binding in a resumptive dependency*

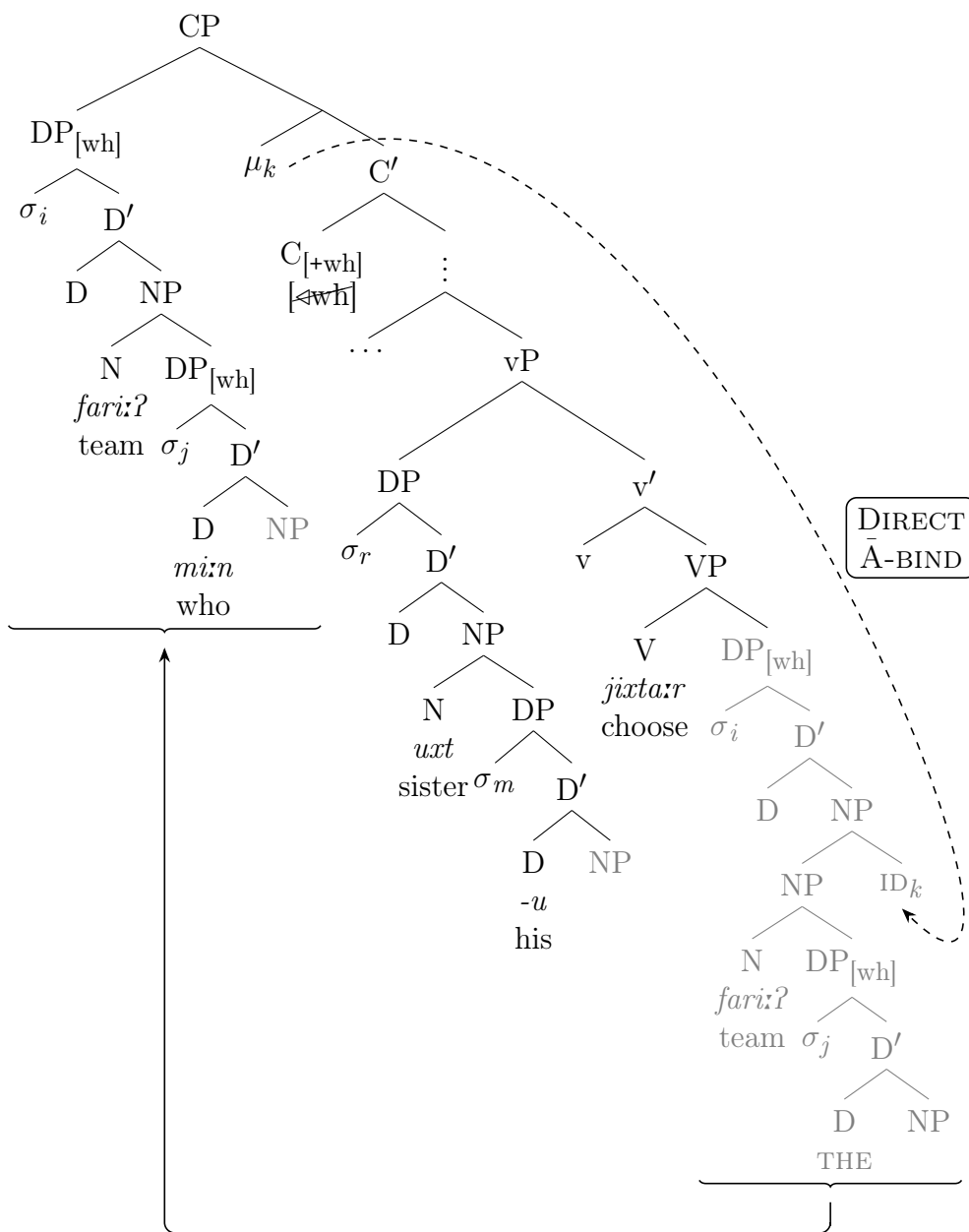


Because Σ is banned from occurring in \bar{A} -positions, the derivations in (121) and (122) are ruled out and we correctly predict secondary strong crossover effects.

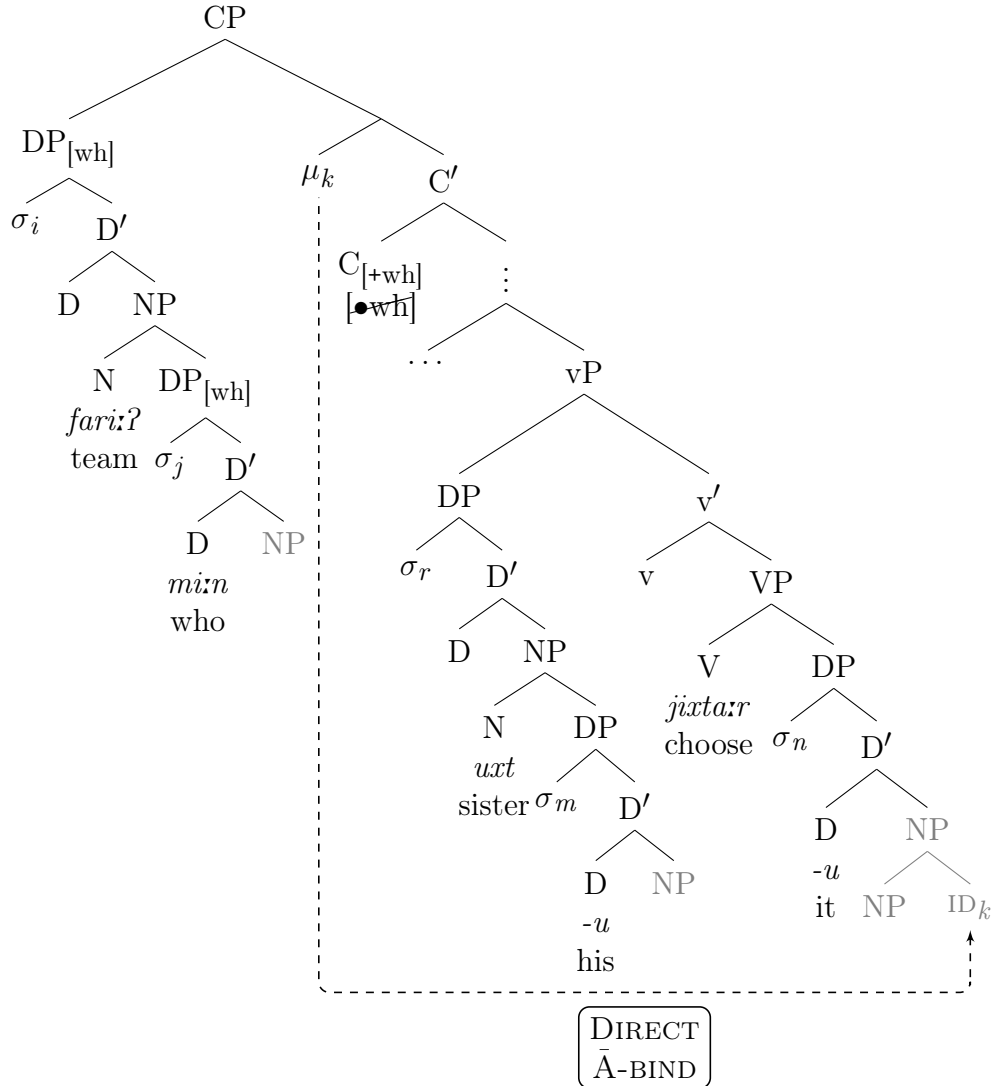
A similar explanation accounts for the presence of secondary weak crossover with both gaps and resumptives in (123). There is simply no possible recourse to coconstrual between the pied-piping *wh*-phrase *mirn* ‘who’ and the crossed pronoun *-u* ‘his’, whether with a gapped movement dependency ((124)) or with a base-generated binding dependency ((125)).

- (123) * [fari:ʔ mi:n_i]_k bi-taʕtaʕidi uxt-u_i raħ tixtar {___k / -u_k}
 [team who_i]_k IND-think.2.F.SG sister-his_i FUT choose.3.F.SG { / -it.M.SG_k}
 li-l-liʕbi?
 for-the-game
 (int.) ‘[Whose_i team]_k do you think his_i sister will choose {___k / it_k} for the game?’
 (Syrian)

(124)



(125)



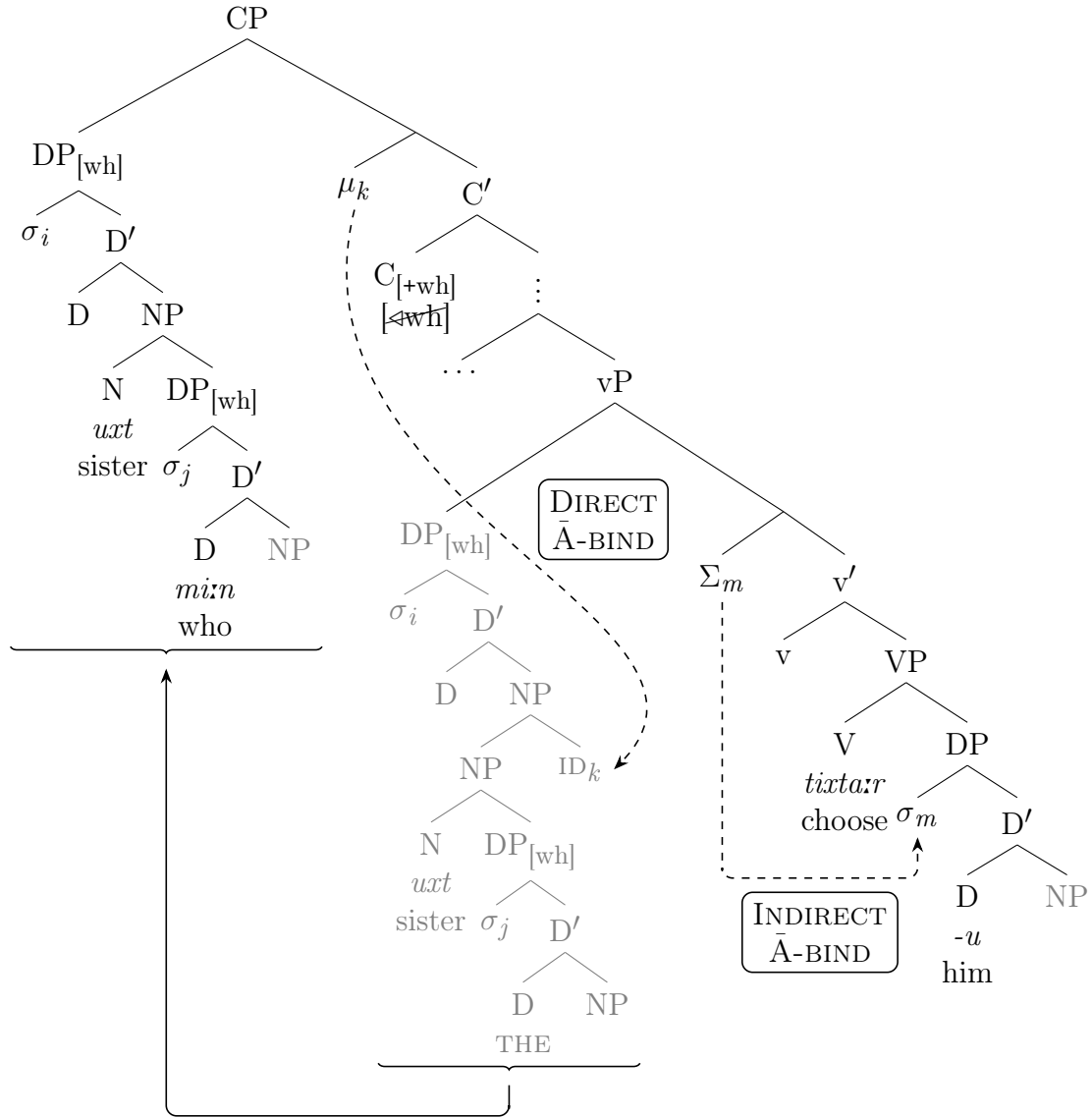
The only binder prefix which can be adjoined immediately below the *wh*-phrase in [Spec, CP] is μ , and μ binds the individual variable contributed by the index on ID adjoined to the NP in the lower copy of movement/the resumptive pronoun.

Things are different when indirect binding is possible. As we have seen already, when a lower copy of \bar{A} -movement or a resumptive pronoun occupies an A-position that c-commands the other bound pronoun, coconstrual is acceptable:

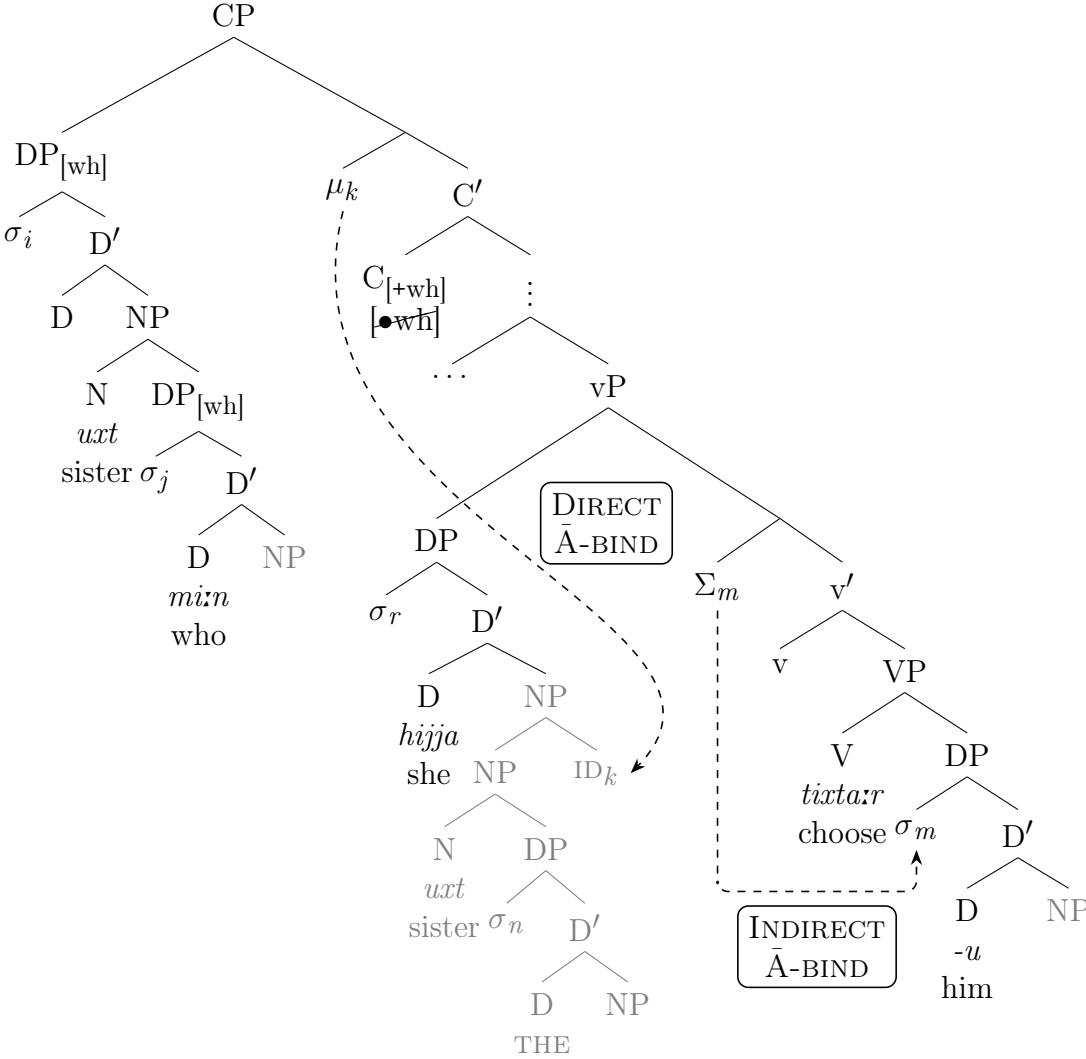
- (126) (repeated from (41b), (46), (83))
 [uxt mi:n_i]_k b-taʔtaʔidi (?**hijja**_k) raħ tixtar-u_i li-l-liʔbi?
 [sister who_i]_k IND-think.2.F.SG (?**she**_k) FUT choose.3.F.SG-him_i for-the-game
 ‘[Whose_i sister]_k do you think (she_k) will choose him_i for the game?’ (Syrian)

I propose that this is because the \bar{A} -bound gap ((127)) or resumptive (being E-type; (128)) can indirectly A-bind the lower pronoun via Σ_m . Note that I assume that the embedded *wh*-phrase *mi:n* ‘who’ in [Spec, CP] can antecede a pronoun (qua hidden definite description) in the elided NP complement of the resumptive pronoun *hijja* ‘she’ in (128).

(127)



(128)



This concludes my account of secondary crossover effects. The core of my proposal is that we ought to distinguish three—and crucially not four—types of binding: direct A-binding, indirect A-binding, and direct \bar{A} -binding. I have argued that these three kinds of binding are neatly accounted for with Büring’s (2004) three binder prefixes β , Σ , and μ (though not always via a one-to-one correspondence). Secondary crossover effects arise due to the fact that quantifiers embedded within a pied-piped phrase occupying an \bar{A} -position cannot indirectly bind variables from that position; this is because Σ —the binder prefix responsible for indirect binding—cannot be adjoined below DPs in \bar{A} -positions. Because the analysis makes no reference to movement, it extends to secondary crossover effects under base-generated re-

sumption (including in-island resumption) in Arabic. Finally, my analysis does not stipulate differences between resumptive and non-resumptive pronouns and is consequently compatible with the Doron–Engdahl–McCloskey Generalization; indeed, my analysis develops the unificationist approach to definite descriptions, (E-type) pronouns, and DP traces set out by many previous authors, in particular Elbourne (2001, 2005, 2013).

7.7 Primary crossover and Bijection

So far in this chapter, I have shown that secondary crossover effects are present under resumption. The key impetus for investigating secondary effects was to eliminate an ambiguity otherwise present in *primary* crossover configurations with resumptives—namely, determining which of the two pronominal elements functions as the \bar{A} -bound resumptive. In this section, I return to primary crossover and argue that primary effects *can* be detected under resumption in Arabic when sufficient care is taken in constructing the examples. In particular, we must be sure that the crossed element cannot be interpreted resumptively *in the position it occurs in*—this is the focus of section §7.7.1. Once we do, primary and secondary crossover effects emerge. To rule out the resumptive reading of the crossed element in Arabic, I employ the disambiguation strategy first proposed by McCloskey (1990) which replaces the crossed pronoun with a coconstrued epithet. Crucially, I show that epithets cannot be \bar{A} -bound outside of islands in Arabic (Aoun et al., 2001; Malkawi, 2009; Demirdache and Percus, 2011), ruling out an alternative parse in which the epithet functions resumptively. Moreover, primary effects persist when the resumptive pronoun (but not the epithet) is contained inside an island, further demonstrating that crossover effects must be dissociated from the mechanisms underlying \bar{A} -movement. In fact, a large-scale survey of previously reported crossover effects under resumption illustrates that, by and large, both weak and strong crossover effects can be detected with both island-sensitive (i.e. movement-derived) and island-insensitive (i.e. base-generated) resumptives (modulo the effects of clitic

doubling on weak crossover discussed in section §5.7). My empirical findings are summarized in Table 7.1 (see Table 7.2 on p. 426 for references).

	Type of \bar{A} -dependency	Island-sensitive?	Primary WCO w/ epithets?	Primary SCO w/ epithets?	Secondary WCO w/ epithets?	Secondary SCO w/ epithets?
Iraqi Arabic	(<i>wh</i> -question)	No	Yes	Yes	Yes	Yes
	(restrictive relative)	No	Yes	Yes	\bar{N}/\bar{A}	\bar{N}/\bar{A}
Syrian Arabic	(<i>wh</i> -question)	No	Yes	Yes	Yes	Yes
	(restrictive relative)	No	Yes	Yes	\bar{N}/\bar{A}	\bar{N}/\bar{A}
Tunisian Arabic	(<i>wh</i> -question)	No	Yes	Yes	–	–
	(restrictive relative)	No	Yes	Yes	\bar{N}/\bar{A}	\bar{N}/\bar{A}
Hebrew	(restrictive relative)	No	Yes(?)	Yes	–	–
Irish	(restrictive relative)	No	No(?)	Yes	–	–
Jordanian Arabic	(<i>wh</i> -question, restrictive relative modifying NP selected by universal quantifier)	No	Yes	Yes	–	–
Lebanese Arabic	(<i>wh</i> -question)	No	Yes	Yes	–	–
Persian	(restrictive relative)	Yes	–	Yes	–	–
Literary Welsh	(restrictive relative)	Yes	–	Yes	–	–
Igala	(<i>wh</i> -question, restrictive relative)	Yes (<i>wh</i> -question)	Yes (restrictive relative)	Yes (restrictive relative)	–	–
Mandarin	(restrictive relative)	Yes	Yes	Yes	–	–

‘–’ indicates that I did not have access to the relevant data.

Table 7.1: Cross-linguistic summary of crossover effects under resumption with epithets

As I argue in section §7.7.2, we can extend the account of secondary crossover effects from section §7.6 to primary crossover effects if we adopt one additional assumption: \bar{A} -binding is subject to the Bijection Principle (Koopman and Sportiche, 1982). Novel support for Bijection is given in section §7.7.3. The first source of evidence in favor of Bijection comes from examining the distribution of bound variable epithets in Syrian Arabic. Although epithets can be (directly) \bar{A} -bound inside an island in this language, they cannot be (in)directly A -bound. Thus, by placing a pronoun and an epithet, both coconstructed with a *wh*-operator,

inside an island, we can determine if co- \bar{A} -binding is possible. The results are striking: co- \bar{A} -binding of a pronoun and an epithet is impossible, hence Bijection must hold. The second source of evidence in favor of Bijection comes from the distribution of multiple coconstrued variables in English resumptive \bar{A} -dependencies. Crucially, while resumption in English is restricted to in-island contexts, variables outside of islands can be coconstrued with resumptive pronouns inside islands even though the latter do not c-command the former. Coconstrued readings of multiple bound pronouns, none of which c-command the others, must therefore be derivable without co- \bar{A} -binding (pace Safir, 1984)—a finding which undermines one of the reasons for positing co- \bar{A} -binding in the first place. I argue that theoretical parsimony demands that we dispense with co- \bar{A} -binding in favor of Bijection.

7.7.1 Crossover effects with epithets

As discussed in section §7.3, investigating primary crossover effects with two bound pronouns (instead of a pronoun and a gap) is difficult or impossible in many cases because the higher pronoun can often function as the \bar{A} -bound variable.

(129) *Primary strong crossover configuration* (slightly adapted from (6))

- a. *Higher pronoun is resumptive* → *no primary strong crossover*
 $DP_{[wh]} \mu_i [\dots RP_i [\dots PRON_i \dots]]$
↙ \bar{A} -bind ↗
- b. *Lower pronoun is resumptive* → *primary strong crossover*
 $*DP_{[wh]} \mu_i [\dots PRON_i [\dots RP_i \dots]]$
↙ ----- \bar{A} -bind ----- ↗

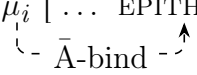

(130) *Primary weak crossover configuration* (slightly adapted from (7))

- a. *Higher pronoun is resumptive* → *no primary weak crossover*
 $DP_{[wh]} \mu_i [\dots [XP \dots RP_i \dots] [\dots PRON_i \dots]]$
↙ ----- \bar{A} -bind ----- ↗
- b. *Lower pronoun is resumptive* → *primary weak crossover*
 $*DP_{[wh]} \mu_i [\dots [XP \dots PRON_i \dots] [\dots RP_i \dots]]$
↙ ----- \bar{A} -bind ----- ↗

As long as the higher of the two bound, coconstrued elements can serve in a resumptive

function, as in (129a) and (130a), we do not expect to find obligatory crossover effects.⁷⁴ Beginning with McCloskey (1990), much prior literature has attempted to work around this ambiguity by replacing the higher pronoun with an epithet. In order for this tactic to work, epithets must not be able to be \bar{A} -bound in the configurations where crossover is to be tested, lest we revert to the ambiguity in (129)/(130).⁷⁵ The predictions of testing primary crossover effects with epithets are summarized in (131)–(132):

(131) *Primary strong crossover configuration with epithets*

- a. *Epithet cannot be the resumptive*
 $*DP_{[wh]} \mu_i [\dots EPITHET_i [\dots PRON_i \dots]]$

- b. *Lower pronoun is resumptive → primary strong crossover*
 $*DP_{[wh]} \mu_i [\dots EPITHET_i [\dots RP_i \dots]]$


74. Some authors, however, have failed to control for this possibility and have concluded that primary crossover effects are largely absent under resumption. See the references cited at the beginning of section §7.3. Similar problems plague work on movement-derived resumption, including the reported presence of primary weak crossover effects with island-sensitive resumption in Nchufie restrictive relatives (Sano, 1994, 118, (13)) and the reported absence of primary weak crossover effects with island-sensitive resumption in Greek restrictive relatives (Alexopoulou, 2006, 84, (43); Daskalaki and Mavrogiorgos, 2013, 329–330), non-restrictive relatives (Alexopoulou, 2006, 96, (64); Daskalaki and Mavrogiorgos, 2013, 329–330), and *wh*-questions (Iatridou, 1995, 28, fn. 20; Androulakis, 1998, 159, (63); Daskalaki and Mavrogiorgos, 2013, 329–330; Georgiou, 2022, 323, (61)), though see footnote 19 in section §5.7 for evidence that, when the identity of the resumptive is disambiguated through case-matching effects in Greek, primary weak crossover is still obviated.

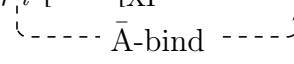
The discussion in Alexandre (2012, 151–154) faces a different issue. Alexandre claims for Cape Verdean Creole *wh*-questions that primary strong crossover effects are present with both base-generated resumptives (which fully match in φ -features with their binders) and movement-derived resumptives (which are φ -deficient, appearing as the default 3.SG form *el*). However, her discussion doesn't consider crossed pronouns *or* crossed epithets, but rather crossed non-epithetic *names*. If names cannot function as bound variables, then these examples are irrelevant to determining whether or not Cape Verdean Creole \bar{A} -dependencies exhibit crossover effects.


Finally, the situation in Maltese as described by Camilleri and Sadler (2011a,b) is somewhat more complex. Relative clauses employing the relative complementizer *li* and no relative pronoun display the crucial ambiguity in weak crossover configurations (Camilleri and Sadler, 2011a, 17, (56); Camilleri and Sadler, 2011b, 10, (37)). Somewhat puzzlingly, when the relative is formed with the accusative-marked relative pronoun *l min* 'whom (ACC.who),' weak crossover effects are also suspended with resumptive pronouns (though not with gaps; Camilleri and Sadler, 2011a, 23; Camilleri and Sadler, 2011b), despite the fact that relative pronouns normally cannot bind resumptive pronouns in relative clauses (Camilleri and Sadler, 2016, 132–133). See footnote 39 for a strikingly similar (and likewise potentially transderivational) interaction in English between resumption and crossover.

75. Thus, although Nouhi (1996, 31) claims that resumptive restrictive relatives in Moroccan Arabic display primary strong crossover effects and obviate primary weak crossover effects with a crossed epithet, he does not show that epithets cannot be \bar{A} -bound in that language.

(132) *Primary weak crossover configuration with epithets*

- a. *Epithet cannot be the resumptive*

$$*DP_{[wh]} \mu_i [\dots [XP \dots EPITHET_i \dots] [\dots PRON_i \dots]]$$

- b. *Lower pronoun is resumptive → primary weak crossover*

$$*DP_{[wh]} \mu_i [\dots [XP \dots EPITHET_i \dots] [\dots RP_i \dots]]$$


If the epithet cannot function resumptively ((131a)/(132a)), then the lower, pronominal element must be \bar{A} -bound, and there will be no way to make the crossed epithet coconstrued with the resumptive and/or the \bar{A} -binder ((131b)/(132b)).

Using the epithet strategy, primary crossover effects have been uncovered in many languages for island-sensitive and island-insensitive resumption alike. The following table summarizes my findings from a survey of the previous literature:⁷⁶

76. See section §5.7 for discussion of primary weak crossover amelioration under clitic-doubling (which may or may not feed \bar{A} -movement of the doubled element) in languages like Spanish and Greek.

	Type of A-dependency	Island-sensitive?	Primary WCO w/ epithets?	Primary SCO w/ epithets?
Hebrew	(restrictive relative)	No ⁷⁷	Yes(?) ⁷⁸	Yes ⁷⁹
Irish	(restrictive relative)	No ⁸⁰	No(?) ⁸¹	Yes ⁸²
Jordanian Arabic	(<i>wh</i> -question, restrictive relatives modifying NP selected by universal quantifier)	No ⁸³	Yes ⁸⁴	Yes ⁸⁵
Lebanese Arabic	(<i>wh</i> -question)	No ⁸⁶	Yes ⁸⁷	Yes ⁸⁸
Persian	(restrictive relative)	Yes ⁸⁹	–	Yes ⁹⁰
Literary Welsh	(restrictive relative)	Yes ⁹¹	–	Yes ⁹²
Igala	(<i>wh</i> -question, restrictive relative)	Yes (<i>wh</i> -question) ⁹³	Yes (restrictive relative) ⁹⁴	Yes (restrictive relative) ⁹⁵
Mandarin	(restrictive relative)	Yes ⁹⁶	Yes ⁹⁷	Yes ⁹⁸

‘–’ indicates that I did not have access to the relevant data.

Table 7.2: Cross-linguistic summary of primary crossover effects under resumption

77. Borer (1984b).

78. Demirdache (1991, 57–58); Shlonsky (1992, 461, (31)); and Fox (1994, 9–10, fn. 15). By contrast, Sichel (2014, 667–668) reports that resumption does ameliorate primary weak crossover violations with an epithet in Hebrew relatives once the context is enriched and the examples are constructed to control for register and information structure. Note, though, that the examples she uses to claim that resumption ameliorates weak crossover place the epithet inside a coordinate structure island (2014, 667, (26); 669, (29)). It remains to be seen whether epithets can or cannot function resumptively in such positions in Hebrew (the example reported in Vaillette, 2001, 308, (11) may be relevant in this regard); if they can, then Sichel’s objection loses much of its force.

79. Demirdache (1991, 57); Shlonsky (1992, 461, (29b)).

80. McCloskey (1979, 1985, 1990, 2002, 2017).

81. McCloskey (1990, 212, (35)). However, McCloskey (1990, 212, (37)) shows that epithets contained inside selected PPs *do* seem to induce crossover effects. See McCloskey (1990, 243–244, n. 12) for discussion of ways to resolve this seeming conflict.

82. McCloskey (1990, 212, (36)).

83. Malkawi (2009); Demirdache and Percus (2011, 2012); Al-Daher (2016, 102–104).

As the reader may notice, the status of primary weak crossover in island-insensitive resumptive \bar{A} -dependencies with crossed epithets is subject to some variation. In particular, Irish is distinguished from Hebrew, Jordanian Arabic, and Lebanese Arabic in lacking weak crossover effects under resumption with crossed epithets (though see footnote 81 for a wrinkle). I do not have anything interesting to say about this variation here, though the reader should recall from section §5.7 that movement-derived resumptives are likewise not cross-linguistically uniform in their ability to obviate (primary) weak crossover. In that section, I proposed that the key factor(s) determining weak crossover obviation could be traced independent properties of the Big-DP structure that island-sensitive resumption launches from. A similar explanation, however, is not obviously applicable to base-generated resumption. This may then point to a fundamental difference in the grammatical source of (primary) weak and strong crossover—a difference which my analysis in this section does not account for. I leave this as an open question for future research.

Primary crossover effects can also be diagnosed in Iraqi, Tunisian, and Syrian Arabic

-
84. Demirdache and Percus (2011, 378, (26a)); see also Demirdache and Percus (2009, 2012).
85. Demirdache and Percus (2011, 378, (26b–c)); see also Demirdache and Percus (2009, 2012).
86. Aoun and Choueiri (1996, 1999); Aoun and Benmamoun (1998); and much subsequent work.
87. Aoun and Choueiri (2000, 26, (43b)); Aoun and Li (2003, 31).
88. Aoun and Choueiri (2000, 6, (10)).
89. Taghvaipour (2004, 285–288).
90. Taghvaipour (2004, 285, (25)).
91. Tallerman (1983); Hendrick (1988, 189–190); Rouveret (2002, 2008), and (2018).
92. Rouveret (2002, 134).
93. Martinović (To appear, 9, (40)), though see Martinović (To appear, 8–9) for discussion of a complex array of facts regarding extraction out of relative clause islands.
94. Martinović (To appear, 3, (12)).
95. Martinović (To appear, 3, (11)).
96. Pan (2016, 33–43).
97. Pan (2016, 59, (56)).
98. Pan (2016, 66, (77)).

through the use of epithets. In contrast to pronominal clitics, epithets cannot be directly \bar{A} -bound in non-island contexts in *wh*-questions ((133)) or in restrictive relatives ((134)) (and recall that gaps in argument positions are impossible in relative clauses in all three varieties).⁹⁹

(133) *Epithets cannot function as bound variables in non-island contexts in Arabic wh-questions*¹⁰⁰

- a. ari:d aʕrif [minu min-hum]_i taʕtaqidi:n Joni raħ tixta:r
 want.1.SG know.1.SG [who from-them]_i think.2.F.SG Joni FUT choose.3.F.SG
 {___i / -a_i / *ha-l-xibil_i}.
 { / -him_i / *this-the-idiot.M.SG_i}
 ‘I want to know [which of them]_i you think Joni will choose {___i / him_i /
 *the idiot_i}.’ (Iraqi)
- b. bididi aʕrif min_i bi-tfakkiri Joni raħ tixta:r {___i /
 want.1.SG know.1.SG who_i IND-think.2.F.SG Joni FUT choose.3.F.SG { /
 -u_i / *ha-l-hmar_i}.
 -him_i / *this-the-idiot.M.SG_i}
 ‘I want to know who_i you think Joni will choose {___i / him_i / *the idiot_i}.’
 (Syrian)
- c. nħəbb naʕraf [ʃkum min-hom]_i joðhor-lək Joni beʕ tixta:r
 want.1.SG know.1.SG [who from-them]_i seems-to.you Joni FUT choose.3.F.SG
 {-u_i / *ha-l-bhi:m_i}.
 {-him_i / *this-the-idiot.M.SG_i}
 (lit.) ‘I want to know [which of them]_i you think Joni will choose {him_i / *the
 idiot_i}.’ (Tunisian)

(134) *Epithets cannot function as bound variables in non-island contexts in definite relative clauses in some Arabic varieties*¹⁰¹

- a. we:n l-walad_i lli tri:di:na nwað^ʕð^ʕaf {*__i / -a_i /
 where the-boy_i that want.2.F.SG-us hire.1.PL { / him_i /

99. See Aoun and Choueiri (2000) on the morphological decomposition of epithets in Lebanese and Moroccan Arabic.

100. Similar facts hold for Lebanese Arabic (Aoun and Choueiri, 2000, 11–12) and Jordanian Arabic (Malkawi, 2009, 28, (26a); Demirdache and Percus, 2011, 378). Moreover, epithet resumptives also cannot resume left dislocated quantifiers in non-island contexts in Lebanese Arabic (Aoun et al., 2001) or in Jordanian Arabic (Malkawi, 2009, 25, (26b); Guillot and Malkawi, 2011, 402).

101. Contrast Lebanese Arabic (Aoun and Choueiri, 2000, 8–9; Aoun et al., 2010, 7, fn. 3) and Jordanian Arabic (Malkawi, 2009, 185, (5a); Demirdache and Percus, 2011, 374, (19a)) where resumptive epithets are reported to be possible in definite restrictive relative clauses. Salzmann (2017b, 447–448) also reports for Swiss German that resumptive epithets are permissible in non-island contexts in long-distance (but not short-distance) relativization.

***ha-l-xibil**_{*i*}}?

***this-the-idiot.M.SG**_{*i*}}

(lit.) ‘Where is the boy_{*i*} that you want us to hire {*_ _{*i*} / him_{*i*} / *the idiot_{*i*}}?’
(Iraqi)

- b. we:n l-fabb_{*i*} lli b-titmanni nwaz^zif {*_ _{*i*} / -u_{*i*} /
where the-guy_{*i*} that IND-hope.2.F.SG hire.1.PL {*_ _{*i*} / -him_{*i*} /
***ha-l-ħmar**_{*i*}}?

***this-the-idiot.M.SG**_{*i*}}

(lit.) ‘Where is the guy_{*i*} that you hope we hire {*_ _{*i*} / him_{*i*} / *the idiot_{*i*}}?’
(Syrian)

- c. he:ða l-tfol_{*i*} elli {?howwa_{*i*} / ***ha-l-bhi:m**_{*i*}} jətmanna Joni
this the-boy_{*i*} that {?he_{*i*} / ***this-the-idiot.M.SG**} hopes.3.M.SG Joni
təxta:r Zeineb.
choose.3.F.SG Zeineb

(lit.) ‘This is the boy_{*i*} that {?he_{*i*} / *the idiot_{*i*}} hopes Joni chooses Zeineb.’
(Tunisian)

Consequently, we can establish the presence of primary crossover effects fairly easily by putting the epithet in the crossed position, in line with the predictions laid out in (131)–(132). The following examples illustrate for primary strong and weak crossover, respectively, in both *wh*-questions and definite restrictive relative clauses. Notably, primary strong and weak crossover effects are equally present with resumptive pronouns and gaps.

(135) *Primary strong crossover in wh-questions*

a. ... *with gaps*

- i. arid aʁrif [minu min-hum]_{*i*} taʁtaqidi:n ha-l-xibil*_{*i/k*}
want.1.SG know.1.SG [who from-them]_{*i*} think.2.F.SG this-the-idiot.M.SG*_{*i/k*}

jri:d Joni tixta:r ____{*i*}.

wants.3.M.SG Joni choose.3.F.SG

‘I want to know [which of them]_{*i*} you think this idiot*_{*i/k*} wants Joni to choose ____{*i*}.’
(Iraqi)

- ii. bidd-i aʁrif mi:n_{*i*} bi-tfakkiri ha-l-ħmar*_{*i/j*}
want-1.SG know.1.SG who_{*i*} IND-think.2.F.SG this-the-idiot.M.SG*_{*i/j*}

b-jitmanna Joni tixta:r ____{*i*}

IND-hopes.3.M.SG Joni choose.3.F.SG

‘I want to know who_{*i*} you think the idiot*_{*i/j*} hopes Joni chooses ____{*i*}.’
(Syrian)

- iii. nħəbb naʁrəf [ʃku:n min-hom]_{*i*} ha-l-bhi:m*_{*i/k*} jətmanna
want.1.SG know.1.SG [who from-them]_{*i*} this-the-idiot*_{*i/k*} hopes.3.M.SG

Joni tæxta:r ______i.
 Joni choose.3.F.SG
 ‘I want to know [which of them]_i the idiot*_{i/k} hopes Joni picks ______i.’
 (Tunisian)

b. ... *with resumptives*

- i. arid aʁrif [minu min-hum]_i taʁtaqidi:n ha-l-xibil*_{i/k}
 want.1.SG know.1.SG [who from-them]_i think.2.F.SG this-the-idiot.M.SG*_{i/k}
 jri:d Joni tixta:r-**a**_i.
 wants.3.M.SG Joni choose.3.F.SG-**him**_i
 (lit.) ‘I want to know [which of them]_i you think this idiot*_{i/k} wants Joni
 to choose him_i.’ (Iraqi)
- ii. bidd-i aʁrif mi:n_i bi-tfakkiri ha-l-ħma:r*_{i/j}
 want-1.SG know.1.SG who_i IND-think.2.F.SG this-the-idiot.M.SG*_{i/j}
 b-jitmanna Joni tixta:r-**u**_i
 IND-hopes.3.M.SG Joni choose.3.F.SG-**him**_i
 (lit.) ‘I want to know who_i you think the idiot*_{i/j} hopes Joni chooses
 him_i.’ (Syrian)
- iii. nħəbb naʁrəf [ʃku:n min-hom]_i ha-l-bhi:m*_{i/k} jətmanna
 want.1.SG know.1.SG [who from-them]_i this-the-idiot*_{i/k} hopes.3.M.SG
 Joni tæxta:r-**u**_i.
 Joni choose.3.F.SG-**him**_i
 (lit.) ‘I want to know [which of them]_i the idiot*_{i/k} hopes Joni picks him_i.’
 (Tunisian)

(136) *Primary weak crossover in wh-questions*

a. ... *with gaps*

- i. arid aʁrif [minu (min-hum)]_i taʁtaqidi:n umm
 want.1.SG know.1.SG [who (from-them)]_i think.2.F.SG mother
 ha-l-xibil*_{i/j} raħ tixta:r ______i.
 this-the-idiot.M.SG*_{i/j} FUT pick.3.F.SG
 ‘I want to know [who (of them)]_i you think the idiot*_{i/j}’s mother will pick
 ______i.’ (Iraqi)
- ii. bidd-i aʁrif mi:n_i bi-tfakkiri umm ha-l-ħma:r*_{i/j}
 want-1.SG know.1.SG who_i IND-think.2.F.SG mother this-the-idiot.M.SG*_{i/j}
 b-titmanna nwaz^ʃz^ʃif ______i.
 IND-hopes.3.F.SG hire.1.PL
 ‘I want to know who_i you think the idiot*_{i/j}’s mother hopes we hire ______i.’
 (Syrian)
- iii. nħəbb naʁrəf [ʃku:n_i omm ha-l-bhi:m*_{i/j} tətmanna
 want.1.SG know.1.SG who_i mother this-the-idiot.M.SG*_{i/j} hopes.3.F.SG

nxaddmu ____i.

hire.1.PL

‘I want to know who_i the idiot*_{i/j}’s mother hopes we hire ____i.’ (Tunisian)

b. ... *with resumptives*

i. arid aʕrif [minu (min-hum)]_i taʕtaqidin umm
want.1.SG know.1.SG [who (from-them)]_i think.2.F.SG mother
ha-l-xibil*_{i/j} raħ tixtar-a_i.

this-the-idiot.M.SG*_{i/j} FUT pick.3.F.SG-**him**_i

(lit.) ‘I want to know [who (of them)]_i you think the idiot*_{i/j}’s mother will pick him_i.’ (Iraqi)

ii. bidd-i aʕrif min_i bi-tfakkiri umm ha-l-ħmar*_{i/j}
want-1.SG know.1.SG who_i IND-think.2.F.SG mother this-the-idiot.M.SG*_{i/j}

b-titmanna nwaz^ʕ_Zif-u_i.

IND-hopes.3.F.SG hire.1.PL-**him**_i

(lit.) ‘I want to know who_i you think the idiot*_{i/j}’s mother hopes we hire him_i.’ (Syrian)

iii. nħabb naʕraf ʃku:n_i omm ha-l-bhim*_{i/j} tətmanna
want.1.SG know.1.SG who_i mother this-the-idiot.M.SG*_{i/j} hopes.3.F.SG

nxaddmu-**h**_i.

hire.1.PL-**him**_i

(lit.) ‘I want to know who_i the idiot*_{i/j}’s mother hopes we hire him_i.’ (Tunisian)

(137) *Primary strong crossover in definite restrictive relative clauses*

a. we:n l-walad_i lli ha-l-xibil*_{i/j} jri:d-na nwað^ʕð^ʕaf-a_i?
where the-boy_i that this-the-idiot.M.SG*_{i/j} wants.3.F.SG-us hire.1.PL-**him**_i

(lit.) ‘Where is the boy_i that the idiot*_{i/j} wants us to hire him_i?’ (Iraqi)¹⁰²

b. we:n l-ʃabb_i lli ha-l-ħmar*_{i/j} b-jitmanna nwaz^ʕ_Zif-u_i?
where the-guy_i that this-the-idiot.M.SG*_{i/j} IND-hopes.3.M.SG hire.1.PL-**him**_i

(lit.) ‘Where is the guy_i that the idiot*_{i/j} hopes we hire him_i?’ (Syrian)

c. he:ða l-tfol_i elli ha-l-bhim*_{i/k} jətmanna Joni
this the-boy_i that this-the-idiot.M.SG*_{i/k} hopes.3.M.SG Joni

təxtar-u_i.

choose.3.F.SG-**him**_i

(lit.) ‘This is the boy_i that the idiot*_{i/k} hopes Joni chooses him_i.’ (Tunisian)

(138) *Primary weak crossover in definite restrictive relative clauses*

a. we:n l-walad_i lli umm ha-l-xibil*_{i/j} tri:d-na
where the-boy_i that mother this-the-idiot.M.SG*_{i/j} wants.3.F.SG-us

102. See also Jassim (2011, 38, (67)).

nwað^ʕð^ʕaf-**a**_i?
 hire.1.PL-**him**_i
 (lit.) ‘Where is the boy_i that the idiot*_{i/j}’s mother wants us to hire him_i?’
 (Iraqi)¹⁰³

b. we:n l-ʃabb_i lli umm ha-l-ħma:r*_{i/j} b-titmanna
 where the-guy_i that mother this-the-idiot.M.SG*_{i/j} IND-hopes.3.F.SG

nwaʒ^ʕz^ʕif-**u**_i?
 hire.1.PL-**him**_i
 (lit.) ‘Where is the guy_i that the idiot*_{i/k}’s mother hopes we hire him_i?’
 (Syrian)

c. he:ða l-tfol_i elli omm ha-l-bhi:m*_{i/k} tətmanna nxaddmu:-**h**_i.
 this the-boy_i that mother this-the-idiot.M.SG*_{i/j} hopes.3.F.SG hire.1.PL-**him**_i
 (lit.) ‘This is the boy_i that the idiot*_{i/k}’s mother hopes we hire him_i.’
 (Tunisian)

Furthermore, *secondary* crossover effects can be detected using the epithet strategy: an embedded *wh*-phrase cannot covary with an epithet which (is contained in a DP which) c-commands the variable site of the \bar{A} -dependency, whether the \bar{A} -bound variable is a resumptive pronoun or a gap. The following examples illustrate with data from Syrian and Iraqi Arabic.¹⁰⁴

(139) *Secondary strong crossover with epithets in wh-questions...*

a. ... *with gaps*

i. tuʕurf:n [sajja:rat [minu min-hum]_i]_k aqnaʕat
 know.2.F.SG [car.F.SG [who from-them]_i]_k convinced.3.F.SG
 l-ʃurt^ʕa ha-l-xibil*_{i/j} innu ligat _____k?
 the-police.F.SG this-the-idiot.M.SG*_{i/j} that found.3.F.SG
 ‘Do you know [whose_i car]_k the police convinced the idiot*_{i/j} that they found _____k?’
 (Iraqi)

ii. b-taʕrifi [sajja:rat ajja wa:ħid_i]_k xabbarit
 IND-know.2.F.SG [car.F.SG which one.M.SG_i]_k informed.3.F.SG
 l-ʃurt^ʕa ha-l-ħma:r*_{i/j} innu liʔat _____k?
 the-police.F.SG this-the-idiot*_{i/j} that found.3.F.SG
 ‘Do you know [which person_i’s car]_k the police informed the idiot*_{i/j} that

103. See also Jassim (2011, 38, (68)).

104. Recall that secondary crossover cannot be directly tested in Arabic relative clauses because Arabic lacks overt relative pronouns.

they found ____k?’ (Syrian)

b. ... *with resumptives*

- i. tuʃurfi:n [sajja:rat [minu min-hum]_i]_k aqnaʕat
know.2.F.SG [car.F.SG [who from-them]_i]_k convinced.3.F.SG
l-ʃurt^ʕa ha-l-xibil*_{i/j} innu ligat-**ha**_k?
the-police.F.SG this-the-idiot*.M.SG*_{i/j} that found.3.F.SG-**it.F.SG**_k
(lit.) ‘Do you know [whose_i car]_k the police convinced the idiot*_{i/j} that
they found it_k?’ (Iraqi)
- ii. b-taʕrifi [sajja:rat ajja wa:ħid_i]_k xabbarit
IND-know.2.F.SG [car.F.SG which one.M.SG_i]_k informed.3.F.SG
l-ʃurt^ʕa ha-l-ħma:r*_{i/j} innu liʔat-**ha**_k?
the-police.F.SG this-the-idiot*_{i/j} that found.3.F.SG-**it.F.SG**_k
(lit.) ‘Do you know [which person_i’s car]_k the police informed the idiot*_{i/j}
that they found it_k?’ (Syrian)

(140) *Secondary weak crossover with epithets in wh-questions...*

a. ... *with gaps*

- i. tuʃurfi:n [sajja:rat [minu min-hum]_i]_k aqnaʕat
know.2.F.SG [car.F.SG [who from-them]_i]_k convinced.3.F.SG
l-ʃurt^ʕa ʕa:ʔilat ha-l-xibil*_{i/j} innu ligat ____k?
the-police.F.SG family this-the-idiot*_{i/j} that found.3.F.SG
(int.) ‘Do you know [whose_i car]_k the police convinced the idiot*_{i/j}’s
family that they found ____k?’ (Iraqi)
- ii. b-taʕrifi [sajja:rat ajja wa:ħid_i]_k xabbarit
IND-know.2.F.SG [car.F.SG which one.M.SG_i]_k informed.3.F.SG
l-ʃurt^ʕa ʕa:ʔilat ha-l-ħma:r*_{i/j} innu liʔat ____k?
the-police.F.SG family this-the-idiot*_{i/j} that found.3.F.SG
‘Do you know [which person_i’s car]_k the police informed the idiot*_{i/j}’s
family that they found ____k?’ (Syrian)

b. ... *with resumptives*

- i. tuʃurfi:n [sajja:rat [minu min-hum]_i]_k aqnaʕat
know.2.F.SG [car.F.SG [who from-them]_i]_k convinced.3.F.SG
l-ʃurt^ʕa ʕa:ʔilat ha-l-xibil*_{i/j} innu ligat-**ha**_k?
the-police.F.SG family this-the-idiot*_{i/j} that found.3.F.SG-**it.F.SG**_k
(int.) ‘Do you know [whose_i car]_k the police convinced the idiot*_{i/j}’s
family that they found it_k?’ (Iraqi)
- ii. b-taʕrifi [sajja:rat ajja wa:ħid_i]_k xabbarit
IND-know.2.F.SG [car.F.SG which one.M.SG_i]_k informed.3.F.SG

(to be revised)
 DP_[wh] μ_i [... [Island ... EPITHET_i ...]]
 ↖----- \bar{A} -bind-----↗

The following data illustrate the generalization in (142) with Syrian Arabic data: an epithet like *ha-l-ħma:ra* ‘the idiot (F.SG)’ can only resume a *wh*-phrase across an island boundary, such as an adjunct island ((143a)) or a relative clause island ((143b)).¹⁰⁷

(143) *Syrian Arabic: epithets can be directly \bar{A} -bound across a strong island boundary*

a. *Adjunct island*

b-titzakkiri ajja binit_i ma kənti ħa:d^firi lamma
 IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG when
 ʕarrafna { *___i / -**ha**_i / **ha-l-ħma:ra**_i } ʕa-l-raʕis?
 introduced.1.PL { / -**her**_i / **this-the-idiot.F.SG**_i } to-the-president
 (lit.) ‘Do you remember which girl_i you were absent when we introduced
 { *___i / her_i / the idiot_i } to the president?’ (Syrian)

b. *Relative clause island*

b-titzakkiri ajja binit_i ma kənti ħa:d^firi l-yom_m
 IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG the-day_m
 lli ʕarrafna { *___i / -**ha**_i / **ha-l-ħma:ra**_i } ʕa-l-raʕis fi:∅_m?
 that introduced.1.PL { / -**her**_i / **this-the-idiot**_i } to-the-present in-it_m
 (lit.) ‘Do you remember which girl_i you were absent the day that we intro-
 duced { *___i / her_i / the idiot_i } to the president?’ (Syrian)

To account for the restricted distribution of resumptive epithets, I propose the principle of *Epithet \bar{A} -disjointness* (adapting the term ‘ \bar{A} -disjointness’ from Aoun and Li, 1990 and

107. The failure of parasitic gap licensing in clauses above the island containing the resumptive epithet illustrated by (i) shows that epithet resumptives are also formed via a base-generated binding dependency and not via a mixed chain (contra Demirdache and Percus, 2011, 2012):

(i) *Parasitic gaps are not licensed in clauses above the island containing a resumptive epithet in Syrian*

- a. ajja ka:tib_i ʕiʕtaʕadti [CP ʕin-ni raħ aħibb l-kutub_k [RC Island lli
 which author_i suspect.2.F.SG that-1.SG FUT like.1.SG the-books that
ha-l-ħmar_i katab-hon_k] [min ʕabl ma aʕu:f-u_i]?
this-the-idiot_i wrote.3.M.SG-them from before C see.1.SG-him_i
 (lit.) ‘Which author_i did you suspect [CP that I would like the books_k [RC Island that he wrote
 them_k] [before I ever met him_i]?’
- b. *ajja ka:tib_i ʕiʕtaʕadti [CP ʕin-ni raħ aħibb l-kutub_k [RC Island lli
 which author_i suspect.2.F.SG that-1.SG FUT like.1.SG the-books that
ha-l-ħmar_i katab-hon_k] [min ʕabl ma aʕu:f pg_i]?
this-the-idiot_i wrote.3.M.SG-them from before C see.1.SG
 (int.) ‘Which author_i did you suspect [CP that I would like the books_k [RC Island that he wrote
 them_k] [before I ever met pg_i]?’

McCloskey, 1990, 2017)¹⁰⁸ in (144) (see Aoun and Choueiri, 2000, 21, (35) and references cited therein for related proposals).

(144) **Epithet \bar{A} -disjointness**

An epithet may not be μ -bound by the minimally c-commanding μ .

Like Condition B of the Binding Theory (see (91)), Epithet \bar{A} -disjointness imposes a minimal distance requirement on certain bound anaphoric elements and their binders; specifically, Epithet \bar{A} -disjointness forbids epithets from being bound by the most local, c-commanding μ -binder.¹⁰⁹ We can thus revise our descriptive generalization from (142) as follows:¹¹⁰

108. Note that these authors intend by the term ‘ \bar{A} -disjointness’ a distinct principle, one of whose results is to derive the ban in some languages on resuming the highest subject in an \bar{A} -dependency (i.e. the *Highest Subject Restriction*). See Rouveret (2018, 289, (27)) for a related account of the obligatory presence of gaps in highest subject and object positions in Literary Welsh \bar{A} -extraction.

109. Alternatively, see Aoun et al. (2001, 385, (35)) for the proposal that strong pronouns and epithets can only resume quantificational antecedents in contexts where \bar{A} -movement is independently ruled out. This proposal comes closer to the generalization that epithets (and strong pronouns) can only function resumptively inside islands.

110. Given the way that I define Epithet \bar{A} -disjointness in (144), we predict that it is not islands *per se* which license \bar{A} -binding of epithets, but rather the presence of an intervening \bar{A} -binder. We therefore expect that epithet resumptives should also be unacceptable in non-operator islands. Unfortunately, I have had difficulty in definitively identifying true non-operator islands in Syrian Arabic. \bar{A} -dependencies spanning a CP complement to N boundary prefer (pronominal) resumption, though gaps are judged to be moderately acceptable as well; epithets, however, are completely unacceptable in such contexts.

- (i) *\bar{A} -dependencies spanning CP complements to N prefer (pronominal) resumption, permit gaps, and forbid epithet resumption*

ajja la:ʕibin_i samaʕti ʔifa:ʕa innu na:di Syria ixta:r {?____i / **-hon_i** /
 which players_i heard.2.F.SG rumor.F.SG that club Syria chose.3.M.SG { / **-them_i** /
 ***ha-l-ħami:r_i**} li-kaʔs l-ʕa:lam?
 ***these-the-idiots_i**} for-cup the-world
 (lit.) ‘Which players_i did you hear a rumor that Club Syria chose {?____i / them_i / *the idiots_i}
 for the World Cup?’ (Syrian)

The same basic set of judgments holds when the CP complement to N is embedded within a DP in a post-verbal subject position, suggesting that such subjects are likewise not strong islands in Syrian Arabic:

- (ii) *\bar{A} -dependencies spanning CP complements to N in subject position prefer (pronominal) resumption, permit gaps, and forbid epithet resumption*

ajja la:ʕibim_i zaʕaʕet-ik l-ʔifa:ʕa innu na:di Syria ixta:r {?____i /
 which players bothered.3.F.SG-2.F.SG the-rumor.F.SG that club Syria chose.3.M.SG { /
-hon_i / ***ha-l-ħami:r_i**} li-kaʔs l-ʕa:lam?
-them_i / ***these-the-idiots_i**} for-cup the-world
 (lit.) ‘Which players_i did the rumor that Club Syria chose {?____i / them_i / *the idiots_i} for the
 World Cup bother you?’ (Syrian)

- (145) *Epithets can be directly \bar{A} -bound by a quantifier across another μ in Arabic (final)*
 DP_[wh] μ_i [... [μ_k ... EPITHET _{i} ...]]
 \----- \bar{A} -bind-----^

The finding in (143) that epithets can be \bar{A} -bound in at least some cases supports our hypothesis that epithets can be used to detect crossover effects in Arabic, as epithets are not inherently incompatible with bound readings. I conclude that (135)–(140) reveal true (primary and secondary, weak and strong) crossover effects with epithets under resumption.

Now, because epithets can function resumptively inside islands, we cannot test primary crossover with in-island resumption when the epithet is also embedded within an island, as

Reinforcing this conclusion, we can see that gap-leaving extraction out of complex event nominals in a post-verbal subject position is possible as well ((iia)); as expected, only pronominal resumptives (and not epithet resumptives) are acceptable in such environments ((iib)).

- (iii) *\bar{A} -dependencies out of complex event nominals in post-verbal subject position permit gaps and pronominal resumption, but forbid epithet resumption*
- a. [li-ajja la:ʕibin] _{i} zaʕaʕet-ik tinʔa:jet na:di Syria ___ _{i} ?
 [to-which players] _{i} bothered.3.F.SG-2.F.SG hiring club Syria
 ‘Of which players _{i} did [Club Syria’s hiring ___ _{i}] bother you?’ (Syrian)
- b. ajja la:ʕibin _{i} zaʕaʕet-ik tinʔa:jet na:di Syria {ʔil-hon _{i} /
 which players _{i} bothered.3.F.SG-2.F.SG hiring club Syria {to-them _{i} /
 *l-ha-l-ħamir _{i} ?
 *to-these-the-idiots _{i} ?
 (lit.) ‘Which players _{i} did [Club Syria’s hiring {them _{i} / *the idiots _{i}] bother you?’ (Syrian)

The final potential non-operator island I have tested is coordinate structures. Since Ross’ (1967) seminal work, coordinate structures have frequently been taken to be strong islands (though see Georgi and Amaechi, 2022, 62, fn. 51 for non-syntactic reinterpretations of both parts of the Coordinate Structure Constraint), and these too presumably lack an independent operator (though some approaches posit null operator movement in the second conjunct only under ATB-extraction, e.g. Munn, 1993). Hence, Epithet \bar{A} -disjointness leads us to predict that only pronominal resumptives should be licit when a single conjunct is questioned. Example (iv) shows that, although gaps are impossible and pronominal resumption is perfectly licit, epithets are judged to be very marginal, though not completely unacceptable:

- (iv) *\bar{A} -dependencies whose variable site is a single conjunct forbid gaps, permit pronominal resumption, and very marginally allow epithet resumption*
- ajja binit _{i} b-taʕtaʕidi [{*_ _{i} / hijja _{i} / ??ha-l-ħma:ra _{i} } w Matt] b-jalbiʔu
 which girl _{i} IND-think.2.F.SG [{*_ _{i} / she _{i} / ??this-the-idiot.F.SG _{i} } and Matt] IND-fit.3.PL
 li-baʕd^s?
 to-each.other
 (lit.) ‘Which girl _{i} do you think [{*_ _{i} / she _{i} / ??the idiot _{i} } and Matt] fit each other?’ (Syrian)

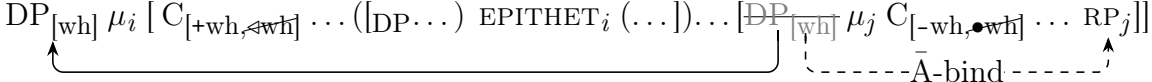
Given the somewhat murky nature of \bar{A} -dependencies spanning non-operator islands in Arabic, I provisionally maintain the hypothesis that epithet resumptives are only permissible in operator islands ((144)), pending a fuller investigation.

crossover emerge in island-spanning \bar{A} -dependencies when the crossed epithet is outside of the island.

- (149) *Primary strong crossover with epithets and in-island resumption*
 ajja kartib_i xabbarti ha-l-ħma:r*_{i/j} innu b-aħibb l-kutub_m
 which author_i informed.2.F.SG this-the-idiot*_{i/j} that IND-like.1.SG the-books_m
 lli **pro**_i katab-hon_m?
 that wrote-them_m
 (lit.) ‘Which author_i did you inform the idiot*_{i/j} that I like the books_m that he_i wrote them_m?’ (Syrian)
- (150) *Primary weak crossover with epithets and in-island resumption*
 ajja kartib_i xabbarti [umm ha-l-ħma:r*_{i/j}] innu b-aħibb
 which author_i informed.2.F.SG [mother this-the-idiot*_{i/j}] that IND-like.1.SG
 l-kutub_m lli **pro**_i katab-hon_m?
 the-books_m that wrote-them_m
 (lit.) ‘Which author_i did you inform the idiot*_{i/j}’s mother that I like the books_m that he_i wrote them_m?’ (Syrian)

What’s more, given that Arabic does not have recourse to mixed base-generation-then-movement chains (see section §3.5)—a fact I have accounted for by proposing that the lexicon of Arabic lacks intermediate C_[-wh] bearing a [•wh]—we should not be tempted to posit \bar{A} -movement from the edge of an intermediate clause which crosses the coconstrued epithet outside of the island, as in (151):¹¹¹

- (151) **A MIXED CHAIN ABSENT FROM SYRIAN ARABIC**

$$\text{DP}_{[\text{wh}]} \mu_i [\text{C}_{[+\text{wh}, \leftarrow \text{wh}]} \dots ([\text{DP} \dots] \text{EPITHET}_i (\dots)) \dots [\text{DP}_{[\text{wh}]} \mu_j \text{C}_{[-\text{wh}, \bullet \text{wh}]} \dots \text{RP}_j]]$$


The results of my investigations into crossover effects with epithets in Arabic resumptive \bar{A} -dependencies are summarized in (152).

- (152) *Crossover effects with epithets in gapped and resumptive dependencies Arabic varieties*

111. Though, as noted in section §7.3, such a move does seem warranted to account for the primary strong crossover effects documented by Salzmann (2017b) for long-distance resumptive relativization in Swiss German and by Finer (1997) for Selayarese long-distance resumptive *wh*-questions (see footnote 10).

	Type of \bar{A} -dependency	Primary WCO w/ epithets?	Primary SCO w/ epithets?	Secondary WCO w/ epithets?	Secondary SCO w/ epithets?
Iraqi Arabic	(<i>wh</i> -question)	Yes	Yes	Yes	Yes
	(restrictive relative)	Yes	Yes	N/A	N/A
Syrian Arabic	(<i>wh</i> -question)	Yes	Yes	Yes	Yes
	(restrictive relative)	Yes	Yes	N/A	N/A
Tunisian Arabic	(<i>wh</i> -question)	Yes	Yes	–	–
	(restrictive relative)	Yes	Yes	N/A	N/A

‘–’ indicates that I did not acquire the relevant data.

As previously mentioned, secondary crossover effects with epithets are accounted for if indirect \bar{A} -binding does not exist (see section §7.6). The next section turns to the analysis of primary crossover and the Bijection Principle.

7.7.2 Primary crossover through restrictions on β -binding and Bijection

The aim of this section is to put forth a general account of primary crossover effects in movement-derived and base-generated \bar{A} -dependencies. I first demonstrate that primary crossover effects with crossed epithets are accounted for by Epithet \bar{A} -disjointness (144): epithets can only be \bar{A} -bound across another intervening μ -binder, hence epithets outside of islands cannot covary with a DP in an \bar{A} -position. I then argue that two independent constraints are needed to account for primary crossover effects in gapped \bar{A} -dependencies with crossed pronouns. First, as argued by Büring (2004), the lack of β -binding from \bar{A} -positions blocks one possible route to circumventing primary crossover effects with crossed pronouns. This restriction on its own, however, is insufficient: nothing I have said so far restricts the number of variables bound by a single operator, and thus my analysis predicts that primary crossover should be obviated in many cases in which it is not. Consequently, I argue that the Bijection Principle (Koopman and Sportiche, 1982) is needed to constrain

\bar{A} -binding dependencies, contra especially Safir (1984, 1986, 1996, 2004b). Section §7.7.3 will present independent evidence in support of Bijection and against the existence of co- \bar{A} -binding.

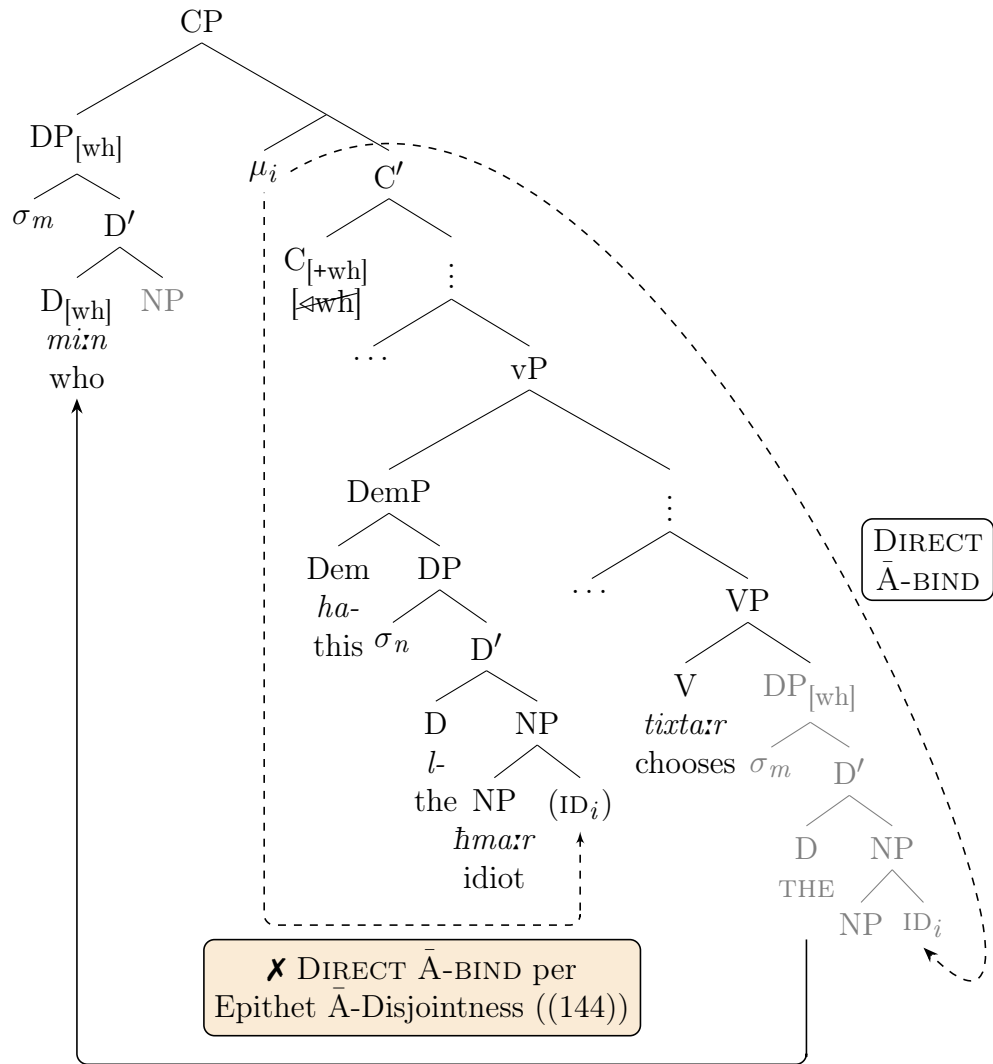
Primary crossover effects in \bar{A} -dependencies with crossed epithets

Let us begin by analyzing the primary strong crossover effect in the Syrian Arabic *wh*-question in (153).

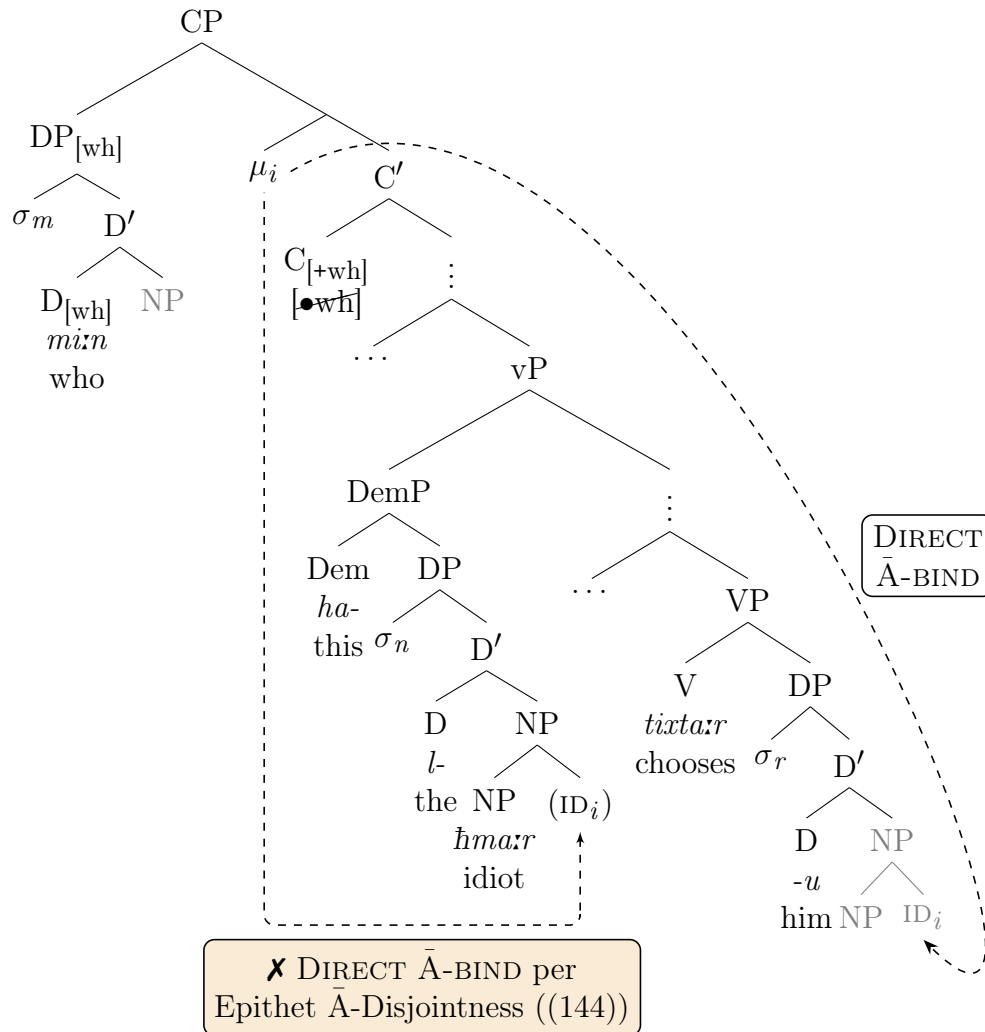
- (153) *Primary strong crossover with epithets in Syrian Arabic wh-questions with gaps and resumptives*
- | | | | | |
|------------------|-----------|------------------|--|-------------------------------------|
| bidd-i | aʕrif | min _i | bi-tfakkiri | ha-l-ħma:r* _{i/j} |
| want-1.SG | know.1.SG | who _i | IND-think.2.F.SG | this-the-idiot.M.SG* _{i/j} |
| b-jitmanna | Joni | tixtar | { <u> </u> _i / - u _i } | |
| IND-hopes.3.M.SG | Joni | choose.3.F.SG | { <u> </u> / - him _i } | |
- (lit.) ‘I want to know who_i you think the idiot*_{i/j} hopes Joni chooses (him_i).’

We saw in the previous section that epithets cannot resume *wh*-phrases in non-island contexts. I accounted for this fact via Epithet \bar{A} -disjointness: the μ -binder adjoined immediately below *min* ‘who’ will only be able to bind the indexed ID morpheme within the trace ((154)) or the resumptive pronoun ((155)); μ cannot bind an indexed ID morpheme within the epithet *ha-l-ħma:r* ‘the idiot’ because no other μ -binder intervenes. Consequently, there is no route to coconstrual between *min* and *ha-l-ħma:r*. For concreteness, I assume that demonstratives like proclitic *ha-* ‘this’ project an independent Dem(onstrative)P structure (though see Aoun and Choueiri, 2000 for a different approach to the internal structure of epithets in Arabic).

- (154) I want to know. . .



(155) I want to know...



The account of primary weak crossover effects as in (156) will be the same: the epithet *ha-l-hmar* ‘the idiot’ (which is in this case embedded inside a DP which c-commands the variable site) cannot be μ -bound in the absence of another intervening μ .

- (156) *Primary weak crossover with epithets in Syrian Arabic wh-questions with gaps and resumptives*
- bidd-i aʕrif mi:n_i bi-tfakkiri umm ha-l-hmar:_{*i/j}
 want-1.SG know.1.SG who_i IND-think.2.F.SG mother this-the-idiot.M.SG_{*i/j}
 b-titmanna nwaz^{ʕzʕ}if {___i / -u_i}.
 IND-hopes.3.F.SG hire.1.PL { / -him_i }
 (lit.) ‘I want to know who_i you think the idiot_{*i/j}’s mother hopes we hire (him_i).’

My analysis therefore succeeds in accounting for all of the primary crossover effects with

epithets discussed thus far in this section.

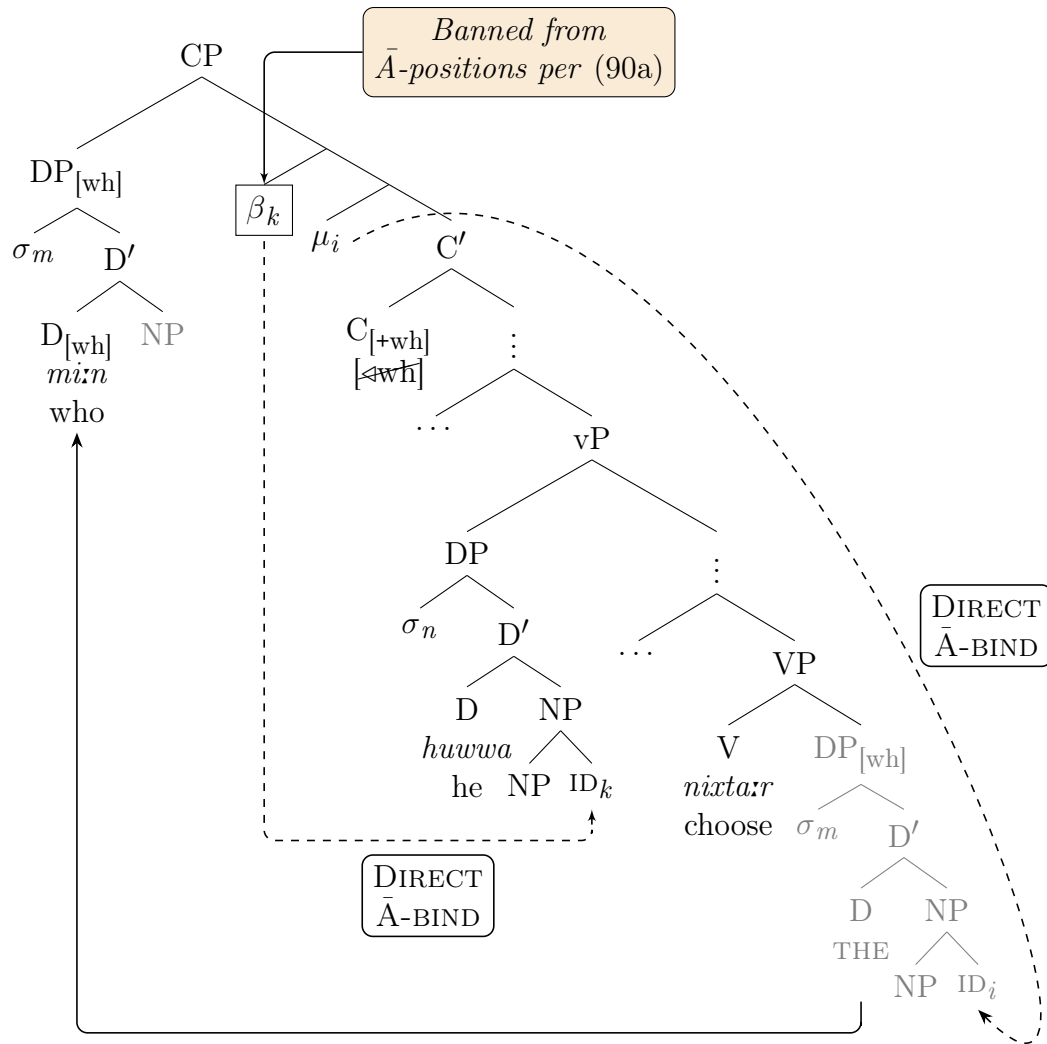
Primary crossover effects in gapped \bar{A} -dependencies with crossed pronouns

Consider now run-of-the-mill primary strong and weak crossover effects in gapped *wh*-questions with crossed pronouns, as in (157) and (158):

- (157) *Primary strong crossover in Syrian gapped wh-questions*
 min_i b-jaʕtaʕid {pro*_{i/j} / huwwa*_{i/j}} raħ nixta:r ____i li-l-liʕbi?
 who_i IND-thinks.3.M.SG {pro*_{i/j} / he*_{i/j}} FUT choose.1.PL for-the-game
 ‘Who_i does he*_{i/j} think we will choose ____i for the game?’
- (158) *Primary weak crossover in Syrian gapped wh-questions*
 min_i b-taʕtaʕid uxt-u*_{i/j} raħ nixta:r ____i li-l-liʕbi?
 who_i IND-thinks.3.F.SG sister-his*_{i/j} FUT choose.1.PL for-the-game
 ‘Who_i does his*_{i/j} sister think we will choose ____i for the game?’

I submit that two independent constraints are needed to prevent the crossed pronoun (i.e. *pro/huwwa* ‘he’ in (157) and *-u* ‘his’ in (158)) from covarying with the *wh*-operator *min* ‘who.’ First, as Buring (2004) argues, it is necessary to block a parse of these examples in which a β -prefix which binds the crossed pronoun is stacked on top of the μ -prefix which binds the trace of *wh*-movement, thereby circumventing the observed primary crossover effect (see section §7.6.2 for additional discussion of the stacking possibilities of binder prefixes). Such a parse is ruled out by the β -prefixation rule in (90a), which confines β -binders to \bar{A} -positions. Since the *wh*-phrase *min* ‘who’ occupies an \bar{A} -position, β cannot be adjoined immediately below it. Example (159) illustrates a failed parse of (157) which attempts to circumvent primary strong crossover through β -binding from an \bar{A} -position.

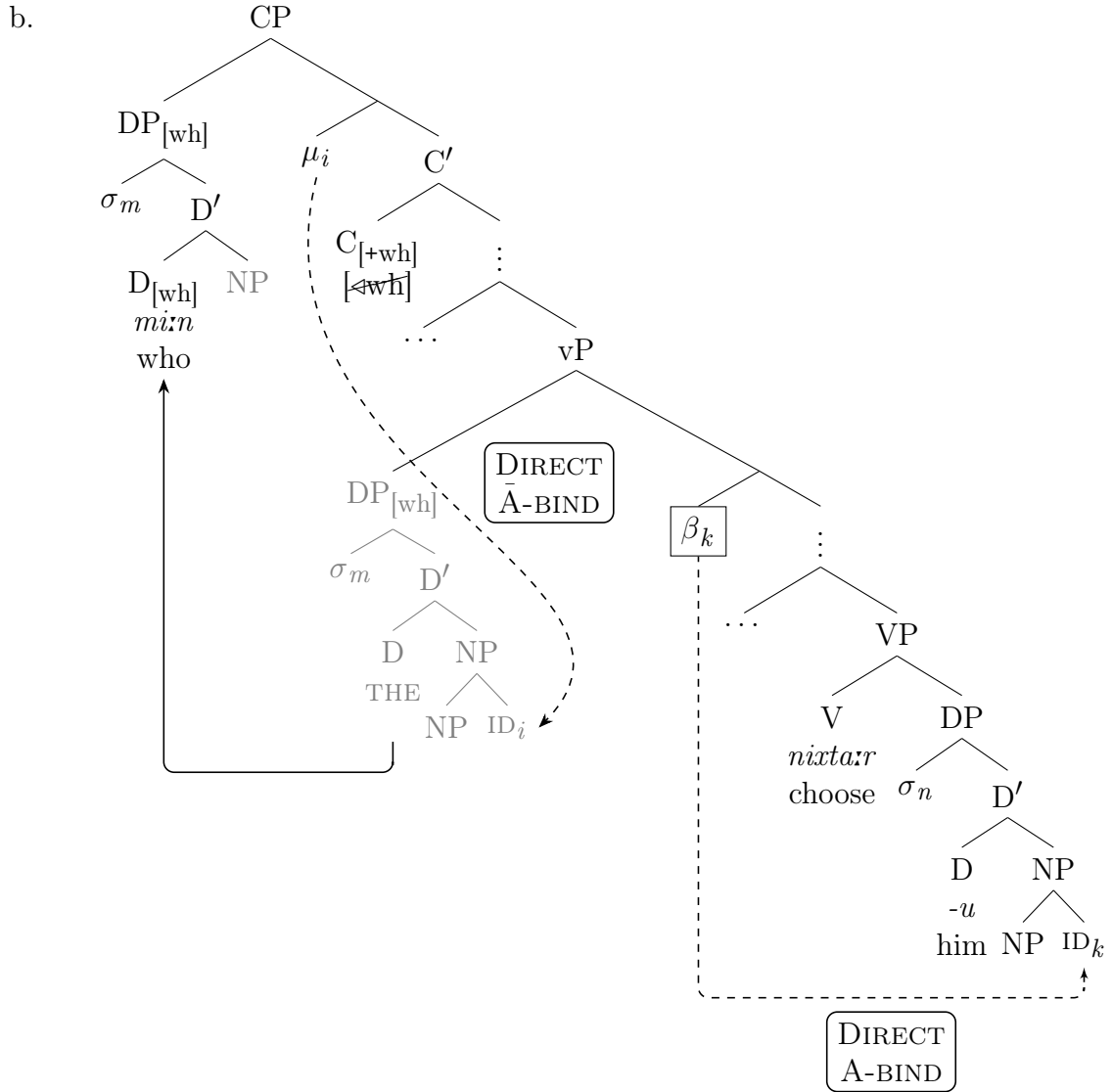
- (159) *Failed parse of (157) circumventing primary strong crossover through the stack of binders ‘ $\beta > \mu$ ’ in an \bar{A} -position*



If the positions of the gap and the pronoun are reversed, as in (160), the gap will be able to β -bind the lower pronoun from an A-position and we correctly predict no primary crossover violation to arise:¹¹²

- (160) a. min_i b-jaʕtaʕid $__i$ raħ nixta:r-u $_i$ li-l-liʕbi?
 who $_i$ IND-thinks.3.M.SG FUT choose.1.PL-him $_i$ for-the-game
 ‘Who $_i$ $__i$ thinks we will choose him $_i$ for the game?’ (Syrian)

112. I assume a post-verbal position for the lower copy of the subject *wh*-phrase, though this assumption is not necessary. Note that it is not possible to reverse the order of variables in (158) because gap-leaving extraction is impossible with possessors (see (22)).

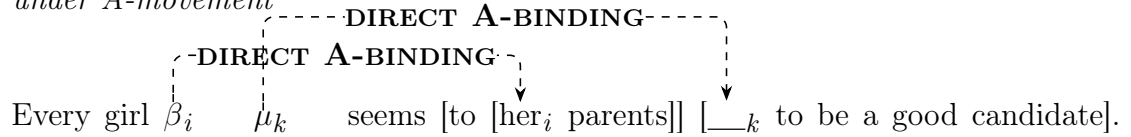


The same positional constraint on β -binding rules out circumventing primary weak crossover in (158) by stacking β on top of μ in an \bar{A} -position; I omit an explicit derivation along these lines for brevity.

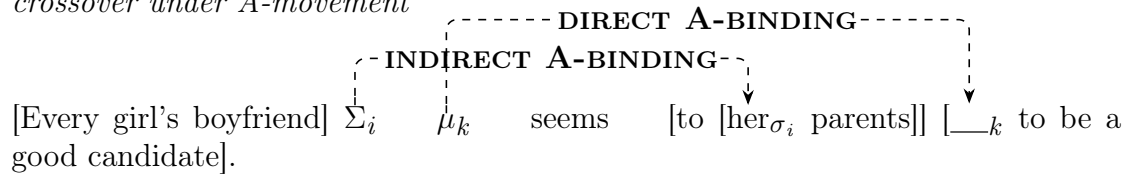
It is illustrative at this juncture to contrast the prefixing possibilities in \bar{A} -positions with those in A-positions. While β and Σ are banned from adjoining to the sister of an \bar{A} -position (see (90a) and (96a), respectively), they can be stacked together with μ under a DP in an A-position—this is what accounts for the well-known fact that A-movement (which triggers obligatory μ -binding of the lower copy of the A-moved phrase) does not exhibit primary or secondary crossover effects (see also Büring, 2005, 244–246). The examples in (161)–(162)

illustrate how binder prefix stacking accounts for the obviation of primary and secondary weak crossover in English A-movement:¹¹³

(161) $\beta > \mu$ prefix stacking in A-positions accounts for the lack of primary weak crossover under A-movement



(162) $\Sigma > \mu$ prefix stacking in A-positions accounts for the lack of secondary weak crossover under A-movement



Unfortunately, the proposed positional restriction on β -binding does not rule out alternative parses of the primary crossover configurations in (157) and (158) in which a single μ -binder binds both the pronoun and the *wh*-trace, thereby obviating the expected primary crossover effect. The problem in a nutshell is this: both pronouns and traces can be bound by operators in \bar{A} -positions in Arabic; hence, if multiple variables (i.e. multiple indexed ID morphemes) could be co- \bar{A} -bound by one μ -binder, then we would incorrectly predict

113. Demonstrating that primary and secondary *strong* crossover effects are absent under A-movement requires a bit more work. The experiencer of a raising predicate like *seem* is often claimed to c-command into the following complement clause on the basis of Condition C effects (e.g. Reinhart, 1983a, 53, 175; Chomsky, 1995b, 304; Pesetsky, 1995, 105; McGinnis, 1998, 201; Boeckx, 2001, 533); for instance, *Joni* must be disjoint in reference with the *to*-experiencer *her* in (i).

- (i) *Mike_k seems to her_i $\underline{\quad}_k$ to be the biggest supporter of Joni_i's team.

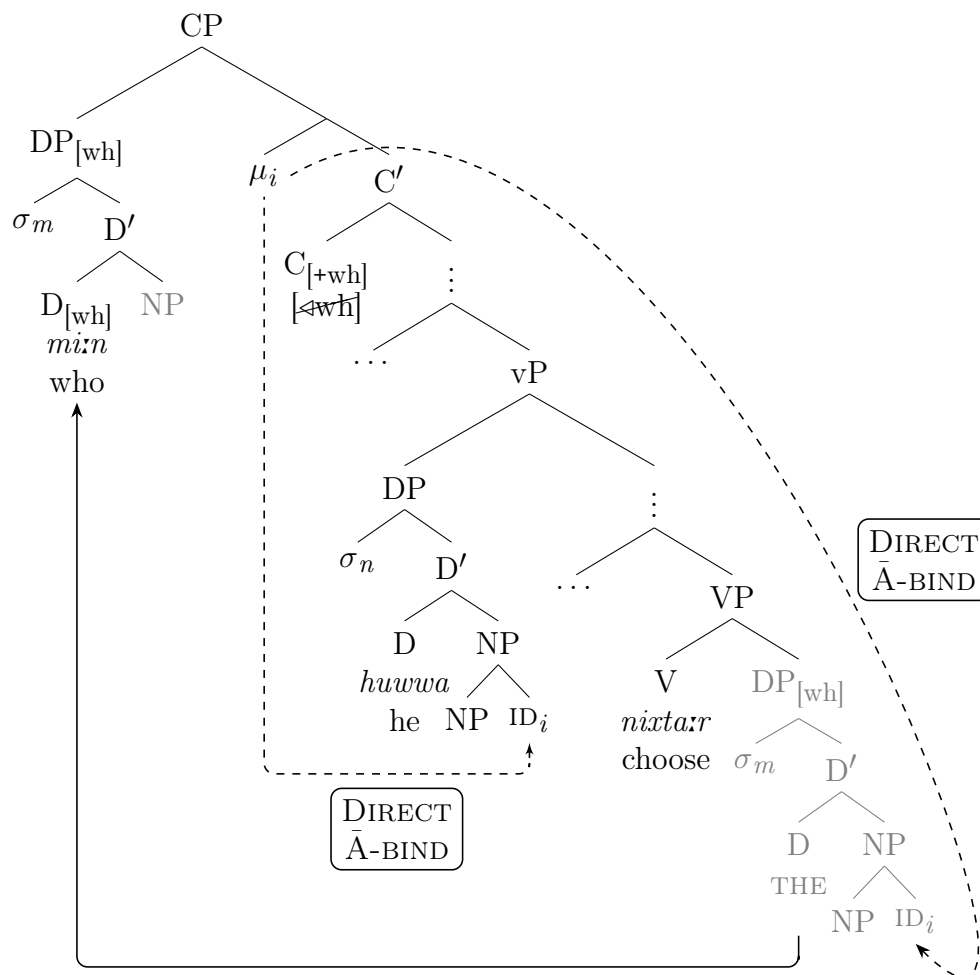
Given this, the fact that a quantifier which (is contained in a DP which) undergoes A-movement can be coconstructed with an intervening *to*-experiencer would seem to suggest that A-movement obviates primary ((ii)) and secondary ((iii)) strong crossover.

- (ii) Every girl_i seems to herself_i $\underline{\quad}_i$ to be the biggest supporter of her_i team.
 (iii) [Every girl_i's parents]_k seem to her_i $\underline{\quad}_k$ to be the biggest supporters of her_i team.

However, see Epstein and Seely (2006, 134–139) for several (admittedly tentative) arguments that *to*-experiencers do *not* c-command into the lower clause, coming from failed NPI-licensing and failed variable binding, among others. If correct, their arguments would suggest that (ii)–(iii) illustrate primary and secondary *weak*, rather than *strong*, crossover obviation, paralleling examples (161)–(162).

that pronouns and traces could be bound in parallel in Arabic (and in other languages with base-generated binding dependencies).¹¹⁴ The tree in (163) illustrates the problem for (157).

(163) *Pathological derivation of (157) circumventing primary strong crossover through co- \bar{A} -binding*



This suggests that a second constraint—*independent of the restriction of β -binding to \bar{A} -positions*—is necessary to rule out co- \bar{A} -binding and to account for primary crossover effects.

Alternative accounts of crossover will not be of help in resolving this issue. I previously rejected accounts that derive crossover from inherent differences between trace-binding and

114. Buring (2004) does not consider this possibility because he does not discuss μ -binding of resumptive pronouns.

pronoun-binding (e.g. Sauerland, 1998, 2004; Ruys, 2000; van Urk, 2015; Douglas, 2016), in part because pronouns clearly *can* be \bar{A} -bound in Arabic—this is just resumption. Hence, there does not appear to be a non-stipulative way to rule out \bar{A} -binding of a trace in parallel to a resumptive pronoun, as in (163).¹¹⁵ Additionally, accounts which reduce strong crossover

115. Safir’s (2004b) account of crossover similarly falls short when extended to account for crossover effects under resumption, as his account was explicitly constructed to allow resumption to obviate crossover (Safir, 2004b, 73–74, 94–95, 114–121; see footnote 39 for additional discussion of some of Safir’s English facts). Safir abandons syntactic binding through indices in favor of a dependency marking mechanism (based on Higginbotham’s 1983; 1985 linking-based framework) which represents referentially dependent relations via asymmetric linkages (orthographically, lines anchored on the antecedent of the dependency). Safir accounts for (strong and weak, primary and secondary) crossover via his *Independence Principle* ((i)) and the *Quantifier Dependency Condition* ((ii)), with the associated definition of a q-variable in (iii):

- (i) **Independence Principle**
If x (or z containing x) c-commands y , then x cannot depend on y . (Safir, 2013, 523, (18))
- (ii) **Quantifier Dependency Condition**
 x can be interpreted as dependent on a quantified antecedent y only if x is a q-variable of y or x is dependent on a q-variable of y , or there is no q-variable of y . (Safir, 2004b, 72, (28))
- (iii) *Q-variable*
 α is a q-variable if α replaces the deleted copy of an operator. (Safir, 2004b, 71, (25))

Safir accounts for a secondary weak crossover effect as in English **[Which girl’s parents] does her gerbil despise which girl’s parents?* (with intended coconstrual indicated via underlining) as follows. 1. The lower copy of *which girl’s parents* is a q-variable per (iii), hence can (indeed, must) be interpreted as dependent on the higher copy per (ii). 2. In order for the embedded pronoun *her* to be interpreted as dependent on either copy of the operator, it must satisfy both (i) and (ii); the only applicable clause from (ii) requires *her* to be dependent on the lower copy of the operator—a q-variable—but this is ruled out by (i) because *her gerbil* c-commands the q-variable. Consequently, *her* cannot depend on *which girl*(’s parents).

If Safir’s analysis were to be extended to the secondary crossover effects under base-generated resumption in Arabic documented in section §7.4, then resumptive pronouns would also need to be q-variables. However, once we admit this option, Safir’s account similarly loses its explanation of primary crossover effects under gapped *wh*-movement in Arabic. This is because, if both (resumptive) pronouns and gaps can function as q-variables, then both should be able to be referentially dependent on the high *wh*-phrase, thereby circumventing crossover.

I will additionally point out that “c-commands” in (i) must be revised to “*asymmetrically* c-commands” in order to account for even the most basic instances of quantifier dependent readings of traces of *wh*-movement, as in (iv): the gap ‘ $__x$ ’ is contained within a constituent (i.e. C'_z) which c-commands the quantifier *who_y*, hence the gap should not be able to depend on *who_y* per (i), contrary to fact.

- (iv) $[_{CP} \text{Who}_y [_{C'_z} \text{did you see } __x]]?$

This issue is resolved if we restrict independence to those cases in which x (or z containing x) asymmetrically c-commands y . Yet even this revised definition fails to account for quantifier dependent readings of bound pronouns contained in phrases adjoined to the right of, and to a position c-commanding, an \bar{A} -bound trace (see the examples in footnote 2). This is notable because, in other work, Safir has proffered a more narrowly defined version of his Independence Principle, one of whose advantages (pointed out explicitly in Safir, 2004b, 74–75) is that it allows bound pronouns in rightward non-nominal adjuncts to depend on traces of *wh*-movement to their left which do not c-command them: “if x depends on y , then neither x nor a nominal

to Condition C reconstruction (e.g. Chomsky, 1981; Lasnik and Funakoshi, 2017) will fail to generalize to primary weak crossover effects as in (158) and are therefore insufficient.¹¹⁶

The solution that I will pursue instead has two crucial ingredients. First, every μ -binder must bind one and only one ID morpheme with a matching index, and every μ -bound ID morpheme can be bound by one and only one μ -binder. This is the Bijection Principle of Koopman and Sportiche (1982). I propose to formulate the Bijection Principle as in (164):¹¹⁷

z dominating x can c-command y" (Safir, 2008; emphasis added; for similar definitions, see Safir, 2004b, 52, 69 and Safir, 2019, 310, (42)). This more restrictive definition faces other non-trivial issues, however (see Sauerland, 2007, 901–902 for discussion).

^{116.} Safir's (1984) *Parallelism Constraint on Operator Binding* (PCOB) or his later (1996) principle of \bar{A} -Consistency could be used to explain these facts. However, both require wholly new definitions of binding which are sensitive to the feature $[\alpha \text{ lexical}]$ in the case of the PCOB, or which differentiate between 'representational' and 'derivational' binding in the case of \bar{A} -Consistency. What's more, neither helps to explain the presence of secondary crossover effects with two base-generated pronouns in Arabic (see section §7.4). I will therefore set aside these alternatives.

^{117.} I must leave for future work the question whether the Bijection Principle ought to be extended to β -binding and Σ -binding. But see the excursus at the end of this section for a reanalysis of so-called exceptional co-(A-)binding in English which, unlike the previous literature, does not posit a one-to-many relation between β -binders and bound variables and which consequently is compatible with a generalized version of the Bijection Principle.

A related issue which has to my knowledge not yet received an extensive treatment concerns the fact that a single pronominal variable can be bound by multiple binders, in apparent violation of Bijection. For instance, two quantifiers can directly A-bind the same pronominal variable, in which case the pronoun bears two indices and displays resolved φ -feature agreement with its antecedents:

- (i) No professor_{*i*} told any student_{*j*} that they_{*i+j*} were meeting at six.

Due to the complexity of the examples, it is unfortunately unclear to me whether two *wh*-phrases can similarly directly \bar{A} -bind the same resumptive pronoun:

- (ii) ?? [Which of the professors]_{*i*} were you wondering [which of the students]_{*j*} we know the place that they_{*i+j*} will be meeting?

If (ii) is indeed possible, then this suggests that (\bar{A} -)binding dependencies are not *bijective* (i.e. one-to-one), as in (164), but rather are *surjective-only* (i.e. surjective and non-injective): for each μ -binder with an index, there is one and only one ID morpheme in its *c*-command domain that bears a matching index (see also Koopman and Sportiche, 1982, 146, (19)). Such a result would not invalidate the claims made in section §7.7.3, because I argue there exclusively against the possibility for a single μ -binder to bind more than one variable.

Note too that we cannot account for (i)–(ii) simply by supposing that each of the (A/ \bar{A} -)binders binds a unique index on the pronoun: if this were the case, then we would expect that mixing A- and \bar{A} -binders of a single pronoun bearing multiple indices should be possible, *ceteris paribus*. Example (iii) shows that this prediction is not borne out: a pronoun cannot be jointly bound by an \bar{A} -binder and an A-binder.

(164) **The Bijection Principle**

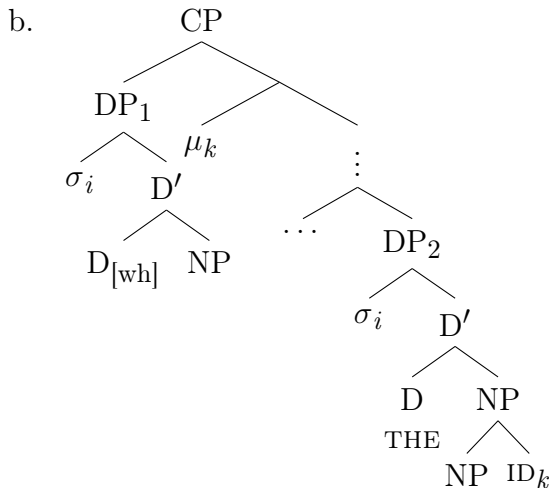
There is a bijective (i.e. one-to-one) correspondence between μ -binders and μ -bound ID morphemes.

(adapted from Koopman and Sportiche, 1982, 146, (20))

Second, I assume that trace-binding is obligatory—that is, a μ -binder that is adjoined below an \bar{A} -moved DP (or put another way, a μ -binder adjoined above C bearing [$\langle wh \rangle$]) must bind the ID morpheme inserted into the DP's lower copy:

(165) **Obligatory trace-binding constraint on μ -binding**¹¹⁸

- a. In a configuration like (165b), where DP_2 is the lower copy of movement of DP_1 , μ must bind the ID morpheme adjoined to the NP in DP_2 .



With these two analytical ingredients in place, we can now explain why primary crossover effects in gapped *wh*-questions in Arabic cannot be obviated via co- \bar{A} -binding. For instance,

-
- (iii) * Which professor_{*i*} were you content despite the fact that we didn't suggest to any student_{*j*} that they_{*i+j*} were meeting at six?

Crucially, the minimally different example in (iv) in which the \bar{A} - and A-binders bind indices on distinct pronouns is relatively acceptable, indicating that the unacceptability of (iii) must be due to illicit joint binding of the pronoun *they* by both an \bar{A} -binder and an A-binder.

- (iv) ?(?) Which professor_{*i*} were you content despite the fact that we didn't suggest to any student_{*j*} that she_{*i*} and him_{*j*} were meeting at six?

I must leave a fuller investigation of these matters to future work.

118. Something along these lines is assumed by all other work that I am aware of in generative work on binding, though it is not always formulated explicitly. See Higginbotham (1983, 410) and Reinhart (2006, 173–174) for two important antecedents.

in (158), though I omit the derivation here for the sake of space.

In summary, I contend that primary crossover effects in gapped *wh*-questions in languages like Arabic which otherwise productively employ base-generated resumption can be explained with two independent constraints: (i) β is restricted to A-positions (Büring, 2004) and (ii) the Bijection Principle prevents a single μ -binder from simultaneously binding more than μ -bound ID morpheme. In order for this analysis to be maintained, co- \bar{A} -binding must not be available. I will argue explicitly against co- \bar{A} -binding in the next subsection.

Before moving on, however, I will demonstrate that a third potential route to circumventing primary crossover effects via μ -stacking is blocked by general semantic principles. I argued in section §7.6.2 that more than one μ -prefix cannot be stacked below a single DP in [Spec, CP] for semantic type reasons: if each μ -prefix opens a separate argument slot within C' via Predicate Abstraction, then each μ -prefix will need to be paired with a unique DP to saturate all of the open argument slots. Failure to bi-uniquely pair μ -prefixes and immediately *c*-commanding DP operators in [Spec, CP] will leave the CP of the wrong semantic type and the structure will be semantically deviant. As a consequence, we also successfully rule out derivations which circumvent primary crossover with stacked μ -binders as in (167)–(168):

(167) *Pathological derivation circumventing primary strong crossover through μ -stacking*
Which girl $\mu_i \mu_k$ do you think she_{*i*} wants you to hire ____{*k*}?

(168) *Pathological derivation circumventing primary weak crossover through μ -stacking*
Which girl $\mu_i \mu_k$ do you think her_{*i*} friends want you to hire ____{*k*}?

The derivations in (167) and (168) contain too many abstracted over variables for the single operator *which girl* to saturate (see also (101)), and hence crash at the syntax-semantics interface.

Nissenbaum (2000), among others, building off of ideas in Contreras (1984), in which each gap is bound by a unique operator, then there is no problem for Bijection (see Safir, 2017, 8, who makes the same point). Finally, Safir (1984) cites ATB-extraction as in (171) as a third apparent violation of Bijection.

(171) Which dish_{*i*} did Matt like ____{*i*} and Joni dislike ____{*i*}?

But, here too, many authors have proposed that each gap is locally bound by a distinct operator, with no need for co- \bar{A} -binding. For instance, Munn (1993) and Franks (1993) propose that ATB-configurations involve asymmetric extraction out of the first conjunct and null operator movement inside the second conjunct; see also Salzmänn (2012a,b) for a related proposal in which there is asymmetric extraction out of the first conjunct and ellipsis of an identical constituent in the second conjunct.¹¹⁹ These alternative approaches to ATB-extraction are arguably compatible with Bijection. A Bijection-based analysis of primary crossover effects therefore remains viable, notwithstanding Safir’s objections.

In the remainder of this section, I will present two arguments against the existence of co- \bar{A} -binding and in favor of Bijection. The first argument comes from ordering asymmetries between bound variable pronouns and bound variable epithets inside islands in Syrian Arabic. Although epithets can be \bar{A} -bound across an island boundary in Syrian, they cannot be (in)directly A -bound. If co- \bar{A} -binding were possible, then we would predict that either order in (172) should be possible, but in fact only (172a) is acceptable when the epithet and pronoun are construed with the *wh*-phrase.

119. In order to explain primary crossover effects in gapped \bar{A} -dependencies with crossed pronouns, Safir (1984) (and see also Safir, 1986, 1996, 2004a and van Urk, 2015) proposes that multiple variable binding is subject to a parallelism constraint, such that multiple variables can be bound by a single operator, so long as each of the \bar{A} -variables/ \bar{A} -chains is consistent with the others; one version of this parallelism constraint holds that all \bar{A} -variables must be traces, or all must be resumptives, but mixing traces and resumptives bound by a single operator is not possible. If ATB-extraction poses a problem for Bijection, then it arguably also poses a problem for accounts like Safir’s which posit a parallelism requirement on co- \bar{A} -binding in light of the fact that resumptives can occur as variables alongside gaps in ATB-configurations (Salzmänn, 2017b, 191–192). Accounting for ATB-extraction therefore does not appear to be a strength of any analysis of binding.

(172) *Schematic configurations to differentiate between co- \bar{A} -binding and Bijection in Syrian Arabic*

- a. DP_[wh] μ_i ... [Island μ_j ... ([DP...) EPITHET _{i} (...)] ... PRON _{i}]
- b. DP_[wh] μ_i ... [Island μ_j ... ([DP...) PRON _{i} (...)] ... EPITHET _{i}]

I argue that we can make sense of this asymmetry if co- \bar{A} -binding is not a possibility made available by the grammar (i.e. if the Bijection Principle holds). I argue that the order in (172b) is ruled out in Syrian because it obligatorily involves illicit (in)direct A-binding of the epithet by the pronoun.

The second argument I present against co- \bar{A} -binding and in favor of Bijection comes from a reconsideration of the kinds of data originally taken to motivate the postulation of co- \bar{A} -binding in the first place. I show from novel English resumption data that coconstrued readings of multiple (non-trace) variables, none of which c-command the others, must be derived from bijective binding relations and not from co- \bar{A} -binding in at least some cases. I refer to these coconstrued readings as ‘apparently co-bound readings.’ The existence of apparently co-bound readings which require Bijection undermines the initial motivation for co- \bar{A} -binding, and hence constitutes a weaker sort of evidence against co- \bar{A} -binding. Finally, in the appendix at the end of this section, I argue that apparent instances of co- \bar{A} -binding in English actually involve exceptionally licensed Σ -binding in contexts which normally require β -binding.

Bijection, epithets, and islands in Syrian Arabic

Striking evidence in favor of Bijection and against co- \bar{A} -binding comes from the distribution of bound variable epithets in Syrian. First, unlike in English (see Hornstein and Weinberg, 1990, 134–135; Lasnik and Stowell, 1991, 708; Déchaine and Wiltschko, 2017, 11, (32)), epithets in Syrian Arabic cannot be (in)directly A-bound, as shown in (173)–(174):¹²⁰

120. By contrast, (in)direct A-binding of epithets has been reported to be possible in other Arabic varieties; see Malkawi (2009, 28, fn. 3), Guillot and Malkawi (2011, 414) and Demirdache and Percus (2009, 2011, 2012) on Jordanian Arabic and Aoun and Choueiri (2000, 7, (12)) on Lebanese Arabic.

- (173) *No direct A-binding of epithets in Syrian*
 ma xabbarna wala wa:ħid_i innu raħ nwaz¹_Z¹if {-u_i / ha-l-ħmar*_{i/k}}.
 NEG informed.1.PL no one.M.SG_i that FUT hire.1.PL {-him_i / this-the-idiot*_{i/k}}
 ‘We didn’t inform anyone_i that we would hire {him_i / the idiot*_{i/k}}.’ (Syrian)
- (174) *No indirect A-binding of epithets in Syrian*
 ma xabbarna [umm wala wa:ħid_i]_j innu raħ nwaz¹_Z¹if {-u_i /
 NEG informed.1.PL [mother no one.M.SG_i]_j that FUT hire.1.PL {-him_i /
 ha-l-ħmar*_{i/k}}
 this-the-idiot*_{i/k}}
 ‘We didn’t inform [anyone_i’s mother]_j that we would hire {him_i / the idiot*_{i/k}}.’
 (Syrian)

I am not aware of any independent reason for this restriction. So, I propose the following two stipulations to account for the constrained distribution of epithets in Syrian:

- (175) **No β -binding of epithets**
 Epithets may not be β -bound in Syrian.
- (176) **No Σ -binding of epithets**
 Epithets may not be Σ -bound in Syrian.

Recall, however, that epithets *can* be μ -bound, so long as another μ -binder intervenes, in accordance with Epithet \bar{A} -disjointness ((144)). The table in (177) summarizes the binding possibilities for pronouns and epithets in Syrian Arabic:

(177) *Binding possibilities of pronouns & epithets in Syrian Arabic*

Can ___ be...	...directly A-bound?	...indirectly A-bound?	...directly \bar{A} -bound?	
			outside islands	inside islands
<i>Pronouns</i>	Yes (173)	Yes (174)	Yes	Yes (section §3.3)
<i>Epithets</i>	No (173)	No (174)	No (133b)	Yes (143)

With this in mind, we can formulate two contrasting sets of predictions for the distribution of epithets inside islands in Syrian. If co- \bar{A} -binding of an epithet and a pronominal variable is possible, then we predict that either order in (178) should be possible: this is because both pronouns and epithets can be \bar{A} -bound inside islands, hence their order with respect to one another should be irrelevant. By contrast, if μ -binding is subject to the Bijection

Principle ((164)), then we predict that the order of the bound variables should matter, as in (179); specifically, only the order in (179a) is predicted to be acceptable. This is because, in order for the epithet in (179b) to have a covarying interpretation with the *wh*-phrase, it must be (in)directly A-bound by the \bar{A} -bound resumptive pronoun; however, epithets cannot be (in)directly A-bound in Syrian ((175)–(176)).

(178) *Predictions of the co- \bar{A} -binding account for Syrian Arabic*

- a. ‘EPITHET \prec PRON’ order should be acceptable because both are \bar{A} -bound
 $DP_{[wh]} \mu_i \dots [\mu_j \dots ([DP \dots) EPITHET_i (\dots)] \dots PRON_i]$

 $\begin{array}{c} \text{-----DIRECT } \bar{A}\text{-----} \uparrow \\ \text{-----DIRECT } \bar{A}\text{-----} \uparrow \end{array}$
- b. ‘PRON \prec EPITHET’ order should be acceptable because both are \bar{A} -bound
 $DP_{[wh]} \mu_i \dots [\mu_j \dots ([DP \dots) PRON_i (\dots)] \dots EPITHET_i]$

 $\begin{array}{c} \text{-----DIRECT } \bar{A}\text{-----} \uparrow \\ \text{-----DIRECT } \bar{A}\text{-----} \uparrow \end{array}$

(179) *Predictions of the Bijection Principle account for Syrian Arabic*

- a. ‘EPITHET \prec PRON’ order should be acceptable because the epithet is \bar{A} -bound
 $DP_{[wh]} \mu_i \dots [\mu_j \dots ([DP \dots) EPITHET_i (\dots)] \beta_{k/\Sigma_k} \dots PRON_k]$

 $\begin{array}{c} \text{-----DIRECT } \bar{A}\text{-----} \uparrow \\ \text{-----} \text{(IN)DIRECT } \bar{A}\text{-----} \uparrow \end{array}$
- b. ‘PRON \prec EPITHET’ order should be unacceptable because the epithet is (in)directly A-bound
 $*DP_{[wh]} \mu_i \dots [\mu_j \dots ([DP \dots) PRON_i (\dots)] \beta_{k/\Sigma_k} \dots EPITHET_k]$

 $\begin{array}{c} \text{-----DIRECT } \bar{A}\text{-----} \uparrow \\ \text{-----} \text{X (IN)DIRECT } \bar{A}\text{-----} \uparrow \end{array}$

The data in (180)–(181) show that the predictions in (179) based on the Bijection Principle are borne out: only the order ‘EPITHET \prec ‘PRON’ is acceptable when both are coconstrued with a *wh*-phrase across a strong adjunct or relative clause island boundary.^{121, 122}

121. For similar examples showing that the order ‘EPITHET \prec PRON’ is acceptable inside islands in Arabic, see Aoun and Choueiri (2000, 25, (42); 26, (44)) on Lebanese and Demirdache and Percus (2011, 387–388, (53)) on Jordanian. These authors do not consider the opposite order ‘PRON \prec EPITHET,’ though given that (in)direct A-binding of epithets appears to be possible in both varieties (see footnote 120), I expect this order to be possible inside islands.

122. A defender of co- \bar{A} -binding might object that, even under that approach, examples (180a-ii) and (181a-ii) are predicted to be ruled out due to a Condition C violation (Chomsky, 1981, 188): in both examples, an epithet (an R-expression) is c-commanded by a coindexed pronoun. If correct, this would leave (180b-ii) and (181b-ii) as the only evidence from Syrian Arabic against co- \bar{A} -binding and in favor of bijective binding. However, this counterargument only goes through if Condition C is sensitive to a purely structural notion of binding—namely, *syntactic* binding in the sense of Buring (2005, 112, (5.27)): a syntactic binder of an A-variable α_i is a c-commanding, coindexed DP. If we instead follow Reinhart (1983a) and Buring (2005, 122–130) in dispensing with syntactic binding and rely solely on a definition of Condition C sensitive to

(180) *Epithets and resumptives in an adjunct island in Syrian Arabic*

- a. i. DP_{[wh]_i}
- ... [Island ... EPITHET_i ... PRON_i ...]
- b-titzakkiri ajja binit_i ma kənti ḥa:d^firi lamma
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG when
- ʕarrafna **ha-l-ḥma:ra_i** ʕala ʃari:k-ha_i?
- introduced.1.PL **this-the-idiot.F.SG_i** to partner-her_i
- (lit.) ‘Do you remember which girl_i you were absent when we introduced the idiot_i to her_i partner?’
- ii. *DP_{[wh]_i}
- ... [Island ... PRON_i ... EPITHET_i ...]
- b-titzakkiri ajja binit_i ma kənti ḥa:d^firi lamma
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG when
- ʕarrafna:**ha_i** ʕala ʃari:k ha-l-ḥma:ra*_{i/j}?
- introduced.1.PL-**her_i** to partner this-the-idiot.F.SG*_{i/j}
- (lit.) ‘Do you remember which girl_i you were absent when we introduced her_i to the idiot*_{i/j}’s partner?’
- b. i. DP_{[wh]_i}
- ... [Island ... [DP ... EPITHET_i ...] ... PRON_i ...]
- b-titzakkiri ajja binit_i ma kənti ḥa:d^firi lamma
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG when
- ʕarrafna ixwa:t **ha-l-ḥma:ra_i** ʕala zo:ʒ-ha_i?
- introduced.1.PL siblings **this-the-idiot.F.SG_i** to husband-her_i
- (lit.) ‘Do you remember which girl_i you were absent when we introduced the idiot_i’s siblings to her_i husband?’
- ii. *DP_{[wh]_i}
- ... [Island ... [DP ... PRON_i ...] ... EPITHET_i ...]
- b-titzakkiri ajja binit_i ma kənti ḥa:d^firi lamma
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG when
- ʕarrafna ixwa:t-**ha_i** ʕala zo:ʒ ha-l-ḥma:ra*_{i/j}?
- introduced.1.PL siblings-**her_i** to husband this-the-idiot.F.SG*_{i/j}
- (lit.) ‘Do you remember which girl_i you were absent when we introduced her_i siblings to the idiot*_{i/j}’s husband?’

(181) *Epithets and resumptives in a relative clause island in Syrian Arabic*

- a. i. DP_{[wh]_i}
- ... [Island ... EPITHET_i ... PRON_i ...]
- b-titzakkiri ajja binit_i ma kənti ḥa:d^firi l-yom_m
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG the-day_m
- lli ʕarrafna **ha-l-ḥma:ra_i** ʕala ʃari:k-ha_i fi:-Ø_m?
- that introduced.1.PL **this-the-idiot.F.SG_i** to partner-her_i in-it_m
- (lit.) ‘Do you remember which girl_i you were absent the day we introduced

semantic binding (i.e. binding via syntactically represented operators at LF), then (180a-ii) and (181a-ii) are not expected to induce Condition C violations under the co- \bar{A} -binding approach; this is because the co- \bar{A} -binding approach theorizes that the epithet is semantically μ -bound and not β -bound from an A-position, as illustrated in (178b).

- the idiot_i to her_i partner?’
- ii. *DP_{[wh]_i}
- ... [Island ... PRON_i ... EPITHET_i ...]
- b-titzakkiri ajja binit_i ma kənti ħa:d^ʕiri l-yom_m
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG the-day_m
- lli ʕarrafnax-**ha**_i ʕala fari:k ha-l-ħma:ra*_{i/j} fi:-Ø_m?
- that introduced.1.PL-**her**_i to partner this-the-idiot.F.SG*_{i/j} in-it_m
- (lit.) ‘Do you remember which girl_i you were absent the day we introduced her_i to the idiot*_{i/j}’s partner?’
- b. i. DP_{[wh]_i}
- ... [Island ... [DP ... EPITHET_i ...] ... PRON_i ...]
- b-titzakkiri ajja binit_i ma kənti ħa:d^ʕiri l-yom_m
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG the-day_m
- lli ʕarrafnax ixwa:t **ha-l-ħma:ra**_i ʕala zo:ʕ-ha_i fi:-Ø_m?
- that introduced.1.PL siblings **this-the-idiot.F.SG**_i to husband-her_i in-it_m
- (lit.) ‘Do you remember which girl_i you were absent the day we introduced the idiot_i’s siblings to her_i husband?’
- ii. *DP_{[wh]_i}
- ... [Island ... [DP ... PRON_i ...] ... EPITHET_i ...]
- b-titzakkiri ajja binit_i ma kənti ħa:d^ʕiri l-yom_m
- IND-remember.2.F.SG which girl_i NEG were.2.F.SG present.F.SG the-day_m
- lli ʕarrafnax ixwa:t-**ha**_i ʕala zo:ʕ ha-l-ħma:ra*_{i/j}
- that introduced.1.PL siblings-**her**_i to husband this-the-idiot.F.SG*_{i/j}
- fi:-Ø_m?
- in-it_m
- (lit.) ‘Do you remember which girl_i you were absent the day we introduced her_i siblings to the idiot*_{i/j}’s husband?’

This finding suggests that co- \bar{A} -binding must not be generally available in the grammar, contrary to what has been suggested by Safir (1984, 1986, 1996, 2004b), among others, to account for the apparent lack of primary weak crossover effects under resumption with multiple bound pronouns (see (10)). Instead, by adopting the Bijection Principle (164) and the tripartite system of binders from section §7.6, we can successfully explain the distribution of bound variable epithets in Syrian Arabic, along with all primary crossover effects.

Co- \bar{A} -binding fails to account for the distribution of bound pronouns and epithets in English

Additional evidence in favor of bijective binding, even in cases where the first variable does not c-command the second variable, comes from the distribution of bound variable readings of epithets in English resumptive \bar{A} -dependencies. Consider first the binding profiles of pronouns and epithets in English. Both pronouns and epithets can be indirectly A-bound in English (see also Hornstein and Weinberg, 1990, 134–135; Lasnik and Stowell, 1991, 708; Déchaine and Wiltschko, 2017, 11, (32)):¹²³

- (182) *Pronouns and epithets can be indirectly A-bound in English*
I talked to the person who invented each machine_{*i*} about {it_{*i*} / the damn thing_{*i*}}.

Furthermore, both pronouns and epithets can be directly \bar{A} -bound only (or perhaps only naturally) inside islands:

- (183) *Pronouns and epithets cannot be directly \bar{A} -bound (i.e. cannot be resumptive) outside islands in English*
*Which machine_{*i*} did you talk to the person who invented instant noodles about {it_{*i*} / the damn thing_{*i*}}?
(184) *Pronouns and epithets can (marginally) be directly \bar{A} -bound (i.e. can be resumptive) across an island boundary in English*
?Which machine_{*i*} did you talk to the person who invented {it_{*i*} / the damn thing_{*i*}} about instant noodles?

The table in (185) summarizes the relevant binding possibilities of pronouns and epithets in English.

123. And it appears that, to some extent, epithets can be directly A-bound in at least some instances according to my judgments and the judgments of a number of other speakers who I informally consulted:

- (i) *Pronouns and (marginally?) epithets can be directly A-bound in English*
a. I heard that each machine_{*i*} instructed you to destroy {it_{*i*} / ?/??the damn thing_{*i*}}.
b. The police told each suspect_{*i*} that they would throw {him_{*i*} / ?the bastard_{*i*}} in jail.

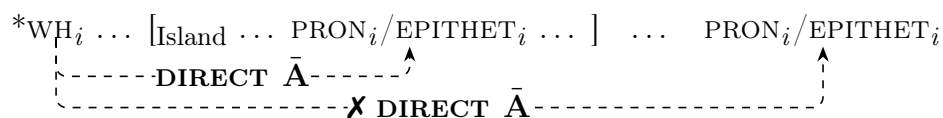
See Safir (2004b, 27, (43)–(44)) and Déchaine and Wiltschko (2017, 11, (33)) for a different judgment for other English data, and see Engdahl (1986, 103–104) for the claim that epithets in Swedish resist being directly A-bound.

(185) *Binding possibilities of pronouns & epithets in English*

Can __ be...	... indirectly A-bound?	... directly \bar{A} -bound?	
		outside islands	inside islands
<i>Pronouns</i>	Yes	No	Yes
<i>Epithets</i>	Yes	No	Yes

Now consider the following divergent set of predictions. If coconstrued readings of bound variable pronouns and epithets (which I refer to as *apparently co-bound readings*), none of which c-command the others, are necessarily derived via co- \bar{A} -binding (e.g. Safir, 1984), then we predict that apparently co-bound readings of multiple variables in \bar{A} -dependencies should be impossible if not all variables are contained inside an island:

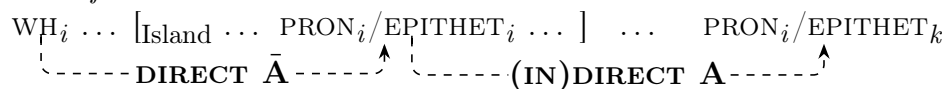
(186) *Co- \bar{A} -binding predictions: Apparently co-bound readings should be impossible if not all variables are inside an island*



According to the co- \bar{A} -binding account, (186) is predicted to be impossible because it invokes direct \bar{A} -binding of the second pronoun/epithet in a non-island context in English—a type of binding which is unacceptable on its own (see (183)).

By contrast, a Bijection-based account predicts that apparently co-bound readings of multiple variables should be possible whether or not the second variable is contained in an island or not. This is because the second variable will always be indirectly A-bound by the first variable, which is contained inside an island and \bar{A} -bound by the operator in (187); the second variable will never be directly \bar{A} -bound by the operator.

(187) *Bijection-based account predictions: Apparently co-bound readings should be possible if not all variables are inside an island*



As the data in (188) illustrate, apparently co-bound readings of multiple variables are possible whether or not all coconstrued variables are contained inside an island. This result bears out the predictions of the Bijection-based account in (187) but not those of the co- \bar{A} -

binding account in (186).

- (188) ? Which machine_{*i*} did you talk to the person who invented {it_{*i*} / the damn thing_{*i*}} about {it_{*i*} / the piece of junk_{*i*}}?

Co- \bar{A} -binding alone is neither necessary nor sufficient to account for coconstrual among variables, all of which are c-commanded by the \bar{A} -binder but none of which c-commands the other variables, as in (188). On the other hand, indirect A-binding is both necessary and sufficient to account for these apparently co-bound readings.

It would be technically feasible for a proponent of co- \bar{A} -binding to admit that indirect A-binding is necessary in at least some cases, especially to account for the data in (188). Doing so, however, would undermine one of the central motivations for positing co- \bar{A} -binding in the first place—namely, to account for coconstrued readings of multiple bound pronouns in weak crossover configurations in languages which productively employ resumption, as in (169). Occam’s razor therefore dictates that we dispense with co- \bar{A} -binding in favor of purely bijective \bar{A} -binding, all else being equal.

Before concluding this section, I will make one final excursus into a series of examples from English which seems to undermine my claim that co- \bar{A} -binding does not exist. I will argue, however, that these apparent counterexamples can be understood as involving exceptional Σ -binding and not co- μ -binding.

Excursus: Apparent co- \bar{A} -binding in English is exceptional Σ -binding

Given the arguments against co- \bar{A} -binding in the preceding section, the following contrasts from English resumptive *wh*-questions seem particularly puzzling (intended coconstrual is indicated via italics):¹²⁴

124. Thanks to Zach Lebowksi (*pers. comm.*) for turning my attention towards this type of example. Similar facts hold for resumption in English *such that* relatives:

- (i) a. * *Which candidate* such that *he* voted for ___ did the press make fun of?
b. * *Which candidate* such that *he* voted for *him* did the press make fun of?

- (189) a. * *Which candidate* were you surprised to hear a rumor that *he* voted for ___?
 b. * *Which candidate* were you surprised to hear a rumor that *he* voted for *him*?
 c. * *Which candidate* were you surprised to hear a rumor that only *he* voted for ___?
 d. ? *Which candidate* were you surprised to hear a rumor that only *he* voted for *him*?

All of these examples involve extraction out of a strong CP complement to N island, hence examples (189a) and (189c) are illicit due to the fact that they involve gap-leaving *wh*-movement. Example (189b) is unacceptable because of a Condition B violation: *him* is locally directly A-bound (i.e. β -bound) by *he*. Curiously, however, (189d) is relatively acceptable with the intended interpretation: ‘For which candidate *x* were you surprised to hear a rumor that *x* is the only *y* such that *y* voted for *x*;’ in other words ‘Which candidate were you surprised to hear got only a single vote?’

The surprising suspension of Condition B in (189d) instantiates a novel species of *exceptional co-binding*. The term ‘exceptional co-binding’ was coined in the semantics literature to refer to instances in which multiple pronominal variables are apparently simultaneously A-bound by the same operator, as in (190) (see Heim, 1998, 2009; Fox, 2000; Büring, 2005; Reinhart, 2006; Roelofson, 2010; and Drummond, 2021).

- (190) *Exceptional co-A-binding*
Every candidate is afraid that only *he* voted for *him*.

-
- c. * *Which candidate* such that only *he* voted for ___ did the press make fun of?
 d. ? *Which candidate* such that only *he* voted for *him* did the press make fun of?

However, as Erik Zyman (*pers. comm.*) points out to me, since *such that* relatives in general forbid gaps, the unacceptability of examples (ia) and (ic) is confounded (and the same goes for the island-crossing examples in (189a) and (189c)). If we instead use a restrictive *that* relative, the contrasts persist, though exceptional co-binding through resumption in (iid) is more marginal than it is in (id) due to a dispreference for resumption in short distance extraction in English (judgments due to Erik Zyman):

- (ii) a. * *Which candidate* that *he* voted for ___ did the press make fun of?
 b. * *Which candidate* that *he* voted for *him* did the press make fun of?
 c. * *Which candidate* that only *he* voted for ___ did the press make fun of?
 d. ?? *Which candidate* that only *he* voted for *him* did the press make fun of?

(190) can be understood to mean that every candidate has the following fear: ‘I only have one vote’ (roughly, $\lambda x.x$ is the only $y: y$ voted for x). Crucially, it cannot be understood to mean that every candidate fears that he is the only person who voted for themselves (i.e. $\lambda x. x$ is the only $y: y$ voted for y).

(190) is ‘exceptional’ because it does not display the expected Condition B violation present in the minimally different (191):

(191) * *Every candidate* is afraid that *he* voted for *him*.

(191) is unacceptable under either of the intended interpretations. Previous literature has interpreted the exceptional circumvention of Condition B in (190) as arising from the competition between similar LFs made available by different sequences of binders, and I direct the interested reader to the aforementioned works for details. I will venture a similar explanation here.

Recall that in section §7.6.2, I proposed the following principle according to which β -binding is preferred to Σ -binding when the two yield indistinguishable interpretations:

(192) *Preference principle for β -binding* (repeated from (104))
 Σ -binding is possible if and only if replacing Σ_n with β_n and inserting an individual index ‘ n ’ on the bound variable does not yield an indistinguishable interpretation.

I propose that ‘exceptional co-A-binding’ doesn’t involve co-binding at all, but rather involves Σ -binding of the lower pronoun. This exceptional Σ -binding is licensed because β -binding would yield a different, reflexive interpretation.¹²⁵ Consider again (190), which has the two possible interpretations shown in (193):

(193) *Every candidate* is afraid that only *he* voted for *him*.
 a. * LF1: every candidate β_1 [... only he₁ β_2 ... him₂] ($\beta \prec \beta$, *Condition B)
 Fear: ‘I’m the only self-voter!’
 \neq

125. Thanks to Chris Kennedy (*pers. comm.*) for suggesting this line of inquiry to me, and for much discussion.

- b. LF2: every candidate β_1 [... only he_1 Σ_2 ... him_{σ_2}] ($\beta \prec \Sigma$)
 Fear: ‘I only have one vote!’

The two interpretations share the fact that the higher quantifier *every candidate* β -binds *he*, but they differ in whether *only he* β -binds ((193a)) or Σ -binds ((193b)) the lower pronoun *him*. In order to determine if Σ -binding is permissible, we must determine if Σ -binding and β -binding yield distinguishable interpretations according to (192). As previous literature has pointed out, the two interpretations in (193a) and (193b) are indeed distinct; consequently, Σ -binding will not be blocked by β -binding. Furthermore, β -binding as in (193a) is ruled out because *him* is locally β -bound, in violation of Condition B:

(194) (repeated from (91), (102))

Condition B

A non-reflexive pronoun must not be β -bound in its domain.

Thus, the only possible interpretation of (193) involves the sequence of binders ‘ $\beta \prec \Sigma$.’

By contrast, there is no difference between the following LFs for (191), hence β -binding will be required and Σ -binding blocked per (192). However, β -binding will induce a Condition B violation because *him* will be locally β -bound.

(195) * *Every candidate* is afraid that *he* voted for *him*.

- a. *LF1: every candidate β_1 [... he_1 β_2 ... him_2] ($\beta \prec \beta$, *Condition B)
 \equiv
 b. LF2: every candidate β_1 [... he_1 Σ_2 ... him_{σ_2}] ($\beta \prec \Sigma$, blocked by (192))

I propose that the same competition between β -binding and Σ -binding accounts for the difference in acceptability between (189b) and (189d). The latter does not involve co- \bar{A} -binding, but rather exceptionally licensed Σ -binding:

(196) *Which candidate* were you surprised to hear a rumor that only *he* voted for *him*?

- a. LF1: which candidate μ_1 [... only he_1 β_2 ... him_2] ($\mu \prec \beta$, *Condition B)
 Rumor: ‘He is the only self-voter!’
 \neq
 b. LF2: which candidate μ_1 [... only he_1 Σ_2 ... him_2] ($\mu \prec \Sigma$)
 Rumor: ‘He only has one vote!’

β -binding in (196a) and Σ -binding in (196b) yield distinguishable interpretations, hence Σ -binding as in (196b) is licensed. Furthermore, β -binding will be blocked by Condition B. Example (189b) (repeated as (197)), on the other hand, is unacceptable because β -binding and Σ -binding are, in this instance, indistinguishable:

- (197) * *Which candidate* were you surprised to hear a rumor that *he* voted for *him*?
- a. LF1: which candidate μ_1 [... he_1 β_2 ... him_2] ($\mu \prec \beta$, *Condition B)
 \equiv
- b. LF2: which candidate μ_1 [... he_1 Σ_2 ... him_2] ($\mu \prec \Sigma$, blocked by (192))

In summary, although examples like (189d)/(196) appear at first blush to contradict my claim that co- \bar{A} -binding does not exist, they can be fruitfully reinterpreted as involving exceptional Σ -binding. Rather than viewing the two A-binders that I have proposed— β and Σ —as somehow redundant, this section has shown that they are both crucially necessary to account for restricted (but systematic) exceptions to Condition B.

7.8 Conclusion

This chapter has demonstrated that, contrary to many previous claims, crossover effects are robustly present under both base-generated and movement-derived resumption. The major novel source of evidence in support of this conclusion came from secondary crossover effects in Iraqi, Syrian, and Tunisian Arabic: secondary crossover persists with in-island resumption in Arabic and therefore must be disassociated from the mechanics of \bar{A} -movement. I developed an account of secondary crossover effects that relied on a three-way taxonomy of binding types. I showed that the tripartite inventory of binders proposed by Büring (2004) is well-suited to derive these three kinds of binding. Crucially, I argued that we can account for the presence of secondary crossover effects with and without movement if indirect \bar{A} -binding does not exist. Turning to primary crossover, I argued that we can account for primary strong and weak crossover effects with epithets in resumptive \bar{A} -dependencies (both of which also

persist into islands) if epithets outside islands cannot be \bar{A} -bound in Arabic. Furthermore, I argued that primary crossover effects in gapped \bar{A} -dependencies are accounted for if we adopt a version of the Bijection Principle of Koopman and Sportiche (1982). I adduced novel evidence for Bijection and against accounts which freely permit co- \bar{A} -binding from (i) the restricted distribution of bound variable epithets inside islands in Syrian Arabic and (ii) the existence of apparently co-bound readings of multiple bound variables, none of which c-command the others, in English resumptive \bar{A} -dependencies. Although both the ban on indirect \bar{A} -binding and the Bijection Principle are stipulated on the present account, they should arguably emerge from deeper features of grammar; but these questions are the topic of future work.

In addition, this chapter provided several novel arguments against extant analyses of crossover, including those based on (i) obligatory Condition C reconstruction, (ii) weak-crossover-inducing QR of the embedded quantifier, and (iii) differences between trace-binding and pronoun-binding, among others. Given that the present analysis is the first account of crossover effects under resumption which does not rely on any of these principles, it remains to be seen how well it will hold up to future scrutiny. Nonetheless, one of the core strengths of my analysis is that it does not posit stipulative differences between resumptive and non-resumptive pronouns and it is therefore compatible with the previously observed morphological/lexical regularity of resumptive pronouns.

CHAPTER 8

CONCLUSION

8.1 Introduction

This dissertation has argued for a bipartite, cross-linguistic taxonomy of resumptive pronouns and has presented accounts for both kinds of resumptive dependencies—those formed via base-generation and those formed via movement (analyzed here as stranding of a doubling pronoun). The main claim of this dissertation is that there is a set of diagnostics which distinguishes base-generation from movement—namely, island-sensitivity, parasitic gap licensing, *exactly* stranding, case-matching, and overt reflexes of movement—and that other effects typically taken to diagnose \bar{A} -movement (e.g. reconstruction and crossover) are present in *all* \bar{A} -binding dependencies, including base-generated resumptive ones. By investigating resumptive \bar{A} -dependencies, rather than gapped \bar{A} -dependencies in isolation, we achieve a deeper understanding of the characteristic properties of movement and of binding. In the remainder of this chapter, I summarize the main contributions of this dissertation and lay out several open questions.

8.2 Two kinds of structure-building features

This dissertation has argued that two kinds of structure-building features are necessary to account for cross-linguistic variation in the formation of resumptive \bar{A} -dependencies. External Merge is driven by ‘●’ features and internal Merge, by ‘◁’ features. This analysis bears a significant similarity to the analysis proposed in McCloskey (2002) for Irish \bar{A} -dependencies. However, I also demonstrated that, because both kinds of features can be lexically specified on heads (in particular, on intermediate $C_{[-wh]}$ heads), we account for the fact that some but not all languages which productively employ resumption have access to mixed chains: on my analysis, this is because some but not all languages have in their lexicons a $C_{[-wh]}$

bearing [●wh]. I argued that a feature-driven account of the distinction between external and internal Merge is necessary and that free Merge approaches which attempt to derive the indirect triggers for these operations solely from interface legibility conditions fail to account for the facts: specifically, there is no straightforward way to distinguish the two types of Merge in intermediate chain positions at either the syntax-semantics or the syntax-phonology interface. Thus, this dissertation provides a novel argument for feature-driven approaches to structure building (for other arguments, see Müller, 2014, 2017; Zyman, 2018, Accepted, esp. Supporting information; Merchant, 2019; and Ermolaeva, 2021, as well as references cited in those works).

8.3 Two kinds of resumptive \bar{A} -dependencies

This dissertation argues for a bipartite taxonomy of types of resumptive \bar{A} -dependencies cross-linguistically: resumptives in some languages are bound by operators base-generated in \bar{A} -positions, whereas resumptives in other languages are base-generated together with their operators and are stranded when the operators they double undergo \bar{A} -movement. This dissertation builds on prior, related claims (see especially Borer, 1981; Sportiche, 1983, 117ff., esp. 126; Koopman, 1984, esp. 179–180; Engdahl, 1985; Tellier, 1991; Aoun et al., 2001; Asudeh, 2004; McCloskey, 2006, 2017; Alexandre, 2009; Sichel, 2014; Scott, 2021b; Georgi and Amaechi, 2022; Yip and Ahenkorah, To appear) by providing novel arguments for the distinct behavior of resumptives whose binders are base-generated high and resumptives whose binders strand them by movement. I argued that the island-(in)sensitivity of a resumptive dependency correlates with parasitic gap licensing, the (non-)availability of *exactly* stranding under resumption, and case-(anti-)connectivity. Although some of these tests have received limited attention in the prior literature on resumption, this dissertation demonstrates for the first time that all four diagnostics march in lockstep for both kinds of resumptives, yielding strikingly clear and consistent results cross-linguistically.

Furthermore, this dissertation argues that the simplest explanation for the Doron–Engdahl–McCloskey Generalization—which states that resumptive pronouns are always regular pronouns—is that *all* resumptive pronouns are merged from the lexicon as pronouns. I contend that spelled-out trace analyses of resumptives, which assimilate resumptive pronouns either to traces or to non-pronominal lower copies of \bar{A} -moved operators, fail to account for the wholesale syntactic, morphological, and semantic pronouniness of resumptives. I propose instead that cross-linguistic differences between resumptive \bar{A} -dependencies can, in most cases, be attributed to differences between base-generation and movement or, in the case of differences between movement-derived resumptive dependencies, to properties of the Big-DP inside of which resumptives are generated. My proposal is thus highly compatible with the unificationist analysis of pronouns developed by Elbourne (2001, 2005, 2008, 2013).

8.4 Diagnosing \bar{A} -movement

Another major contribution of this dissertation is a reevaluation of what precisely characterizes \bar{A} -movement dependencies, in the model of Cinque (1990). In contrast to Cinque, I take island-sensitivity as a core diagnostic for \bar{A} -movement, since it robustly correlates cross-linguistically with overt intermediate reflexes of (\bar{A} -)movement on the heads triggering displacement (see chapter 2). I utilize islands to identify three other syntactic phenomena which require \bar{A} -movement to be licensed (see chapter 3). Following Nissenbaum (2000) and Zyman (2022a), respectively, I argue that parasitic gaps and *exactly* stranding require a licensing copy of the *wh*-operator to appear in an intermediate landing site—a possibility only made available in \bar{A} -movement dependencies. Furthermore, developing a proposal from Merchant (2004), I argue that case-connectivity between the operator and the variable site requires the operator to have moved from an A-position.

By contrast, I argue at length that neither reconstruction effects nor crossover effects unambiguously diagnose \bar{A} -movement. Reconstruction to the base of the dependency simply

requires a representation of the operator in the variable site. Such a representation is trivially available in movement dependencies if we adopt the Copy Theory of Movement (Chomsky, 1993); however, the descriptive content of the operator will also be present in the variable site in base-generated resumptive \bar{A} -dependencies if resumptive pronouns, like all pronouns, are formed by NP-ellipsis, following ideas in Guillot and Malkawi (2006) and Salzmann (2017b). Crossover effects similarly follow under either base-generation or movement if the constraints which are violated in crossover configurations hold of \bar{A} -binding dependencies. Such is the case for both the Bijection Principle, which accounts for primary crossover effects, and the ban on indirect \bar{A} -binding, which accounts for secondary crossover effects. The result of this investigation is a deeper understanding of what diagnoses \bar{A} -movement, and why.

8.5 Empirical contributions

This dissertation also presents an array of novel empirical contributions. First and foremost, it provides the first in-depth investigation into resumption in Iraqi, Tunisian, and Syrian Arabic (for predecessors, see Darrow, 2003 on Syrian and Sterian, 2015 on Iraqi). Especially Iraqi and Tunisian are woefully underrepresented in the theoretical literature on Arabic, though, as I have shown, analyses of them bear significantly on our understanding of long-distance dependencies. This dissertation presents one of the first investigations into parasitic gaps in any Arabic variety (see also Wahba, 1995) and it documents and analyzes innovative case-marking in Iraqi *wh*-questions and its interaction with resumption. The latter is especially remarkable due to the fact that (inflectional) case-marking is virtually all but lost in closely related Semitic languages. Furthermore, the dissertation provides the first study, in any language to my knowledge, of the interaction between stranding in \bar{A} -dependencies and resumption. By employing these diagnostics, this dissertation is also the first work to describe any language with productive resumption which lacks mixed chains in long-distance dependencies. Novel data from other languages also figured in the discussion, most promi-

nently from varieties of Spanish, but also from Swiss German and from Hebrew, where my findings shed important light on the nature of resumption and of parasitic gaps.

Another significant contribution was the documentation of the binding properties of gaps, pronouns, and epithets in all three Arabic varieties. This was crucial to my analysis of crossover, where I showed, for the first time for any language which productively employs base-generated resumptives, that resumption is subject to secondary crossover. This was important because, as discussed in chapter 7, much previous work that investigated primary crossover effects under resumption failed to control for confounding ambiguities in the data.

8.6 Open questions

A number of questions remain which warrant further investigation. Here I will mention a few.

8.6.1 *Base-generation and movement at vP?*

As discussed in chapter 3, many languages can construct long-distance dependencies by mixing base-generation and movement along different parts of the chain. Interestingly, where we have overt morphological evidence, it appears that the switch is restricted to the CP edge, as diagnosed by, among other things, complementizer alternations in Irish and Tyrolean German. Base-generation at the edge of vP, on the other hand, largely appears to be absent, given that (i) parasitic gaps are not locally licensed by base-generated resumptives and (ii) the parasitic gap containing adjunct must attach to a derived predicate, following Nissenbaum (2000). If base-generation at the edge of vP were possible, it would be expected to trigger Predicate Abstraction and therefore locally license a parasitic gap. It remains to be seen whether this typological gap—base-generation at the vP edge, binding a resumptive pronoun—is systematic, and if so, why there should be such a difference between C and v. One possibility is that base-generation is only possible in the specifier of a phase head. If

we follow Keine (2017, 2020), Keine and Zeijlstra (2022), and Poole (2022b, §7.2) (see also Bošković, 2022, 10) in taking C but not v to be a phase head, then the difference in base-generation may be accounted for. In order to be truly successful, of course, such an account would need to incorporate a principled explanation for why Merge triggering \bar{A} -features such as [\bullet wh] should be restricted, in their lexical distribution, to phase heads.

8.6.2 Extending the Big-DP-cum-stranding analysis to movement-derived resumption in non-clitic doubling languages

Another open question concerns the correct analysis of movement-derived resumption in languages which otherwise lack clitic/pronoun doubling; this includes languages like Swedish, Vata, and Romani. While I have shown that there are several challenges to spelled-out trace analyses of movement-derived resumptives, there remain several hurdles to extending the Big-DP-*cum*-stranding approach, developed for resumption in Spanish and Greek, to the aforementioned non-clitic doubling languages. It therefore remains to be determined whether all movement-derived resumption can be analyzed as resulting from \bar{A} -extraction out of a doubling structure.

8.6.3 The status of φ -feature mismatches under resumption

Much recent work has identified the existence in some languages of resumptive pronouns which may or must mismatch their antecedents in some or all φ -features (see especially Boeckx, 2003; Alexandre, 2009; Adger, 2011; Scott, 2021a; Georgi and Amaechi, 2022; Ershova, 2023a,b; Martinović, To appear; and Yip and Ahenkorah, To appear, and see also van Urk, 2018). The majority of this work argues that φ -feature mismatches under resumption provide evidence for \bar{A} -movement, typically relying on the mechanisms of (partial) copy spell-out and on competing pressures for overt phonological exponence in some position and for complete lower copy deletion in order to derive the mismatch. Although φ -feature neutral-

izations on pronouns do basically appear to be restricted to movement-derived resumptives, the connection with the ‘spelled-out trace’ analysis remains to be rigorously defended over the alternative stranding analysis. For instance, it might well be the case that (resumptive) pronouns undergo impoverishment when base-generated together with an antecedent bearing \bar{A} -features in the languages in question (see Ershova, 2023b for a related, but distinct proposal). Alternatively, it could be that, in those languages, only Ds with particular φ -feature values can select a DP with \bar{A} -features as their specifier (*qua* second argument); i.e., it might be selection rather than impoverishment that is crucially responsible for giving rise to the phenomenon. Resolving this issue is important, since spell-out analyses—in contrast to stranding analyses—typically need to complicate the mapping from syntax to PF to generate a φ -mismatching pronoun from a fully φ -featurally specified, non-pronominal DP. I must leave pursuing this and related issues for future research.

8.6.4 *Interpretive asymmetries between types of resumptive pronouns*

As discussed in an excursus at the end of chapter 6, in many languages, resumptive pronouns which alternate in their positions with another type of variable have access to a more limited set of interpretations than resumptive pronouns which do not alternate (see Rouveret, 2011, 40–49 for discussion). Typically, the alternation is between resumptive pronouns and gaps (see especially Bianchi, 2004, Arad, 2014, and Sichel, 2014, 2021, 2022), though Malkawi (2009) discusses alternations between clitic pronouns and doubled pronouns in Jordanian Arabic which yield similar interpretive asymmetries. These restrictions on reconstruction with alternating resumptives have been analyzed by many as arising from grammatical competition. For instance, Sichel (2014, 2021, 2022) proposes that competition takes place at PF due to a constraint which favors minimization of the tail of a movement chain. However, I argued in section §6.7 against attempts to reduce interpretive asymmetries between optional and obligatory resumptives to the (non-)availability of movement in a given \bar{A} -dependency.

There, I showed that base-generated optional resumptives in Arabic display a host of reconstruction effects and that movement-derived optional resumptives in Romani relative clauses fail to license reconstruction. Although my findings suggest that we dispense with the strict movement account of reconstruction, I have not provided an analysis of the interpretive asymmetries between optional and obligatory resumptives reported in the previous literature. One possibility is that reconstruction is indeed constrained by competition but that such competition is not restricted to movement chains, *pace* Sichel.¹

8.6.5 *The positional A-/ \bar{A} -distinction*

Finally, an important question raised by my analysis of secondary crossover in chapter 7, which builds on ideas in Buring (2004), is whether or not we must continue to stipulate a difference between A- and \bar{A} -positions. Under my analysis, secondary crossover is accounted for if indirect binding is impossible from an \bar{A} -position (accounting for the unacceptability of **Which girl_i's boyfriend_k do you think she_i wants you to hire ____k?*), though it is possible from an A-position (accounting for the acceptability of *Which girl_i's boyfriend_k do you think ____k wants you to hire her_i?*). Recent attempts by van Urk (2015) and Safir (2019) to eliminate the positional A-/ \bar{A} -distinction (or to derive it as epiphenomenal; see also Fong, 2019 and Gong, 2022) have crucially relied on the mechanics of movement to account for the different properties of A- and \bar{A} -movement, including crossover. But deriving the distinction from movement fails to account for crossover effects in base-generated \bar{A} -dependencies identified in this dissertation for Arabic. I will leave it to future research to determine whether or not the ban on indirect \bar{A} -binding can be derived without making reference to \bar{A} -positions specifically.

1. For instance, Malkawi (2009) proposes that competition takes place during realization, where economy constraints favor the morphologically least specified form of the A-variable to express a given meaning. Crucially, however, Malkawi maintains that competition regulates the realization of the tails of movement-derived and base-generated dependencies alike. See Rouveret (2011, 47–49) for critical discussion.

REFERENCES

- Abangma, Samson Negbo. 1992. Empty categories in Denya. Doctoral Dissertation, University College London.
- Abels, Klaus. 2012. *Phases: An Essay on Cyclicity in Syntax*. Berlin: de Gruyter.
- Abels, Klaus. 2022. On vehicle change and ellipsis identity. Ms., UCL.
- Abu-Haidar, Farida. 1991. *Christian Arabic of Baghdad*. Wiesbaden: Harrassowitz.
- Adger, David. 2003. *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.
- Adger, David. 2011. Bare resumptives. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 343–365. Amsterdam: John Benjamins.
- Adger, David, Alex Drummond, David Hall, and Coppe van Urk. 2017. Is there Condition C reconstruction? In *Proceedings of NELS 47, Vol. 1*, ed. Andrew Lamont and Katerina Tetzloff, 21–30. Amherst, MA: GLSA Publications.
- Adger, David, and Gillian Ramchand. 2001. Phases and interpretability. In *Proceedings of WCCFL 20*, 1–14. Somerville, MA: Cascadilla Press.
- Adger, David, and Gillian Ramchand. 2005. Merge and Move: *Wh*-dependencies revisited. *Linguistic Inquiry* 36:161–193.
- Aelbrecht, Lobke. 2010. *The Syntactic Licensing of Ellipsis*. Amsterdam: John Benjamins.
- Agüero-Bautista, Calixto. 2001. Cyclicity and the scope of *wh*-phrases. Doctoral Dissertation, Massachusetts Institute of Technology.
- Al-Daher, Zeyad. 2016. Pseudo *wh*-fronting: A diagnosis of *wh*-constructions in Jordanian Arabic. Doctoral Dissertation, University of Manitoba.
- Alber, Birgit. 2008. Tyrolean A-bar movement: Doubling and resumptive pronoun structures. In *Microvariation in Syntactic Doubling*, ed. Sjef Barbiers, Olaf Koenenman, Marika Lekakou, and Margreet van der Ham. Bingley, UK: Emerald.
- Alboiu, Gabriela Florina. 2000. The features of movement in Romanian. Doctoral Dissertation, University of Manitoba.
- Alexandre, Nélia. 2009. *Wh*-constructions in Cape Verdean Creole: Extensions of the Copy Theory of Movement. Doctoral Dissertation, Universidade de Lisboa.
- Alexandre, Nélia. 2012. *The Defective Copy Theory of Movement: Evidence from wh-constructions in Cape Verdean Creole*. Amsterdam: John Benjamins.
- Alexandre, Nélia, and Tjerk Hagemeijer. 2002. Pronomes resumptivos e abandono de proposição nos crioulos atlânticos de base portuguesa. In *XVII Encontro Nacional da APL*, ed. A. Gonçalves and C. N. Correia, 17–29. Lisbon: Colibri.

- Alexandre, Nélia, and Tjerk Hagemeijer. 2013. Estratégias de relativização de PPs no mundo luso-atlântico: crioulos de base lexical portuguesa e variedades do português. In *Para a história do português brasileiro. Sintaxe comparativa entre o português brasileiro e línguas crioulas de base lexical portuguesa. Volume III*, ed. M. D. Moura and M. A. Sibaldo, 49–71. Maceió: EDUFAL.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 1997. Toward a uniform account of scrambling and clitic doubling. In *German: Syntactic Problems – Problematic Syntax*, ed. Werner Abraham and Elly van Gelderen, 143–161. Tübingen: Max Niemeyer Verlag.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 2000a. Asymmetries in the distribution of clitics: The case of Greek restrictive relatives. In *Clitic Phenomena in European Languages*, ed. Frits Beukema and Marcel den Dikken, 47–70. Amsterdam: John Benjamins.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 2000b. Clitic doubling and (non-)configurationality. In *Proceedings of NELS 30, Vol. 1*, ed. Masako Hirotsu, Andries Coetzee, Nancy Hall, and Ji-yung Kim, 17–28. Amherst, MA: GLSA.
- Alexopoulou, Theodora. 2006. Resumption in relative clauses. *Natural Language & Linguistic Theory* 24:57–111.
- Alexopoulou, Theodora, and Dimitra Kolliakou. 2002. On linkhood, topicalization and clitic left dislocation. *Journal of Linguistics* 38:193–245.
- Algryani, Ali. 2012. The syntax of ellipsis in Libyan Arabic: A generative analysis of sluicing, VP ellipsis, stripping and negative contrast. Doctoral Dissertation, Newcastle University.
- Aljutaili, Abdulrahman Abdullah. 2015. Parasitic gaps in Buraidah Arabic. Master's thesis, California State University, Fresno.
- Alotaibi, Mansour, and Robert D Borsley. 2013. Gaps and resumptive pronouns in Modern Standard Arabic. In *Proceedings of the 20th International Conference on Head-Driven Phrase Structure Grammar, Freie Universität Berlin*, ed. Stefan Müller, 6–26. Stanford: CSLI Publications.
- Alshaalan, Yara Abdulaziz. 2021. Is there structure at the ellipsis site? Evidence from Saudi Arabic sluicing. Doctoral Dissertation, University College London.
- Amaechi, Mary. 2020. A'-movement dependencies and their reflexes in Igbo. Doctoral Dissertation, Universität Potsdam.
- Amaechi, Mary, and Doreen Georgi. 2019. Quirks of subject (non-)extraction in Igbo. *Glossa* 4:1–36.
- Anagnostopoulou, Elena. 1994. Clitic dependencies in Modern Greek. Doctoral Dissertation, Universität Salzburg.

- Anagnostopoulou, Elena. 2003. *The Syntax of Ditransitives: Evidence from Clitics*. Berlin: de Gruyter.
- Anagnostopoulou, Elena. 2017a. Clitic doubling. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- Anagnostopoulou, Elena. 2017b. The person case constraint. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- Anagnostopoulou, Elena, and Anastasia Giannakidou. 1995. Clitics and prominence, or why specificity is not enough. In *CLS 31: Papers From the 31st Regional Meeting of the Chicago Linguistic Society, Volume 2: The Parasession on Clitics*, ed. Audra Dainora, Rachel Hemphill, Barbara Luka, Barbara Need, and Sherry Pargman, 1–14. Chicago, IL: Chicago Linguistic Society.
- Androulakis, Anna. 1998. *Wh-* and direct object clitics revisited. In *Themes in Greek Linguistics II*, ed. Brian D. Joseph, Geoffrey C. Horrocks, and Irene Philippaki-Warbuton, 131–167. Amsterdam: John Benjamins.
- Androulakis, Anna. 2001. Clitics and doubling in Greek. *Reading Working Papers in Linguistics* 5:85–111.
- Ángeles, Vicente. 2011. Relative pronoun (Arabic dialects). In *Encyclopedia of Arabic Language and Linguistics Online*, ed. Lutz Edzard and Rudolf de Jong. Leiden: Brill.
- Angelopoulos, Nikos, and Dominique Sportiche. 2021. Clitic dislocations and clitics in French and Greek: From interpretation to structure. *Natural Language & Linguistic Theory* 39:959–1022.
- Aoun, Joseph. 1993. The syntax of doubled arguments. *Anuario del Seminario de Filología Vasca "Julio de Urquijo"* 27:709–730.
- Aoun, Joseph. 1999. Clitic-doubled arguments. In *Beyond Principles and Parameters: Essays in Memory of Osvaldo Jaeggli*, ed. Kyle Johnson and Ian Roberts. Dordrecht: Springer.
- Aoun, Joseph. 2000. Resumption and last resort. *DELTA: Documentação de Estudos em Lingüística Teórica e Aplicada* 16:13–43.
- Aoun, Joseph. 2011a. Clitic. In *Encyclopedia of Arabic Language and Linguistics Online*, ed. Lutz Edzard and Rudolf de Jong. Leiden: Brill.
- Aoun, Joseph. 2011b. Resumption. In *Encyclopedia of Arabic Language and Linguistics Online*, ed. Lutz Edzard and Rudolf de Jong. Leiden: Brill.
- Aoun, Joseph, and Elabbas Benmamoun. 1998. Minimality, reconstruction, and PF movement. *Linguistic Inquiry* 29:569–597.

- Aoun, Joseph, and Lina Choueiri. 1996. Resumption and last resort. Ms., University of Southern California, Los Angeles.
- Aoun, Joseph, and Lina Choueiri. 1999. Modes of interrogation. In *Perspectives on Arabic Linguistics XII*, ed. Elabbas Benmamoun, 7–25. Amsterdam: John Benjamins.
- Aoun, Joseph, and Lina Choueiri. 2000. Epithets. *Natural Language & Linguistic Theory* 18:1–39.
- Aoun, Joseph, Lina Choueiri, and Norbert Hornstein. 2001. Resumption, movement, and derivational economy. *Linguistic Inquiry* 32:371–403.
- Aoun, Joseph, and Yen-hui Audrey Li. 1990. Minimal disjointness. *Linguistics* 28:189–203.
- Aoun, Joseph, and Yen-hui Audrey Li. 2003. *Essays on the Representational and Derivational Nature of Grammar: The Diversity of Wh-Constructions*. Cambridge, MA: MIT Press.
- Aoun, Joseph E., Elabbas Benmamoun, and Lina Choueiri. 2010. *The Syntax of Arabic*. Cambridge: Cambridge University Press.
- Aoun, Youssef, and Dominique Sportiche. 1981. The domain of Weak Cross-Over restrictions. *MITWPL* 3:43–52.
- Arad, Tali. 2014. The nature of resumptive pronouns: Evidence from parasitic gaps. Master's thesis, Tel Aviv University.
- Ariel, Mira. 1990. *Accessing Noun-Phrase Antecedents*. London/New York: Routledge.
- Arregi, Karlos. 2006. Reconstruction and Condition C in Spanish: A non-structural account. In *Selected Proceedings of the 9th Hispanic Linguistics Symposium*, ed. Nuria Sagarra and Almeida Jacqueline Toribio, 1–12. Somerville, MA: Cascadilla Proceedings Project.
- Arregi, Karlos, and Andrew Murphy. 2021. Parasitic gaps in ditransitives and antilocality. Pre-publication manuscript. To appear in *Proceedings of the 39th West Coast Conference in Formal Linguistics (WCCFL 39)*. Available at: <https://home.uchicago.edu/karlos/Arregi-Murphy-WCCFL39.pdf>.
- Arregi, Karlos, and Andrew Murphy. 2022. Argument-internal parasitic gaps. Ms., The University of Chicago.
- Arregi, Karlos, and Andrew Nevins. 2012. *Morphotactics: Basque Auxiliaries and the Structure of Spellout*. Dordrecht: Springer.
- Asudeh, Ash. 2004. Resumption as resource management. Doctoral Dissertation, Stanford University.
- Asudeh, Ash. 2011a. Local grammaticality in syntactic production. In *Language from a Cognitive Perspective: Grammar, Usage, and Processing*, ed. Emily Bender and Jennifer Arnold, 51–79. Stanford, CA: CSLI Publications.

- Asudeh, Ash. 2011b. Towards a unified theory of resumption. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 121–187. Amsterdam: John Benjamins.
- Asudeh, Ash. 2012. *The Logic of Pronominal Resumption*. Oxford: Oxford University Press.
- Asudeh, Ash. 2015. Resumptive pronouns: At the interface between syntax, form, and meaning. Handout from a talk presented at Ca' Foscari University, Venice.
- Asudeh, Ash, and Ida Toivonen. 2012. Copy raising and perception. *Natural Language & Linguistic Theory* 30:321–380.
- Awwad, Mohammad Amin Mahmoud Bakir. 1973. Relativization and related matters in Classical, Modern Standard, and Palestinian Colloquial Arabic. Doctoral Dissertation, Brown University.
- Ayoub, Georgine. 1981. Structure de la phrase verbale en Arabe Standard. Doctoral Dissertation, Université de Paris VII.
- Bach, Emmon, and Barbara H. Partee. 1980. Anaphora and semantic structure. In *Papers from the Parasession on Pronouns and Anaphora (CLS 16-2)*, ed. Jody Kreiman and Almerindo E. Ojeda, 1–28. Chicago: Chicago Linguistic Society.
- Bach, Emmon, and Barbara H. Partee. 1984. Quantification, pronouns, and VP anaphora. In *Truth, Interpretation and Information*, ed. Jeroen Groenendijk, Theo M. V. Janssen, and Martin Stokhof, 99–130. Dordrecht: Foris.
- Baier, Nicholas. 2018a. Anti-agreement. Doctoral Dissertation, University of California, Berkeley.
- Baier, Nico. 2018b. Spell-out, chains, and long distance wh-movement in Seereer. *Berkeley Papers in Formal Linguistics* 1:1–44.
- Baker, Mark. 1997. On particles in universal grammar: A review of den Dikken (1995). *Natural Language & Linguistic Theory* 15:641–666.
- Baker, Mark. 2015. *Case: Its Principles and Parameters*. Cambridge: Cambridge University Press.
- Baker, Mark, and Ruth Kramer. 2018. Doubled clitics are pronouns. *Natural Language & Linguistic Theory* 36:1035–1088.
- Baker, Mark C. 2008. The macroparameter in a microparametric world. In *The Limits of Syntactic Variation*, ed. Theresa Biberauer, 351–373. Amsterdam: John Benjamins.
- Bakir, Murtadha. 1979. Aspects of clause structure in Arabic: A study in word order variation in Literary Arabic. Doctoral Dissertation, Indiana University.

- Bakir, Murtadha J. 2019. *Huwwa*: A focus operator in Iraqi Arabic. In *Perspectives on Arabic Linguistics XXX*, ed. Amel Khalfaoui and Matthew A Tucker, 113–132. Amsterdam: John Benjamins.
- Bar-Moshe, Assaf. 2021. The argument flagging and indexing construction in the Jewish Arabic dialect of Baghdad. *Journal of Semitic Studies* 66:413–440.
- Barbiers, Sjef. 2002. Remnant stranding and the theory of movement. In *Dimensions of Movement: From Features to Remnants*, ed. Artemis Alexiadou, Elena Anagnostopoulou, Sjef Barbiers, and Hans-Martin Gaertner, 47–69. Amsterdam: John Benjamins.
- Barker, Chris. 2012. Quantificational binding does not require c-command. *Linguistic Inquiry* 43:614–633.
- Barker, Chris. 2019. Evaluation order, crossover, and reconstruction. In *Reconstruction Effects in Relative Clauses*, ed. Manfred Krifka and Mathias Schenner, 357–385. Berlin: De Gruyter.
- Barss, Andrew. 1986. Chains and anaphoric dependence: On reconstruction and its implications. Doctoral Dissertation, MIT.
- Barss, Andrew. 2001. Syntactic reconstruction effects. In *The Handbook of Contemporary Syntactic Theory*, ed. Mark Baltin and Chris Collins, 670–696. Malden, MA: Blackwell.
- Bassi, Itai, and Ezer Rasin. 2018. Equational-intensional relative clauses with syntactic reconstruction. In *Proceedings of Sinn und Bedeutung 22*, 143–159.
- Bayer, Josef. 1996. *Directionality and Logical Form*. Dordrecht: Kluwer.
- Beavers, John. 2011. An aspectual analysis of ditransitive verbs of caused possession in English. *Journal of Semantics* 28:1–54.
- Behnstedt, Peter, and Manfred Woidich. 2021. *Wortatlas der arabischen Dialekte. Band IV: Funktionswörter, Adverbien, Phraseologisches: eine Auswahl*. Leiden: Brill.
- Béjar, Susana. 1999. Agreement alternations and functional licensing in Selayarese. *Toronto Working Papers in Linguistics* 16:51–61.
- Béjar, Susana, and Milan Rezac. 2003. Person licensing and the derivation of PCC effects. In *Romance Linguistics: Theory and Acquisition*, ed. Ana Teresa Pérez-Leroux and Yves Roberge, 49–62. Amsterdam: John Benjamins.
- Belletti, Adriana. 2005. Extended doubling and the VP-periphery. *Probus* 17:1–35.
- Belnap, R. Kirk. 1991. Grammatical agreement variation in Cairene Arabic. Doctoral Dissertation, University of Pennsylvania.

- Beltrama, Andrea, and Ming Xiang. 2016. Unacceptable but comprehensible: the facilitation effect of resumptive pronouns. *Glossa: A Journal of General Linguistics* 1:1–24. DOI: <http://dx.doi.org/10.5334/gjgl.24>.
- Benmamoun, Elabbas. 2000. *The Feature Structure of Functional Categories: A Comparative Study of Arabic Dialects*. Oxford: Oxford University Press.
- Benmamoun, Elabbas, and Lina Choueiri. 2013. The syntax of Arabic from a generative perspective. In *The Oxford Handbook of Arabic Linguistics*, ed. Jonathan Owens, 115–164. Oxford: Oxford University Press.
- Berent, Gerald P. 1980. On the realization of trace: Macedonian clitic pronouns. In *Morphosyntax in Slavic*, ed. Catherine V. Chvany and Richard D. Brecht, 150–186. Columbus, OH: Slavica.
- Bhatt, Rajesh. 2002. The raising analysis of relative clauses: Evidence from adjectival modification. *Natural Language Semantics* 10:43–90.
- Bhatt, Rajesh. 2015. Relative clauses and correlatives. In *Syntax – Theory and Analysis. An International Handbook, Volume 1*, ed. Tibor Kiss and Artemis Alexiadou, 708–749. Berlin: De Gruyter.
- Bhatt, Rajesh, and Stefan Keine. 2019. Secondary strong crossover in Hindi and the typology of movement. In *Proceedings of NELS 49, Vol. 1*, ed. Maggie Baird and Jonathan Pesetsky, 125–134. Amherst, MA: GLSA Publications.
- Bianchi, Valentina. 1999. *Consequences of Antisymmetry*. Berlin: De Gruyter.
- Bianchi, Valentina. 2004. Resumptive relatives and LF chains. In *The Structure of CP and IP: The Cartography of Syntactic Structures, Volume 2*, ed. Luigi Rizzi, 76–114. Oxford: Oxford University Press.
- Bianchi, Valentina. 2011. Some notes on the ‘specificity effects’ of optional resumptive pronouns. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 319–342. Amsterdam: John Benjamins.
- Biloa, Edmond. 1990. Resumptive pronouns in Tuki. *Studies in African Linguistics* 21:211–236.
- Biloa, Edmond. 2013. *The Syntax of Tuki: A Cartographic Approach*. Amsterdam: John Benjamins.
- Blanc, Haim. 1964. *Communal Dialects in Baghdad*. Cambridge, MA: Harvard University.
- Bleam, Tonia M. 2000. *Leísta Spanish and the syntax of clitic doubling*. University of Delaware.

- Boeckx, Cedric. 2001. Scope reconstruction and A-movement. *Natural Language & Linguistic Theory* 19:503–548.
- Boeckx, Cedric. 2003. *Islands and Chains: Resumption as Stranding*. Amsterdam: John Benjamins.
- Boeckx, Cedric. 2008a. *Bare Syntax*. Oxford: Oxford University Press.
- Boeckx, Cedric. 2008b. *Understanding Minimalist Syntax: Lessons from Locality in Long-Distance Dependencies*. Malden, MA: Blackwell.
- Boeckx, Cedric. 2010. A tale of two minimalisms: Reflections on the plausibility of crash-proof syntax, and its free-merge alternative. In *Exploring Crash-Proof Grammars*, ed. Michael T Putnam, 105–123. Amsterdam: John Benjamins.
- Boeckx, Cedric. 2012. *Syntactic Islands*. Cambridge: Cambridge University Press.
- Boeckx, Cedric, and Norbert Hornstein. 2008. Superiority, reconstruction, and islands. In *Foundational Issues in Linguistic Theory*, ed. Robert Freidin, Carlos P Otero, and Maria Luisa Zubizarreta, 197–225. Cambridge, MA: MIT Press.
- Bolotin, Naomi. 1997. Arabic speakers and parasitic gaps. In *Perspectives on Arabic Linguistics X*, ed. Mushira Eid and Robert Ratcliffe, 273–282. Amsterdam: John Benjamins.
- Bondaruk, Anna. 1995. Resumptive pronouns in English and Polish. In *Licensing in Syntax and Phonology*, ed. Edmund Gussmann, 27–55. Lublin: Folium.
- Bonet, Eulalia. 1991. Morphology after syntax: Pronominal clitics in Romance. Doctoral Dissertation, MIT.
- Borer, Hagit. 1981. The definition of variables. *Journal of Linguistic Research* 1:16–40.
- Borer, Hagit. 1984a. *Parametric Syntax: Case Studies in Semitic and Romance Languages*. Dordrecht: Foris Publications.
- Borer, Hagit. 1984b. Restrictive relatives in Modern Hebrew. *Natural Language & Linguistic Theory* 2:219–260.
- Borer, Hagit. 1999. Deconstructing the construct. In *Beyond principles and parameters*, ed. Kyle Johnson and Ian Roberts, 43–89. Dordrecht: Kluwer.
- Borg, Albert, and Marie Azzopardi-Alexander. 1997. *Maltese*. London: Routledge.
- Borg, Alexander. 1981. *A Study of Aspect in Maltese*. Ann Arbor, MI: Karoma.
- Borsley, Robert D. 2013. On the nature of Welsh unbounded dependencies. *Lingua* 133:1–29.
- Borsley, Robert D., Maggie Tallerman, and David Willis. 2007. *The Syntax of Welsh*. Cambridge: Cambridge University Press.

- Bošković, Željko. 2007. On the locality and motivation of Merge and Agree: An even more minimal theory. *Linguistic Inquiry* 38:589–644.
- Bošković, Željko. 2009. On relativization strategies and resumption. In *Studies in Formal Slavic Phonology, Morphology, Syntax, Semantics and Information Structure. Proceedings of FDSL 7, Leipzig 2007*, ed. Gerhild Zybatow, Uwe Junghanns, Denisa Lenertová, and Petr Biskup, 79–93. Frankfurt (Main): Peter Lang.
- Bošković, Željko. 2022. Wh&wh coordinations. Ms., University of Connecticut. Available at <https://ling.auf.net/lingbuzz/006842>.
- Branan, Kenyon, and Michael Yoshitaka Erlewine. 2021. Binding reconstruction and two modes of copy-chain interpretation. *Proceedings of the Linguistic Society of America* 6:734–745.
- Branan, Kenyon, and Michael Yoshitaka Erlewine. 2022. \bar{A} -probing for the closest DP. *Linguistic Inquiry* 1–27. Early Access article.
- Brasoveanu, Adrian, and Jakub Dotlačil. 2021. Donkey anaphora: Farmers and bishops. In *The Wiley Blackwell Companion to Semantics*, ed. Daniel Gutzmann, Lisa Matthewson, Cécile Meier, Hotze Rullmann, and Thomas Ede Zimmermann. Malden, MA: Wiley-Blackwell, 1 edition.
- Bresnan, Joan. 1994. Linear order vs. syntactic rank: Evidence from Weak Crossover. In *CLS 30: Papers from the 30th Regional Meeting of the Chicago Linguistic Society. Volume 1: The Main Session*, ed. Katharine Beals, Jeannette Denton, Robert Knippen, Lynette Melnar, Hisami Suzuki, and Erica Zeinfeld, 57–89. Chicago, IL: Chicago Linguistic Society.
- Broihier, Kevin. 1995. Optimality theoretic rankings with tied constraints: Slavic relatives, resumptive pronouns and learnability. Unpublished ms., MIT.
- Browning, Marguerite. 1987. Null operator constructions. Doctoral Dissertation, MIT.
- Bruening, Benjamin. 2006. Differences between the wh-scope-marking and wh-copy constructions in Passamaquoddy. *Linguistic Inquiry* 37:25–49.
- Bruening, Benjamin. 2010. Double object constructions disguised as prepositional datives. *Linguistic Inquiry* 41:287–305.
- Bruening, Benjamin. 2013. *By* phrases in passives and nominals. *Syntax* 16:1–41.
- Bruening, Benjamin. 2014. Precede-and-command revisited. *Language* 342–388.
- Bruening, Benjamin. 2018. Double object constructions and prepositional dative constructions are distinct: A reply to Ormazabal and Romero 2012. *Linguistic Inquiry* 49:123–150.
- Bruening, Benjamin. 2021. Generalizing the presuppositional approach to the binding conditions. *Syntax* 24:417–461.

- Bruening, Benjamin. 2022a. Hebrew nominals do not require functional structure above the NP. *Glossa* 7.
- Bruening, Benjamin. 2022b. Locative inversion, PP topicalization, and weak crossover in English. *Journal of Linguistics* 58:739–757.
- Bruening, Benjamin, and Eman Al Khalaf. 2019. No argument-adjunct asymmetry in reconstruction for Binding Condition C. *Journal of Linguistics* 55:247–276.
- Brustad, Kristen E. 2000. *The Syntax of Spoken Arabic: A Comparative Study of Moroccan, Egyptian, Syrian, and Kuwaiti Dialects*. Washington, D.C.: Georgetown University Press.
- Büring, Daniel. 2004. Crossover situations. *Natural Language Semantics* 12:23–62.
- Büring, Daniel. 2005. *Binding theory*. Cambridge: Cambridge University Press.
- Büring, Daniel. 2005. Bound to bind. *Linguistic Inquiry* 36:259–274.
- Cable, Seth. 2007. The grammar of Q: Q-particles and the nature of wh-fronting, as revealed by the wh-questions of Tlingit. Doctoral Dissertation, MIT.
- Cable, Seth. 2008. Some background on Principle C. Class handout, University of Massachusetts, Amherst. Available at <https://people.umass.edu/scable/PNWSeminar/handouts/PrinC/>.
- Cable, Seth. 2010a. Against the existence of pied-piping: Evidence from Tlingit. *Linguistic Inquiry* 41:563–594.
- Cable, Seth. 2010b. *The grammar of Q: Q-particles, wh-movement, and pied-piping*. Oxford: Oxford University Press.
- Cable, Seth. 2013. Pied-piping: Introducing two recent approaches. *Language and Linguistics Compass* 6:816–832.
- Camilleri, Maris. 2012. The Maltese relative clause: A source of Standard-dialect variation. *Ilsienna – Our Language. Working Papers of the International Association of Maltese Linguistics* 2:1–12.
- Camilleri, Maris. 2014. The Maltese restrictive relative clause. In *Perspectives on Maltese Linguistics*, ed. Alexander Borg, Sandro Caruana, and Alexandra Vella, 161–200. Berlin: Alexander Verlag.
- Camilleri, Maris, and Louisa Sadler. 2011a. An LFG approach to non-restrictive relative clauses in Maltese. *Essex Research Reports in Linguistics* 60.
- Camilleri, Maris, and Louisa Sadler. 2011b. Restrictive relative clauses in Maltese. In *Proceedings of the LFG11 Conference*, ed. Miriam Butt and Tracy Holloway King. Stanford, CA: CSLI Publications.

- Camilleri, Maris, and Louisa Sadler. 2012. On the analysis of non-selected datives in Maltese. In *Proceedings of LFG12*, ed. Miriam Butt and Tracy Holloway King, 118–138. Stanford, CA: CSLI Publications.
- Camilleri, Maris, and Louisa Sadler. 2016. Relativisation in Maltese. *Transactions of the Philological Society* 114:117–145.
- Campos, Héctor. 1991. Silent objects and subjects in Spanish. In *Current Studies in Spanish Linguistics*, ed. Héctor Campos and Fernando Martinez-Gil, 117–141. Washington D.C.: Georgetown University Press.
- Cecchetto, Carlo. 2000. Doubling structures and reconstruction. *Probus: International Journal of Latin and Romance Linguistics* 12:93–126.
- Cecchetto, Carlo. 2001. Syntactic or semantic reconstruction? Evidence from pseudoclefts and clitic left dislocation. In *Semantic Interfaces: Reference, Anaphora and Aspect*, ed. Carlo Cecchetto, Gennaro Chierchia, and Maria Teresa Guasti, 90–144. Stanford: CSLI Publications.
- Chacón, Dustin A. 2019. Minding the gap?: Mechanisms underlying resumption in English. *Glossa* 4:1–41.
- Chao, Wynn, and Peter Sells. 1983. On the interpretation of resumptive pronouns. In *Proceedings of NELS 13*, ed. Peter Sells and Charles Jones, 47–61. Amherst, MA: Graduate Linguistics Student Association.
- Chatsiou, Aikaterini. 2010. An LFG approach to Modern Greek relative clauses. Doctoral Dissertation, University of Essex.
- Chatsiou, Aikaterini K. 2006. On the status of resumptive pronouns in Modern Greek restrictive relative clauses. In *Proceedings of the LFG06 Conference, Universität Konstanz*, ed. Miriam Butt and Tracy Holloway King, 1–20. Stanford: CSLI Publications.
- Chierchia, Gennaro. 2020. Origins of weak crossover: when dynamic semantics meets event semantics. *Natural Language Semantics* 28:23–76.
- Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, MA: The MIT Press.
- Chomsky, Noam. 1973. Conditions on transformations. In *A Festschrift for Morris Halle*, ed. Stephen A Anderson and Paul Kiparsky, 232–286. New York: Holt, Rinehart and Wilson.
- Chomsky, Noam. 1976. Conditions on rules of grammar. *Linguistic Analysis* 2:303–351.
- Chomsky, Noam. 1977. On wh-movement. In *Formal Syntax*, ed. Peter Culicover, Thomas Wasow, and Adrian Akmajian, 71–132. New York: Academic Press.
- Chomsky, Noam. 1980. On binding. *Linguistic Inquiry* 11:1–46.

- Chomsky, Noam. 1981. *Lectures on Government and Binding: The Pisa Lectures*. Dordrecht: Foris Publications.
- Chomsky, Noam. 1982. *Some concepts and consequences of the theory of government and binding*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, ed. Kenneth Hale and Samuel Jay Keyser, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1995a. Bare phrase structure. In *Government and Binding Theory and The Minimalist Program*, ed. Gert Webelhuth, 383–439. Cambridge, MA: Blackwell.
- Chomsky, Noam. 1995b. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001a. Beyond explanatory adequacy. In *MIT Occasional Papers in Linguistics 20*. Cambridge, MA: MIT, Department of Linguistics and Philosophy, MITWPL.
- Chomsky, Noam. 2001b. Derivation by phase. In *Ken Hale: A Life in Language*, ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and Beyond: The Cartography of Syntactic Structures*, ed. Adriana Belletti, 104–131. Oxford: Oxford University Press.
- Chomsky, Noam. 2007. Approaching UG from below. In *Interfaces + Recursion = Language?*, ed. Uli Sauerland and Hans-Martin Gärtner, 1–29. Berlin: De Gruyter.
- Chomsky, Noam. 2008. On phases. In *Foundational Issues in Linguistic Theory*, ed. Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133–166. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33–49.
- Chomsky, Noam. 2015. Problems of projection: Extensions. In *Structures, Strategies, and Beyond: Studies in honour of Adriana Belletti*, ed. Elisa Di Domenico, Cornelia Hamann, and Simona Matteini, 3–16. Amsterdam: John Benjamins.
- Chomsky, Noam. 2020. Puzzles about phases. In *Linguistic Variation: Structure and Interpretation*, ed. Ludovico Franco and Paulo Lorusso, 163–168. Boston/Berlin: De Gruyter Mouton.

- Chomsky, Noam. 2021. Minimalism: Where are we now, and where can we hope to go. *Gengo Kenkyu (Journal of the Linguistic Society of Japan)* 160:1–41.
- Chomsky, Noam, Ángel J Gallego, and Dennis Ott. 2019. Generative grammar and the faculty of language: Insights, questions, and challenges. *Catalan Journal of Linguistics* 229–261.
- Chomsky, Noam, and Howard Lasnik. 1977. Filters and control. *Linguistic Inquiry* 8:425–504.
- Choueiri, Lina. 2002. Issues in the syntax of resumptive restrictive relatives. Doctoral Dissertation, University of Southern California, Los Angeles.
- Choueiri, Lina. 2016. The pronominal copula in Arabic. *Brill's Journal of Afroasiatic Languages and Linguistics* 8:101–135.
- Choueiri, Lina. 2017. Resumption in varieties of Arabic. In *The Routledge Handbook of Arabic Linguistics*, ed. Reem Bassiouney and Elabbas Benmamoun, 147–169. Milton Park, Abingdon, Oxon: Routledge.
- Chung, Sandra. 2008. Indonesian clause structure from an Austronesian perspective. *Lingua* 118:1554–1582.
- Chung, Sandra, and Matthew W. Wagers. 2021. On the universality of intrusive resumption: Evidence from Chamorro and Palauan. *Natural Language & Linguistic Theory* 39:759–801.
- Cinque, Guglielmo. 1990. *Types of \bar{A} -Dependencies*. Cambridge, MA: MIT press.
- Cinque, Guglielmo. 2020. *The Syntax of Relative Clauses: A Unified Analysis*. Cambridge: Cambridge University Press.
- Citko, Barbara. 2001. Deletion under identity in relative clauses. In *Proceedings of NELS 31*, ed. Uri Strauss and Kim Minjoo, 131–145. Amherst, MA: GLSA.
- Citko, Barbara. 2002. (anti)reconstruction effects in free relatives: A new argument against the Comp account. *Linguistic Inquiry* 33:507–511.
- Citko, Barbara. 2005. On the nature of Merge: External Merge, Internal Merge, and Parallel Merge. *Linguistic Inquiry* 36:475–496.
- Citko, Barbara. 2014. *Phase Theory: An Introduction*. Cambridge: Cambridge University Press.
- Citko, Barbara, and Martina Gračanin-Yuksek. 2021. *Merge: Binariness in (multidominant) syntax*. Cambridge, MA: MIT Press.
- Clements, George N. 1984. Binding domains in Kikuyu. *Studies in the Linguistic Sciences* 14:37–56.

- Clements, George N., James McCloskey, Joan Maling, and Annie Zaenen. 1983. String-vacuous rule application. *Linguistic Inquiry* 14:1–17.
- Cole, Peter, and Gabriella Hermon. 1998. The typology of wh-movement: Wh-questions in Malay. *Syntax* 1:221–258.
- Cole, Peter, and Gabriella Hermon. 2005. Subject and non-subject relativization in Indonesian. *Journal of East Asian Linguistics* 14:59–88.
- Cole, Peter, Gabriella Hermon, and Yassir Tjung. 2003. The formation of relative clauses in Jakarta Indonesian: Data from adults and children. Paper presented at ISMIL 7, Nijmegen, The Netherlands, June 2003.
- Collins, Chris. 2002. Eliminating labels. In *Derivation and Explanation in the Minimalist Program*, ed. Samuel David Epstein and T. Daniel Seely, 42–64. Oxford: Blackwell.
- Collins, Chris. 2017. Merge(X,Y) = {X,Y}. In *Labels and Roots*, ed. Leah Bauke and Andreas Blümel, 47–68. Berlin: De Gruyter.
- Collins, Chris, and Erich Groat. 2018. Distinguishing copies and repetitions. Ms., NYU.
- Collins, Chris, and Edward Stabler. 2016. A formalization of minimalist syntax. *Syntax* 19:43–78.
- Comorovski, Ileana. 1986. Multiple *wh* movement in Romanian. *Linguistic Inquiry* 171–177.
- Comrie, Bernard. 1973. Clause structure and movement constraints in Russian. In *Papers from the Ninth Regional Meeting, Chicago Linguistic Society*.
- Contreras, Heles. 1984. A note on parasitic gaps. *Linguistic Inquiry* 15:698–701.
- Contreras, Heles. 1991. On resumptive pronouns. In *Current Studies in Spanish Linguistics*, ed. Hector Campos and Fernando Martinez-Gil, 143–163. Washington, D.C.: Georgetown University Press.
- Contreras, Heles. 1999. Deconstructing weak crossover. In *Grammatical Analyses in Basque and Romance Linguistics*, ed. Jon A. Franco, Alazne Landa, and Juan Martín, 35–44. Amsterdam: John Benjamins.
- Coon, Jessica, and Stefan Keine. 2021. Feature gluttony. *Linguistic Inquiry* 52:655–710.
- Cooper, Robin. 1979. The interpretation of pronouns. In *Syntax and Semantics 10: Selections from the Third Groningen Round Table*, ed. Frank Heny and Helmut Schnelle, 61–92. New York, NY: Academic Press.
- Cornilescu, Alexandra. 2006. On clitic doubling and parasitic gaps in Romanian. *Revue Roumaine De Linguistique* 51:23–42.

- Cornilescu, Alexandra, and Carmen Dobrovie-Sorin. 2008. Clitic doubling, complex heads and interarboreal operations. In *Clitic Doubling in the Balkan Languages*, ed. Dalina Kalluli and Liliane Tasmowski, 289–320. Amsterdam: John Benjamins.
- Cowell, Mark W. 1964. *A Reference Grammar of Syrian Arabic*. Washington, D.C.: Georgetown University Press.
- Cresti, Diana. 1995. Extraction and reconstruction. *Natural Language Semantics* 3:79–122.
- Crysmann, Berthold. 2012. Resumption and island-hood in Hausa. In *Formal Grammar: 15th and 16th International Conferences, FG 2010, Copenhagen, Denmark, August 2010, FG 2011, Ljubljana, Slovenia, August 2011, Revised Selected Papers*, ed. Philippe de Groote and Mark-Jan Nederhof, 50–65. Berlin, Heidelberg: Springer Berlin Heidelberg.
- Culicover, Peter W. 2001. Parasitic gaps: A history. In *Parasitic Gaps*, ed. Peter W. Culicover and Paul M. Postal, 3–68. Cambridge, MA: MIT Press.
- Danon, Gabi. 2008. Definiteness spreading in the Hebrew construct state. *Lingua* 118:872–906.
- Darrow, James. 2003. Relative clauses in Syrian Arabic: Two reconstruction problems. In *Perspectives on Arabic Linguistics XV*, ed. Dilworth B. Parkinson and Samira Farwanah, 53–83. Amsterdam: John Benjamins.
- Daskalaki, Evangelia. 2011. Case mis-matching as Kase stranding. *UPenn Working Papers in Linguistics* 17:77–86.
- Daskalaki, Evangelia, and Marios Mavrogiorgos. 2013. Obligatory resumption in Greek free and restrictive relatives. In *Syntax and its limits*, ed. Raffaella Folli, Christina Sevdali, and Robert Truswell, 324–344. Oxford: Oxford University Press.
- Davies, William D. 2003. Extreme locality in Madurese wh-questions. *Syntax* 6:237–259.
- Davis, Colin. 2020a. Crossing and stranding at edges: On intermediate stranding and phase theory. *Glossa* 5:1–32.
- Davis, Colin. 2020b. The linear limitations of syntactic derivations. Doctoral Dissertation, MIT.
- Davis, Colin, and Luis Miguel Toquero-Pérez. 2022. The significance of parasitic gap licensing by pronominal cliticization in Spanish. Ms. to be published *The Proceedings of WCCFL 40*. Available at <https://ling.auf.net/lingbuzz/006757>.
- Davis, Henry, Ryan Waldie, and Rachel Wojdak. 2007. Condition C effects in Nuu-chah-nulth. *Canadian Journal of Linguistics/Revue canadienne de linguistique* 52:185–222.
- Dayal, Veneeta Srivastav. 1994. Scope marking as indirectwh-dependency. *Natural language semantics* 2:137–170.

- Deal, Amy Rose. 2016. Cyclicity and connectivity in Nez Perce relative clauses. *Linguistic Inquiry* 47:427–470.
- Deal, Amy Rose. 2020. 3-on-3 restrictions and PCC typology: a reply to Pancheva and Zubizarreta (2018). Ms., UC Berkeley. Available at <http://linguistics.berkeley.edu/~ardeal/papers/Deal-Ubykh.pdf>.
- Deal, Amy Rose. 2021. Interaction, satisfaction, and the PCC. *Linguistic Inquiry* 1–80.
- Déchaine, Rose-Marie, and Martina Wiltschko. 2017. Bound variable anaphora. In *The Wiley Blackwell Companion to Syntax, Second Edition*, ed. Martin Everaert and Henk C. van Riemsdijk, 1–33. Malden, MA: Wiley-Blackwell.
- Degraff, Michel. 1992. The syntax of predication in Haitian. In *Proceedings of NELS 22*, ed. Kimberley Broderick, 103–117. Amherst, MA: GLSA Publications.
- Demirdache, Hamida. 1991. Resumptive chains in restrictive relatives, appositives, and dislocation structures. Doctoral Dissertation, MIT.
- Demirdache, Hamida. 1997. Dislocation, resumption, and weakest crossover. In *Materials on Left Dislocation*, 193–232. Amsterdam: John Benjamins.
- Demirdache, Hamida, and Orin Percus. 2009. When a pronoun is not a pronoun? The case of resumptives. In *Proceedings of NELS 38*, ed. Anisa Schardl, Martin Walkow, and Muhammad Abdurrahman, 231–244. Amherst, MA: GLSA.
- Demirdache, Hamida, and Orin Percus. 2011. Resumptives, movement and interpretation. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 367–393. Amsterdam: John Benjamins.
- Demirdache, Hamida, and Orin Percus. 2012. Coping with differences in the resumptive family. Epithets & related species. Paper presented at the *Workshop on resumption: Celebrating thirty years to 'On the Syntax and Semantics of Resumptive Pronouns' by Edit Doron, organised by Ivy Sichel*, The Hebrew University of Jerusalem, Jerusalem, Israel.
- Di Tullio, Ángela, Andrés Saab, and Pablo Zdrojewski. 2019. Clitic doubling in a doubling world: The case of Argentinean Spanish reconsidered. In *The Syntactic Variation of Spanish Dialects*, ed. Ángel J Gallego, 215–244. Oxford: Oxford University Press.
- Dickey, Michael W. 1996. Constraints on the sentence processor and the distribution of resumptive pronouns. In *Linguistics in the Laboratory*, ed. Michael W Dickey and Susanne Tunstall, 157–192. Amherst, MA: GLSA Publications.
- den Dikken, Marcel. 2017. Overtly marked *wh*-paths. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Walden, MA: Wiley-Blackwell, 2nd edition.

- Dobrovie-Sorin, Carmen. 1990. Clitic doubling, *wh*-movement, and quantification in Romanian. *Linguistic Inquiry* 21:351–397.
- Döhla, Hans-Jorg. 2016. The origin of differential object marking in Maltese. In *Shifts and Patterns in Maltese*, ed. Gilbert Puech and Benjamin Saade, 149–174. Berlin: De Gruyter.
- Ọmọroyi, Thomas O. 1989. Focus and question formation in Edo. *Studies in African Linguistics* 20:279–300.
- Doron, Edit. 1982. On the syntax and semantics of resumptive pronouns. *Texas Linguistic Forum* 19:1–48. Reprinted in Rouveret (2011), pp. 289–317.
- Douglas, Jamie Alexander. 2016. The syntactic structures of relativisation. Doctoral Dissertation, University of Cambridge.
- Drummond, Alex. 2021. Remarks on Rule H. *Glossa* 6:1–16.
- Eid, Mushira. 1975. Arabic relativization: Shadow deletion or pronoun drop? *Minnesota Working Papers in Linguistics and Philosophy of Language* 4:19–29.
- Eid, Mushira. 1983. The copula function of pronouns. *Lingua* 59:197–207.
- Eid, Mushira. 1991. Verbless sentences in Arabic and Hebrew. In *Perspectives on Arabic Linguistics III*, ed. Bernard Comrie and Mushira Eid, 31–62. Amsterdam: John Benjamins.
- Eilam, Aviad. 2011. Explorations in the informational component. Doctoral Dissertation, University of Pennsylvania.
- Elbourne, Paul. 2001. E-type anaphora as NP-deletion. *Natural Language Semantics* 9:241–288.
- Elbourne, Paul. 2008. The interpretation of pronouns. *Language and Linguistics Compass* 2:119–150.
- Elbourne, Paul. 2013. *Definite Descriptions*. Oxford: Oxford University Press.
- Elbourne, Paul D. 2005. *Situations and Individuals*. Cambridge, MA: MIT Press.
- Elomari, Abdessalam. 1998. The unoptionality of resumptive pronouns: The case of Moroccan Arabic. In *Perspectives on Arabic Linguistics XI*, ed. Elabbas Benmamoun, Mushira Eid, and Niloofar Haeri, 47–64. Amsterdam: John Benjamins.
- Engdahl, Elisabet. 1980. The syntax and semantics of questions in Swedish. Doctoral Dissertation, University of Massachusetts, Amherst.
- Engdahl, Elisabet. 1982. Restrictions on unbounded dependencies in Swedish. In *Readings on Unbounded Dependencies in Scandinavian Languages*, ed. Elisabet Engdahl and Eva Ejerhed, 151–174. Stockholm: Almqvist and Wiksell International.

- Engdahl, Elisabet. 1983. Parasitic gaps. *Linguistics and Philosophy* 6:5–34.
- Engdahl, Elisabet. 1985. Parasitic gaps, resumptive pronouns, and subject extractions. *Linguistics* 23:3–44.
- Engdahl, Elisabet. 1986. *Constituent Questions*. Dordrecht: Kluwer.
- Epstein, Samuel D., and T. Daniel Seely. 2006. *Derivations in Minimalism*. Cambridge: Cambridge University Press.
- Epstein, Samuel David, Erich M. Groat, Ruriko Kawashima, and Hisatsugu Kitahara. 1998. *A derivational approach to syntactic relations*. Oxford: Oxford University Press.
- Epstein, Samuel David, Hisatsugu Kitahara, and T. Daniel. 2014. Labeling by minimal search: Implications for successive-cyclic A-movement and the conception of the postulate “Phase”. *Linguistic Inquiry* 45:463–481.
- Epstein, Samuel David, Hisatsugu Kitahara, and T. Daniel. 2015. From *Aspects*’ ‘daughterless mothers’ (aka delta nodes) to *POP*’s ‘motherless sets’ (aka non-projection): A selective history of the evolution of Simplest Merge. In *50 Years Later: Reflections on Chomsky’s Aspects*, ed. Ángel J. Gallego and Dennis Ott, 99–112. Cambridge, MA: MITWPL.
- Erlewine, Michael Yoshitaka. 2020. Anti-locality and subject extraction. *Glossa* 5.
- Erlewine, Michael Yoshitaka, and Cheryl Lim. 2022. Bikol clefts and topics and the Austronesian extraction restriction. *To appear in Natural Language & Linguistic Theory* .
- Ermolaeva, Marina. 2021. Learning syntax via decomposition. Doctoral Dissertation, The University of Chicago.
- Ershova, Ksenia. 2019. Syntactic ergativity in West Circassian. Doctoral Dissertation, The University of Chicago.
- Ershova, Ksenia. 2023a. Ergatives are special: Parasitic resumptives and the Ergative Extraction Constraint in Samoan. Presented at the LSA 2023 Annual Meeting. Slides available at http://web.mit.edu/kershova/www/Ershova_LSA2023_slides.pdf.
- Ershova, Ksenia. 2023b. ϕ -feature mismatches in Samoan resumptives as postsyntactic impoverishment. Presented at CLS 59. Slides available at https://web.mit.edu/kershova/www/Ershova_CLS2023_handout.pdf.
- Erteschik-Shir, Nomi. 1992. Resumptive pronouns in islands. In *Island Constraints. Theory, Acquisition and Processing*, ed. Helen Goodluck and Michael Rochemont, 89–108. Dordrecht: Kluwer Academic Publishers.
- Erwin, Wallace M. 1963. *A Short Reference Grammar of Iraqi Arabic*. Washington D.C.: Georgetown University Press.

- Erwin, Wallace M. 2004. *A Basic Course in Iraqi Arabic*. Washington, D.C.: Georgetown University Press.
- Evans, Gareth. 1977. Pronouns, quantifiers, and relative clauses (I). *Canadian Journal of Philosophy* 7:467–536.
- Evans, Gareth. 1980. Pronouns. *Linguistic Inquiry* 11:337–362.
- Fanselow, Gisbert, and Damir Ćavar. 2001. Remarks on the economy of pronunciation. In *Competition in syntax*, ed. Gereon Müller and Wolfgang Sternefeld, 107–150. Berlin: De Gruyter.
- Fanselow, Gisbert, and Damir Ćavar. 2002. Distributed deletion. In *Theoretical Approaches to Universals*, ed. Artemis Alexiadou, 65–107. Amsterdam: John Benjamins.
- Fanselow, Gisbert, and Anoop Mahajan. 2000. Towards a minimalist theory of wh-expletives, wh-copying and successive cyclicity. In *Wh-Scope Marking*, ed. Uli Lutz, Gereon Müller, and Arnim von Stechow, 195–230. Amsterdam: John Benjamins.
- Farghaly, Ali Ahmed Sabry. 1981. Topics in the syntax of Egyptian Arabic. Doctoral Dissertation, The University of Texas at Austin.
- Fassi Fehri, Abdelkader. 1978. Comparatives and free relatives in Arabic. *Recherches Linguistique de Vincennes* 7:47–88.
- Fassi Fehri, Abdelkader. 1982. *Linguistique Arabe: Form et Interpretation*. Rabat: Publications de la Faculté des Lettres et des Sciences Humaines.
- Fassi Fehri, Abdelkader. 1993. *Issues in the Structure of Arabic Clauses and Words*. Dordrecht: Kluwer.
- Feldman, Harry. 1978. Passivizing on datives in Greek. *Linguistic Inquiry* 9:499–502.
- Felser, Claudia. 2004. Wh-copying, phases, and successive cyclicity. *Lingua* 114:543–574.
- Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge, MA: MIT Press.
- Finer, Daniel. 1999. Cyclic clitics in Selayarese. *Toronto Working Papers in Linguistics* 16:137–159.
- Finer, Daniel L. 1997. Contrasting \bar{A} -dependencies in Selayarese. *Natural Language & Linguistic Theory* 15:677–728.
- Fong, Suzana. 2019. Proper movement through Spec-CP: An argument from hyperraising in Mongolian. *Glossa* 4:1–42.
- Fox, Danny. 1994. Relative clauses and resumptive pronouns in Hebrew: An optimality theoretic account. Unpublished ms., MIT.

- Fox, Danny. 1999. Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry* 30:157–196.
- Fox, Danny. 2000. *Economy and Semantic Interpretation*. Cambridge, MA: MIT Press.
- Fox, Danny. 2002. Antecedent-contained deletion and the copy theory of movement. *Linguistic inquiry* 33:63–96.
- Fox, Danny. 2020. Resumptive pronouns. MIT class notes.
- Fox, Danny, and David Pesetsky. 2005. Cyclic linearization of syntactic structure. *Theoretical Linguistics* 31:1–45.
- Franco, Jon Andoni. 1993. On object agreement in Spanish. Doctoral Dissertation, University of Southern California.
- Franks, Steven. 1993. On parallelism in across-the-board dependencies. *Linguistic Inquiry* 24:509–529.
- Freidin, Robert. 1986. Fundamental issues in the theory of binding. In *Studies in the Acquisition of Anaphora*, ed. Barbara Lust, 151–188. Dordrecht: Reidel.
- Freidin, Robert, and Rex Sprouse. 1991. Lexical case phenomena. In *Principles and Parameters in Comparative Grammar*, ed. Robert Freidin, 392–416. Cambridge, MA: MIT Press.
- de Freitas, Leslie, and Máire Noonan. 1991. Head movement, agreement and negation in Welsh relatives. In *CLS 27: Papers from the 27th Regional Meeting of the Chicago Linguistic Society. Part Two: The Parasession on Negation*, ed. Lise M Dobrin, Lynn Nichols, and Rosa M Rodriguez, 49–64. Chicago, IL: Chicago Linguistic Society.
- Frey, Werner, and Hans-Martin Gärtner. 2002. On the treatment of scrambling and adjunction in Minimalist Grammars. In *Proceedings of Formal Grammar 2002*, ed. Gerhard Jäger, Paola Monachesi, Gerald Penn, and Shuly Wintner, 41–52. Trento.
- García-Mayo, María del Pilar. 1992. *Pro* as parasitic gap licenser. In *Proceedings of the 1992 Mid-America Linguistics Conference and Conference on Siouan-Caddoan Languages*, ed. Evan Smith and Flore Zephir, 15–24. Columbia, MO: University of Missouri, Columbia.
- García-Mayo, María del Pilar. 1995. The licensing of parasitic gaps. *Miscelanea* 16:125–140.
- Geach, Peter. 1962. *Reference and Generality*. Cornell University Press.
- Georgi, Doreen. 2014a. Opaque interactions of Merge and Agree: On the nature and order of elementary operations. Doctoral Dissertation, Universität Leipzig.
- Georgi, Doreen. 2014b. Opaque reflexes of movement: Ordering final vs. intermediate movement steps. In *Proceedings of NELS 44*, ed. Jyoti Iyer and Leland Kusmer, volume 1, 109–122. Amherst, MA: GLSA Publications.

- Georgi, Doreen. 2017. Patterns of movement reflexes as the result of the order of Merge and Agree. *Linguistic Inquiry* 48:585–626.
- Georgi, Doreen, and Mary Amaechi. 2020. Resumption and islandhood in Igbo. In *NELS 50*, ed. Mariam Asatryan, Yixiao Song, and Ayana Whitmal, volume 1, 261–274. Amherst, MA: GLSA.
- Georgi, Doreen, and Mary Amaechi. 2022. Resumption in Igbo: Two types of resumptives, complex phi-mismatches, and dynamic deletion domains. *Natural Language & Linguistic Theory* 1–68. Online First.
- Georgi, Doreen, and Martin Salzmann. 2017. The matching effect in resumption: A local analysis based on Case attraction and top-down derivation. *Natural Language & Linguistic Theory* 35:61–98.
- Georgi, Doreen, Martin Salzmann, and Marta Wierzba. 2020. Condition A reconstruction in German A'-movement: An empirical investigation. volume Proceedings of NELS 49, Vol. 2, 1–10. Amherst: GLSA.
- Georgiou, Renos. 2022. A'-dependencies in Greek: A movement approach to resumption. Doctoral Dissertation, University of Patras.
- Georgopoulos, Carol. 1985. Variables in Palauan syntax. *Natural Language & Linguistic Theory* 3:59–94.
- Georgopoulos, Carol. 1991. *Syntactic Variables: Resumptive Pronouns and A' Binding in Palauan*. Dordrecht: Springer.
- Gervain, Judit. 2009. Resumption in focus(-raising). *Lingua* 119:687–707.
- Gibson, Maik. 2009. Tunis Arabic. In *Encyclopedia of Arabic Language and Linguistics Online*, ed. Lutz Edzard and Rudolf de Jong. Leiden: Brill.
- Givón, Talmy. 1973. Complex NP's, word order and resumptive pronouns in Hebrew. In *CLS 9-2: You Take the High Node and I'll Take the Low Node. Papers from the Comparative Syntax Festival: The Differences Between Main and Subordinate Clauses*, ed. Claudia Corum, T. Cedric Smith-Stark, and Ann Weiser, 135–146. Chicago, IL: Chicago Linguistic Society.
- Goldsmith, John. 1981. The structure of *wh*-questions in Igbo. *Linguistic Analysis* 7:367–393.
- Gong, Zhiyu Mia. 2022. Issues in the syntax of movement: Cross-clausal dependencies, reconstruction, and movement typology. Doctoral Dissertation, Cornell University.
- Goodluck, Helen, and Danijela Stojanović. 1996. The structure and acquisition of relative clauses in Serbo-Croatian. *Language acquisition* 5:285–315.

- Gračanin-Yukse, Martina. 2013. The syntax of relative clauses in Croatian. *The Linguistic Review* 30:25–49.
- Graf, Thomas. 2018. Why movement comes for free once you have adjunction. In *CLS 53: Proceedings of the Fifty-third Annual Meeting of the Chicago Linguistic Society*, ed. Daniel Edmiston, Marina Ermolaeva, Emre Hakgüder, Jackie Lai, Kathryn Montemurro, Brandon Rhodes, Amara Sankhagowit, and Michael Tabatowski, 117–136. Chicago, IL: Chicago Linguistic Society.
- Green, Georgia. 1974. *Semantics and Syntactic Regularity*. Bloomington: Indiana University Press.
- Green, Melanie, and Chris H Reintges. 2015. Syntactic conditions on special inflection: Evidence from Hausa and Coptic Egyptian. *Lingua* 166:127–154.
- Grice, Paul. 1989. *Studies in the Way of Words*. Cambridge, MA: Harvard University Press.
- Groat, Erich. 1997. A derivational program for syntactic theory. Doctoral Dissertation, Harvard University.
- Grodzinsky, Yosef, and Tanya Reinhart. 1993. The innateness of binding and coreference. *Linguistic Inquiry* 24:69–101.
- Grosu, Alexander. 1994. *Three Studies in Locality and Case*. London: Routledge.
- Grosu, Alexander, and Fred Landman. 1998. Strange relatives of the third kind. *Natural Language Semantics* 6:125–170.
- Grosu, Alexander, and Fred Landman. 2017. Amount relatives. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- Guilliot, Nicolas. 2006a. La reconstruction à l’interface entre syntaxe et sémantique: Ou comment interpréter les copies syntaxiques. Doctoral Dissertation, Université de Nantes.
- Guilliot, Nicolas. 2006b. A top-down analysis for reconstruction. *Lingua* 116:1888–1914.
- Guilliot, Nicolas. 2008. To reconstruct or not to reconstruct: That is the question. In *Proceedings of the What Syntax Feeds Semantics Workshop at the 20th European Summer School in Logic Language and Information (ESSLLI 2008)*, ed. Maribel Romero, 25–35. Available at <https://ling.sprachwiss.uni-konstanz.de/pages/home/romero/esslli/synsem-proceedings-v7.pdf>.
- Guilliot, Nicolas. 2011. Reconstructing functional relatives. In *Empirical Issues in Formal Syntax and Semantics 8: Papers from CSSP 2009 / Questions Empiriques et Formalisation en Syntaxe et Semantique 8: Travaux présentés à CSSP 2009*, ed. Olivier Bonami and Patricia Cabredo Hofherr, 97–121. (<http://www.cssp.cnrs.fr/eiss8/>).

- Guilliot, Nicolas, and Nouman Malkawi. 2006. When resumption determines reconstruction. In *Proceedings of the 25th West Coast Conference on Formal Linguistics (WCCFL 25)*, ed. Donald Baumer, David Montero, and Michael Scanlon, 168–176. Somerville, MA: Cascadilla Press.
- Guilliot, Nicolas, and Nouman Malkawi. 2007. Reconstruction without movement. In *Coreference, Modality, and Focus: Studies on the syntax-semantics interface*, ed. Luis Eguren and Olga Fernández Soriano, 113–132. Amsterdam: John Benjamins.
- Guilliot, Nicolas, and Nouman Malkawi. 2009. When movement fails to reconstruct. In *Merging Features: Computation, Interpretation, and Acquisition*, ed. José Brucart, Anna Gavarró, and Jaume Solà, 159–174. Oxford: Oxford University Press.
- Guilliot, Nicolas, and Nouman Malkawi. 2011. Weak vs. strong resumption: Covarying differently. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 395–423. Amsterdam: John Benjamins.
- Gutiérrez-Rexach, Javier. 1999. The formal semantics of clitic doubling. *Journal of Semantics* 16:315–380.
- Haegeman, Liliane. 1984. Parasitic gaps and adverbial clauses¹. *Journal of Linguistics* 20:229–232.
- Hagstrom, Paul. 1998. Decomposing questions. Doctoral Dissertation, Massachusetts Institute of Technology.
- Haïk, Isabelle. 1984. Indirect binding. *Linguistic Inquiry* 15:185–223.
- Haïk, Isabelle. 1987. Across-The-Board Variables. Unpublished manuscript. Available online at https://www.researchgate.net/profile/Isabelle-Haik/publication/281283181_ATB-Variables/links/55df274708aeaa26af10a07e/ATB-Variables.pdf.
- Haïk, Isabelle. 1990. Anaphoric, pronominal and referential INFL. *Natural Language & Linguistic Theory* 8:347–374.
- Halle, Morris. 2000. Distributed Morphology: Impoverishment and fission. In *Research in Afroasiatic Grammar: Papers from the Third Conference on Afroasiatic Languages. Sophia Antipolis, France, 1996*, ed. Jacqueline Lecarme, Jean Lowenstamm, and Ur Shlonsky, 125–149. Amsterdam: John Benjamins.
- Hallman, Peter. 2018. Double-object constructions in Syrian Arabic. *Syntax* 21:238–274.
- Hallman, Peter, and Rashid Al-Balushi. 2022a. Object drop in Omani Arabic. Ms., Austrian Research Institute for Artificial Intelligence and Sultan Qaboos University. Available online at http://www.peterhallman.com/Hallman_AlBalushi_Object_Drop.pdf.
- Hallman, Peter, and Rashid Al-Balushi. 2022b. Pronominalization and clitic doubling in Syrian and Omani Arabic. *Linguistics* .

- Hanink, Emily. 2018. Structural sources of anaphora and sameness. Doctoral Dissertation, The University of Chicago.
- Harizanov, Boris. 2011. The acceptability of true resumption: An acceptability rating study in Bulgarian. Ms., Stanford University.
- Harizanov, Boris. 2014a. Clitic doubling at the syntax-morphophonology interface. *Natural Language & Linguistic Theory* 32:1033–1088.
- Harizanov, Boris. 2014b. On the mapping from syntax to morphophonology. Doctoral Dissertation, University of California Santa Cruz.
- Harizanov, Boris, and Line Mikkelsen. 2018. Resumption and chain reduction in Danish VP left dislocation. In *Proceedings of the 48th Annual Meeting of the North East Linguistic Society, Vol. 2*, ed. Sherry Hucklebridge and Max Nelson, 15–28. Amherst, MA: GLSA.
- Harley, Heidi. 2002. Possession and the double object construction. *Linguistic Variation Yearbook* 2:29–68.
- Harrell, Richard S. 1962. *A Short Reference Grammar of Moroccan Arabic*. Washington, D.C.: Georgetown University Press.
- Harris, Alice C. 1993. Georgian. In *Syntax - Ein internationales Handbuch zeitgenössischer Forschung*, ed. Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld, and Theo Vennemann, 1377–1397. Berlin: De Gruyter.
- Hasselbach, Rebecca. 2013. *Case in semitic*. Number 3 in Oxford Studies in Diachronic & Historical Linguistics. Oxford: Oxford University Press.
- Hauser, Marc D., Noam Chomsky, and W. Tecumseh Fitch. 2002. The faculty of language: What is it, who has it, and how did it evolve? *Science* 298:1569–1579.
- Haverkort, Marco. 1993. Romance and Germanic clitics: A comparison of their syntactic behavior. In *The Berkeley Conference on Dutch Linguistics 1993*, ed. Thomas F Shannon and Johan P Snapper, 131–150. Lanham, MD: University Press of America.
- Hayon, Yehiel. 1973. *Relativization in Hebrew*. The Hague: Mouton.
- Hazout, Ilan. 1991. Verbal nouns: Theta theoretic studies in Hebrew and Arabic. Doctoral Dissertation, University of Massachusetts at Amherst.
- Heck, Fabian. 2004. A theory of pied-piping. Doctoral Dissertation, Universität Tübingen.
- Heck, Fabian, and Gereon Müller. 2000. Successive cyclicity, long-distance superiority, and local optimization. In *Proceedings of WCCFL 19*, ed. Roger Billerey and Brooke Danielle Lillehaugen, 218–231. Somerville, MA: Cascadilla Press.
- Heck, Fabian, and Gereon Müller. 2003. Derivational optimization of *wh*-movement. *Linguistic Analysis* 33:97–148.

- Heck, Fabian, and Gereon Müller. 2007. Extremely local optimization. In *Proceedings of the Thirty-Fourth West Coast Conference on Formal Linguistics (WECOL 2006)*, ed. Erin Bainbridge and Brian Agbayani, volume 17, 170–182. Fresno, CA: California State University.
- Heim, Irene. 1990. E-type pronouns and donkey anaphora. *Linguistics and Philosophy* 137–177.
- Heim, Irene. 1997. Predicates or formulas? Evidence from ellipsis. In *Proceedings of SALT VII*, ed. Aaron Lawson, 197–221. Ithaca, NY: Cornell University.
- Heim, Irene. 1998. Anaphora and semantic interpretation: A reinterpretation of Reinhart’s approach. In *The Interpretive Tract*, ed. Uli Sauerland and Orin Percus, MIT Working Papers in Linguistics 25, 205–246. Cambridge, MA: MIT, Department of Linguistics, MITWPL.
- Heim, Irene. 2009. Forks in the road to Rule I. In *Proceedings of NELS 38*, ed. Anisa Schardl, Martin Walkow, and Muhammad Abdurrahman, 339–358. Amherst, MA: GLSA.
- Heim, Irene, and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Malden, MA: Blackwell.
- Hein, Johannes. 2017. Doubling and do-support in verbal fronting: Towards a typology of repair operations. *Glossa* 2:1–36.
- Hein, Johannes. 2020. Island constraints are category-sensitive: The case of Asante Twi and Limbum. Handout from an invited talk at Ben Gurion University of the Negev, 17 November 2020. Available at http://www.johannes-hein.de/handouts/BenGurion_handout.pdf.
- Hein, Johannes, and Doreen Georgi. 2020. On the interaction of extraction and argument marking in Asante Twi. Talk presented at GLOW 43.
- Hein, Johannes, and Doreen Georgi. 2021. Asymmetries in Asante Twi A’-movement: On the role of noun type in resumption. In *Proceedings of the Fifty-First Annual Meeting of the North East Linguistic Society*, ed. Alessa Farinella and Angelica Hill, volume 1, 223–236. Amherst, MA: GLSA.
- Hendrick, Randall. 1988. *Anaphora in Celtic and Universal Grammar*. Dordrecht: Kluwer.
- Henry, Alison. 1995. *Belfast English and Standard English: Dialect Variation and Parameter Setting*. Oxford: Oxford University Press.
- Hewett, Matthew. 2019. Resumption in Biblical Hebrew. Qualifying Paper, The University of Chicago.
- Hewett, Matthew. To appear. Verbal templates can influence l-selection in Semitic. *Linguistic Inquiry* .

- Heycock, Caroline. 1995. Asymmetries in reconstruction. *Linguistic Inquiry* 26:547–570.
- Heycock, Caroline. 2019. Relative reconstructions: Can we arrive at a unified picture? In *Reconstruction Effects in Relative Clauses*, ed. Manfred Krifka and Mathias Schenner, 87–112. Berlin: De Gruyter.
- Higginbotham, James. 1980a. Anaphora and GB: Some preliminary remarks. In *Proceedings of NELS 10 (Cahiers linguistiques d'Ottawa 9.4)*, ed. John T Jensen, 223–236. Ottawa: Department of Linguistics, University of Ottawa.
- Higginbotham, James. 1980b. Pronouns and bound variables. *Linguistic Inquiry* 11:679–708.
- Higginbotham, James. 1983. Logical form, binding, and nominals. *Linguistic Inquiry* 14:395–420.
- Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16:547–593.
- Hirata, Ryuichiro. 2012. Preposition stranding in Welsh. Doctoral Dissertation, Bangor University.
- Hladnik, Marko. 2015. Mind the gap: Resumption in Slavic relative clauses. Doctoral Dissertation, Universiteit Utrecht.
- Hoekstra, Jarich. 1995. Preposition stranding and resumptivity in West Germanic. In *Studies in Comparative Germanic Syntax*, ed. Hubert Haider, Susan Olsen, and Sten Vikner, 95–118. Dordrecht: Springer.
- Hofmeister, Philip, and Elizabeth Norcliffe. 2013. Does resumption facilitate sentence comprehension? In *The Core and the Periphery: Data-driven Perspectives on Syntax Inspired by Ivan A. Sag*, ed. Philip Hofmeister and Elizabeth Norcliffe. Stanford, CA: CSLI Publications.
- Höhle, Tilman N. 2000. The w...w-construction: Appositive or scope indicating? In *Wh-Scope Marking*, ed. Uli Lutz, Gereon Müller, and Arnim von Stechow, 249–270. Amsterdam: John Benjamins.
- Hornstein, Norbert. 2001. *Move! A Minimalist Theory of Construal*. Malden, MA: Blackwell.
- Hornstein, Norbert. 2009. *A Theory of Syntax: Minimal Operations and Universal Grammar*. Cambridge: Cambridge University Press.
- Hornstein, Norbert, Howard Lasnik, and Juan Uriagereka. 2003. The dynamics of islands: Speculations on the locality of movement. *Linguistic Analysis* 33:149–175.
- Hornstein, Norbert, and Amy Weinberg. 1990. The necessity of LF. *The Linguistic Review* 7:129–167.
- Horvath, Julia. 2017. Pied-piping. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.

- Hunter, Tim. 2015. Deconstructing merge and move to make room for adjunction. *Syntax* 18:266–319.
- Hurtado, Alfredo. 1984. On the properties of LF. *Cornell Working Papers in Linguistics* 6:121–149.
- Iatridou, Sabine. 1995. Clitics and island effects. *Penn Working Papers in Linguistics* 2:11–30.
- Imanishi, Yusuke. 2013. How to merge a possessor *wh* in Kaqchikel (Mayan): Non-uniform merge and null resumption. In *Proceedings of NELS 42*, ed. Stefan Keine and Shayne Sloggett, 235–248. Amherst, MA: GLSA.
- Imanishi, Yusuke. 2019. The clause-mate condition on resumption: Evidence from Kaqchikel. *Studia Linguistica* 73:398–441.
- Ingham, Bruce. 1973. Urban and rural Arabic in Khūzistān. *Bulletin of the School of Oriental and African Studies* 36:533–553.
- Ingham, Bruce. 1982. *North East Arabian Dialects*. London: Routledge.
- Ingham, Bruce. 2007. Khuzestan Arabic. In *Encyclopedia of Arabic Language and Linguistics Online*, ed. Lutz Edzard and Rudolf de Jong. Leiden: Brill.
- Jackendoff, Ray. 1977. *X Syntax: A Study of Phrase Structure*. Cambridge, MA: MIT Press.
- Jacobson, Pauline. 1977. The syntax of crossing coreference sentences. Doctoral Dissertation, University of California, Berkeley.
- Jacobson, Pauline. 1998. Antecedent contained deletion and pied-piping: Evidence for a variable free semantics. In *Proceedings of SALT 8*, ed. Devon Strolovitch and Aaron Lawson, 74–91. Cornell University, Ithaca, NY: CLC Publications.
- Jaeggli, Osvaldo. 1980. On some phonologically-null elements in syntax. Doctoral Dissertation, Massachusetts Institute of Technology.
- Jassim, Quitaf H. 2011. Relative clauses in Iraqi Arabic and the status of resumptive pronouns.
- Jastrow, Otto. 1990. *Der arabische Dialekt der Juden von ^cAgra und Arbīl*. Wiesbaden: Harrassowitz.
- Jastrow, Otto O. 2009. Iraq. In *Encyclopedia of Arabic Language and Linguistics Online*, ed. Lutz Edzard and Rudolf de Jong. Leiden: Brill.
- Jiries, Sami. 2019. Phi-agreement or clitic doubling: The case of Palestinian Arabic. Ms., The University of Chicago.

- Jiries, Sami. 2020. Clitic doubling and binding relations in Palestinian Arabic. Ms., The University of Chicago.
- Johnson, Kyle. 2009. Why movement? In *CLS 45-2: Proceedings of the Forty-fifth Annual Meeting of the Chicago Linguistic Society: Locality in Language*, 117–138. Chicago, IL: Chicago Linguistic Society.
- Johnson, Kyle. 2012. Towards deriving differences in how wh movement and qr are pronounced. *Lingua* 122:529–553.
- Kandybowicz, Jason. 2008. *The Grammar of Repetition: Nupe grammar at the syntax-phonology interface*. Amsterdam: John Benjamins.
- Karttunen, Lauri. 1969. Pronouns and variables. In *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, ed. Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, 108–116. Chicago, IL: Department of Linguistics, University of Chicago.
- Kayne, Richard S. 1975. *French Syntax: The Transformational Cycle*. Cambridge, MA: MIT Press.
- Kayne, Richard S. 1981. ECP extensions. *Linguistic Inquiry* 12:93–133.
- Kayne, Richard S. 1983. Connectedness. *Linguistic Inquiry* 14:223–249.
- Kayne, Richard S. 1994. *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.
- Kayne, Richard S. 2002. Pronouns and their antecedents. In *Derivation and Explanation in the Minimalist Program*, ed. Samuel David Epstein and T. Daniel Seely, 133–166. Oxford: Blackwell.
- Kayne, Richard S., and Jean-Yves Pollock. 1978. Stylistic inversion, successive cyclicity, and move np in french. *Linguistic inquiry* 595–621.
- Keenan, Edward L., and Edward Stabler. 2003. *Bare Grammar: A Study of Language Invariants*. Stanford: CSLI Publications.
- Keine, Stefan. 2017. Agreement and *vp* phases. In *A Schrift to Fest Kyle Johnson*, ed. Nicholas LaCara, Keir Moulton, and Anne-Michelle Tessier. Linguistics Open Access Publications. Available at https://scholarworks.umass.edu/linguist_oapubs/1/.
- Keine, Stefan. 2020. *Probes and Their Horizons*. Cambridge, MA: MIT Press.
- Keine, Stefan, and Ethan Poole. 2018. Not all reconstruction effects are syntactic. Ms. Available at <https://ling.auf.net/lingbuzz/004294>.
- Keine, Stefan, and Hedde Zeijlstra. 2022. Clause-internal successive cyclicity: phasality or intervention. Ms., ULCA and Universität Göttingen. Available at <https://stefankeine.com/papers/KeineZeijlstra-2022.pdf>.

- Kennedy, Chris. 1997. Antecedent-contained deletion and the syntax of quantification. *Linguistic Inquiry* 28:662–688.
- Kenstowicz, Michael, and Wafaa Wahba. 1983. Wh-in-situ constructions in Egyptian Arabic. In *Current Approaches to African Linguistics*, ed. Ivan R. Dihoff, 261–282. Berlin: De Gruyter.
- Kitahara, Hisatsugu. 1994. Target α : A unified theory of movement and structure-building. Doctoral Dissertation, Harvard University.
- Kitahara, Hisatsugu. 1995. Target α : Deducing strict cyclicity from derivational economy. *Linguistic Inquiry* 47–77.
- Kitahara, Hisatsugu. 1997. *Elementary Operations and Optimal Derivations*. Cambridge, MA: MIT Press.
- Klein, Timo. 2016. Patterns of resumption – towards a derivational account. Doctoral Dissertation, Universität Leipzig.
- Kobayashi, Filipe Hisao. 2020. Proper interleaving of A- & \bar{A} -movement: a Brazilian Portuguese case study. Ms., MIT.
- Kobebe, Gregory M. 2012. Deriving reconstruction asymmetries. In *Local Modelling of Non-Local Dependencies in Syntax*, ed. Artemis Alexiadou, Tibor Kiss, and Gereon Müller, 477–500. Berlin: De Gruyter.
- Koopman, Hilda. 1982. Control from COMP and comparative syntax. *The Linguistic Review* 2:365–391.
- Koopman, Hilda. 1984. *The Syntax of Verbs: From Verb-Movement Rules in the Kru Languages to Universal Grammar*. Dordrecht: Foris.
- Koopman, Hilda, and Dominique Sportiche. 1982. Variables and the Bijection Principle. *Linguistic Review* 2:139–160.
- Koopman, Hilda, and Dominique Sportiche. 1986. A note on long extraction in Vata and the ECP. *Natural Language & Linguistic Theory* 4:357–374.
- Korsah, Sampson. 2017. Issues in Kwa syntax: Pronouns and clausal determiners. Doctoral Dissertation, Universität Leipzig.
- Korsah, Sampson, and Andrew Murphy. 2020. Tonal reflexes of movement in Asante Twi. *Natural Language & Linguistic Theory* 38:827–885.
- Kotek, Hadas. 2019. *Composing Questions*. Cambridge, MA: MIT Press.

- Kramer, Ruth, and Lindley Winchester. 2018. Number and gender agreement in Saudi Arabic: Morphology vs. syntax. In *Proceedings of the 17th Texas Linguistic Society*, ed. Frances Cooley, Michael Everdell, Hammal Al Bulushi, Ambrocio Gutierrez Lorenzo, Lorena Orjuela, and Santiago David Gualapuro Gualapuro, 39–53. Available online at: http://tls.ling.utexas.edu/2017tls/TLS17_Conference_Proceedings.pdf.
- Krapova, Iliana. 2010. Bulgarian relative and factive clauses with an invariant complementizer. *Lingua* 120:1240–1272.
- Kratzer, Angelika. 1989. An investigation of the lumps of thought. *Linguistics and Philosophy* 12:607–653.
- Kratzer, Angelika. 2021. Situations in natural language semantics. In *The Stanford Encyclopedia of Philosophy (Winter 2021 Edition)*, ed. Edward N Zalta. URL <<https://plato.stanford.edu/archives/win2021/entries/situations-semantics/>>.
- Krifka, Manfred. 2019. A direct compositionality approach to Condition C effects under reconstruction and their exceptions. In *Reconstruction Effects in Relative Clauses*, ed. Manfred Krifka and Mathias Schenner, 35–85. Berlin: De Gruyter.
- Kroch, Anthony. 1981. On the role of resumptive pronouns in amnestying island constraint violations. In *Proceedings of the 16th Chicago Linguistic Society (CLS 16)*, ed. Eric et al. Williams, 17, 125–135. Somerville, MA: Cascadilla Press.
- Kuno, Susumu. 2004. Empathy and direct discourse perspectives. In *The Handbook of Pragmatics*, ed. Laurence Horn and Gregory Ward, 315–343. Malden, MA: Blackwell.
- Kurtz, Naomi. 2022. Persons and pronouns: Exploring clitics in Judeo-Spanish. *Isogloss. Open Journal of Romance Linguistics* 8:1–22.
- Lahne, Antje. 2008. Where there is fire there is smoke: Local modeling of successive-cyclic movement. Doctoral Dissertation, Universität Leipzig.
- Laka, Itziar. 1993. The structure of inflection: A case study in X⁰-syntax. In *Generative Studies in Basque Linguistics*, ed. Jose Ignacio Hualde and Jon Ortiz de Urbina, 21–70. Amsterdam: John Benjamins.
- Lakoff, George. 1968. Pronouns and reference. Ms., Harvard University. Available at <https://escholarship.org/content/qt82d6f06d/qt82d6f06d.pdf>. Reprinted in McCawley (1976).
- Lakoff, George, and John Robert Ross. 1966. Criterion for verb phrase constituency. In *Mathematics and Automatic Translation. NSF-17*, vol. II, ed. Anthony G Oettinger, 1–11.
- Lalami, Laïla. 1996. Clitic left dislocation in Moroccan Arabic. In *Perspectives on Arabic Linguistics IX*, ed. Mushira Eid and Dilworth B. Parkinson, 115–130. Amsterdam: John Benjamins.

- Landau, Idan. 2018. Missing objects in Hebrew: Argument ellipsis, not VP ellipsis. *Glossa: a journal of general linguistics* 3.
- Landau, Idan. 2020. Constraining head-stranding ellipsis. *Linguistic Inquiry* 51:281–318.
- Landau, Idan. 2022. Argument ellipsis as External Merge after Transfer. Ms. Available online at <https://lingbuzz.net/lingbuzz/005900>.
- Larson, Brooke. 2016. The representation of syntactic action at a distance: Multidominance versus the copy theory. *Glossa* 1:1–18.
- Larson, Richard K. 1985. Quantifying into NP. Ms., Stony Brook University.
- Larson, Richard K., and Robert May. 1990. Antecedent containment or vacuous movement: Reply to Baltin. *Linguistic Inquiry* 21:103–122.
- Lasnik, Howard. 1998. Some reconstruction riddles. *University of Pennsylvania Working Papers in Linguistics* 5:93–98.
- Lasnik, Howard. 2001. When can you save a structure by destroying it? In *Proceedings of NELS 31*, ed. Minjoo Kim and Uri Strauss, 301–320. Amherst, MA: GLSA Publications.
- Lasnik, Howard, and Kenshi Funakoshi. 2017. Condition C violations and strong crossover. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- Lasnik, Howard, and Mamoru Saito. 1984. On the nature of proper government. *Linguistic Inquiry* 15:235–289.
- Lasnik, Howard, and Mamoru Saito. 1992. *Move α : Conditions on Its Application and Output*. Cambridge, MA: MIT Press.
- Lasnik, Howard, and Tim Stowell. 1991. Weakest crossover. *Linguistic Inquiry* 22:687–720.
- Lavine, James E. 2003. Resumption in Slavic: Phases, cyclicity, and case. In *Formal Approaches to Slavic Linguistics 11. The Amherst Meeting 2002*, ed. Wayles Browne, Ji-Yung Kim, Barbara H Partee, and Robert A Rothstein, 355–372. Ann Arbor, MI: Michigan Slavic Publications.
- Lebeaux, David. 1988. Language acquisition and the form of the grammar. Doctoral Dissertation, University of Massachusetts, Amherst.
- Lebeaux, David. 1991. Relative clauses, licensing, and the nature of the derivation. In *Perspectives on Phrase Structure: Heads and Licensing*, ed. Susan Rothstein, 209–229. San Diego, CA: Academic Press.
- Lechner, Winfried. 1998. Two kinds of reconstruction. *Studia Linguistica* 52:276–310.

- Lechner, Winfried. 2013. Diagnosing covert movement: The Duke of York and reconstruction. In *Diagnosing Syntax*, ed. Lisa Lai-Shen Cheng and Norbert Corver, 158–189. Oxford: Oxford University Press.
- Lechner, Winfried. 2019. A calculus for reconstruction and anti-reconstruction. In *Reconstruction Effects in Relative Clauses*, ed. Manfred Krifka and Mathias Schenner, 113–143. Berlin: De Gruyter.
- Lecomte, Alain, and Christian Retoré. 1999. Towards a minimal logic for minimalist grammars: A transformational use of Lambek calculus. In *Proceedings of Formal Grammar*, ed. Geert-Jan M. Kruijff and Richard T. Oehrlé, 83–92.
- Lees, Robert B. 1960. *The grammar of english nominalizations*. The Hague: Mouton.
- Lees, Robert B. 1961. The constituent structure of noun phrases. *American Speech: A Quarterly of Linguistic Usage* 36:159–168.
- Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34:506–515.
- Leitner, Bettina. 2022. *A Grammar of Khuzestani Arabic: A Spoken Variety of South-West Iran*. Leiden: Brill.
- Leitner, Bettina, Fady German, and Stephan Procházka. 2021. *Lehrbuch des Irakisch-Arabischen: Praxisnaher Einstieg in den Dialekt von Bagdad*. Wiesbaden: Harrassowitz Verlag.
- Leung, Tommi. 2014. Sluicing may repair LF-constraints. In *CLS 48: Proceedings of the Forty-Eighth Annual Meeting of the Chicago Linguistic Society*, ed. Andrea Beltrama, Tasos Chatzikonstantinou, Jackson L Lee, Mike Pham, and Diane Rak, 431–445. Chicago, IL: Chicago Linguistic Society.
- Leung, Tommi, and Fatima Al-Eisaei. 2010. Independence between movement and reconstruction: Evidence from wh-constructions in Emirati Arabic. Paper presented at *GLOW in Asia VIII*, Beijing Language and Culture University, Beijing, China.
- Leung, Tommi, and Fatima Al-Eisaei. 2013. Wh-fronting and wh-cleft in Emirati Arabic. In *CLS 46: The Main Session. Proceedings of the Forty-Sixth Annual Meeting of the Chicago Linguistic Society*, ed. Rebekah Baglini, Timothy Grinsell, Jon Keane, Adam Roth Singerman, and Julia Thomas, 221–235. Chicago, IL: Chicago Linguistic Society.
- Leung, Tommi, and Aamna Shemeili. 2014. Making the first step correct in syntax: Evidence from Emirati Arabic sluicing. In *CLS 47: The Main Session. Proceedings of the Forty-Seventh Annual Meeting of the Chicago Linguistic Society*, ed. Carissa Abrego-Collier, Arum Kang, Martina Martinović, and Chieu Nguyen, 167–181. Chicago, IL: Chicago Linguistic Society.

- Levin, Aryeh. 1987. The particle *la* as an object marker in some Arabic dialects of the Galilee. *Zeitschrift für arabische Linguistik* 31–40.
- Lidz, Jeffrey. 2001. Condition R. *Linguistic Inquiry* 32:123–140.
- López, Luis. 2012. *Indefinite Objects: Scrambling, Choice Functions, and Differential Marking*. Cambridge, MA: MIT Press.
- Maki, Hideki, and Dónall P Ó Baoill. 2007. The Modern Irish (*aN*, *aL*, *t*) chain. *English Linguistics* 24:67–77.
- Maling, Joan, and Annie Zaenen. 1982. A phrase structure account of Scandinavian extraction phenomena. In *The Nature of Syntactic Representations*, ed. Pauline Jacobson and Geoffrey K Pullum, 229–282. Dordrecht: Reidel.
- Malkawi, Nouman. 2009. Sur la syntaxe de quelques expressions anaphoriques: Epithètes et pronoms résomptifs. Doctoral Dissertation, Université de Nantes.
- Malkawi, Nouman. 2015. Expressions anaphoriques: Une étude comparée des dialectes Arabes. *Studies in Literature and Language* 10:54–70.
- Malkawi, Nouman, and Nicolas Guilliot. 2007. Reconstruction and islandhood in Jordanian Arabic. In *Perspectives on Arabic Linguistics XX*, ed. Mustafa A Mughazy, 87–104. Amsterdam: John Benjamins.
- Manetta, Emily. 2020. *Rarely Used Structures and Lesser-Studied Languages: Insights from the Margins*. London: Routledge.
- Martinović, Martina. 2015. Feature geometry and head-splitting: Evidence from the morphosyntax of the Wolof clausal periphery. Doctoral Dissertation, The University of Chicago.
- Martinović, Martina. 2017. Wolof wh-movement at the syntax-morphology interface. *Natural Language & Linguistic Theory* 35:205–256.
- Martinović, Martina. To appear. [-Person] and [+Person] resumption in Igala. In *Proceedings of the 40th West Coast Conference on Formal Linguistics*.
- Mavrogiorgos, Marios. 2010. *Clitics in Greek: A Minimalist Account of Proclisis and Enclisis*. Amsterdam: John Benjamins.
- May, Robert. 1977. The grammar of quantification. Doctoral Dissertation, Massachusetts Institute of Technology.
- May, Robert. 1985. *Logical Form: Its Structure and Derivation*. Cambridge, MA: MIT Press.
- McCawley, James D. 1976. *Syntax and Semantics Volume 7: Notes from the Linguistic Underground*. New York: Academic Press.

- McCloskey, James. 1979. *Transformational Syntax and Model Theoretic Semantics: A Case Study in Modern Irish*. Dordrecht: D. Reidel.
- McCloskey, James. 1985. The Modern Irish double relative and syntactic binding. *Ériu* 36:45–84.
- McCloskey, James. 1990. Resumptive pronouns, \bar{A} -binding and levels of representation in Irish. In *The Syntax of the Modern Celtic Languages*, ed. Randall Hendrick, 199–248. New York and San Diego: Academic Press.
- McCloskey, James. 2000. Quantifier float and wh-movement in an Irish English. *Linguistic inquiry* 31:57–84.
- McCloskey, James. 2002. Resumption, successive-cyclicity, and the locality of operations. In *Derivation and Explanation in the Minimalist Program*, ed. Samuel David Epstein and T. Daniel Seely, 184–226. Oxford: Blackwell.
- McCloskey, James. 2006. Resumption. In *The Blackwell Companion to Syntax, Volume IV*, ed. Martin Everaert and Henk van Riemsdijk, 94–117. Oxford: Blackwell.
- McCloskey, James. 2017. Resumption. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- McConvell, Patrick. 1973. Cleft sentences in Hausa? A syntactic study of focus. Doctoral Dissertation, University of London, School of Oriental and African Studies.
- McDaniel, Dana. 1986. Conditions on wh-chains. Doctoral Dissertation, City University of New York.
- McFadden, Thomas. 2003. Adventures in resolving redundancy: Case vs. the EPP. *University of Pennsylvania Working Papers in Linguistics* 9:137–150.
- McGinnis, Martha. 1998. Locality in A-movement. Doctoral Dissertation, Massachusetts Institute of Technology.
- McKinnon, Timothy, Peter Cole, and Gabriella Hermon. 2011. Object agreement and ‘pro-drop’ in Kerinci Malay. *Language* 87:715–750.
- McNabb, Yaron, and Christopher Kennedy. 2011. Extraction and deletion in Palestinian Arabic comparatives. In *Perspectives on Arabic Linguistics: Papers from the Annual Symposia on Arabic Linguistics. Volume XXII–XXIII: College Park, Maryland, 2008 and Milwaukee, Wisconsin, 2009*, ed. Ellen Broselow and Hamid Ouali, 149–166. Amsterdam: John Benjamins.
- Merchant, Jason. 1999a. E-type A'-traces under sluicing. In *Proceedings of the 17th West Coast Conference on Formal Linguistics*, ed. Kimary Shahin, Susan Blake, and Eun-Sook Kim, 478–492. Stanford: CSLI Publications.

- Merchant, Jason. 1999b. The syntax of silence: Sluicing, islands, and identity in ellipsis. Doctoral Dissertation, University of California, Santa Cruz.
- Merchant, Jason. 2001. *The syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2004. Resumptivity and non-movement. *Studies in Greek Linguistics* 24:471–481.
- Merchant, Jason. 2014. Some definitions. Ms., The University of Chicago.
- Merchant, Jason. 2019. Roots don't select, categorial heads do: lexical-selection of pps may vary by category. *The Linguistic Review* 36:325–341.
- Mihuc, Sarah. 2020. Anti-agreement and resumption in Kabyle. *McGill Working Papers in Linguistics* 26:1–13.
- Milway, Daniel A. 2019. Explaining the resultative parameter. Doctoral Dissertation, University of Toronto.
- Mohammed, Mohammed. 2000. *Word Order, Agreement and Pronominalization in Standard and Palestinian Arabic*. Amsterdam: John Benjamins.
- Montague, Richard. 1973. The proper treatment of quantification in ordinary English. In *Approaches to Natural Language*, ed. Jaakko Hintikka, Julius Moravcsik, and Patrick Suppes, 221–242. Dordrecht: Reidel.
- Morgan, Adam Milton, and Matthew M Wagers. 2018. English resumptive pronouns are more common where gaps are less acceptable. *Linguistic Inquiry* 49:861–876.
- Mouchaweh, Loubana. 1986. De la syntaxe des petites propositions. Doctoral Dissertation, Université de Paris VIII.
- Moulton, Keir. 2013. Not moving clauses: Connectivity in clausal arguments. *Syntax* 16:250–291.
- Müller, Gereon. 2010. On deriving CED effects from the PIC. *Linguistic inquiry* 41:35–82.
- Müller, Gereon. 2011. *Constraints on Displacement: A phase-based approach*. Amsterdam: John Benjamins.
- Müller, Gereon. 2014. *Syntactic Buffers: A Local-Derivational Approach to Improper Movement, Remnant Movement, and Resumptive Movement*. Leipzig: University of Leipzig.
- Müller, Gereon. 2017. Structure removal: An argument for feature-driven Merge. *Glossa* 2:1–35.
- Munn, Alan. 1993. Topics in the syntax and semantics of coordinate structures. Doctoral Dissertation, University of Maryland, College Park.

- Munn, Alan. 1994. A minimalist account of reconstruction asymmetries. In *Proceedings of NELS 24*, ed. Mercè González, 397–410. Amherst, MA: GLSA.
- Murphy, Andrew. 2016. Subset relations in ellipsis licensing. *Glossa* 1:1–34. <https://doi.org/10.5334/gjgl.61>.
- Nediger, Will. 2017. Overcoming empirical challenges for an extended approach to Condition C. *Linguistic Inquiry* 48:99–127.
- Nevins, Andrew. 2007. The representation of third person and its consequences for person-case effects. *Natural Language & Linguistic Theory* 25:273–313.
- Nevins, Andrew. 2011. Multiple agree with clitics: Person complementarity vs. omnivorous number. *Natural Language & Linguistic Theory* 29:939–971.
- Newman, Elise. 2023. Probing for the closest DP: A reply to Branan et al. 2022. *Linguistic Inquiry* Advance publication.
- Nissenbaum, Jonathan W. 2000. Investigations of covert phrase movement. Doctoral Dissertation, MIT.
- Norris, Mark. 2014. A theory of nominal concord. Doctoral Dissertation, University of California Santa Cruz.
- Nouhi, Youssef. 1996. Wh-constructions in Moroccan Arabic. Master's thesis, University of Ottawa.
- Nouwen, Rick. 2021. E-type pronouns: Congressmen, sheep, and paychecks. In *The Wiley Blackwell Companion to Semantics*, ed. Daniel Gutzmann, Lisa Matthewson, Cécile Meier, Hotze Rullmann, and Thomas Ede Zimmermann. Malden, MA: Wiley-Blackwell, 1 edition.
- Noyer, Robert Rolf. 1992. Features, Positions and Affixes in Autonomous Morphological Structure. Doctoral Dissertation, Massachusetts Institute of Technology.
- Nunes, Jairo. 2004. *Linearization of Chains and Sideward Movement*. Cambridge, MA: MIT Press.
- Oda, Kenji. 2012. *Issues in the left periphery of Modern Irish*. University of Toronto.
- Oehrle, Richard. 1976. The grammatical status of the English dative alternation. Doctoral Dissertation, Massachusetts Institute of Technology.
- Ordóñez, Francisco. 1998. Post-verbal asymmetries in Spanish. *Natural Language & Linguistic Theory* 16:313–345.
- Ostrove, Jason. 2018. When φ -agreement targets topics: The view from San Martín Peras Mixtec. Doctoral Dissertation, University of California, Santa Cruz.

- Ott, Dennis. 2010. Grammaticality, interfaces, and UG. In *Exploring Crash-Proof Grammars*, ed. Michael T Putnam, 89–104. Amsterdam: John Benjamins.
- Ott, Dennis. 2015. Symmetric Merge and local instability: Evidence from split topics. *Syntax* 18:157–200.
- Ouhalla, Jamal. 2001. Parasitic gaps and resumptive pronouns. In *Parasitic Gaps*, ed. Peter W. Culicover and Paul M. Postal, 147–179. Cambridge, MA: MIT Press.
- Ouhalla, Jamal. 2013. Agreement unified: Arabic. In *Diagnosing Syntax*, ed. Lisa Lai-Shen Cheng and Norbert Corver, 314–333. Oxford: Oxford University Press.
- Pan, Victor Junnan. 2016. *Resumptivity in Mandarin Chinese*. Berlin: De Gruyter.
- Panitz, Ezekiel Joseph. 2018. Argument ellipsis and strong islands. Doctoral Dissertation, University College London.
- Paparounas, Lefteris, and Martin Salzmann. 2022. First conjunct clitic doubling in Modern Greek: Evidence for Agree-based approaches to clitic doubling. Ms., University of Pennsylvania.
- Partee, Barbara. 1975. Montague Grammar and Transformational Grammar. *Linguistic Inquiry* 6:203–300.
- Patel-Grosz, Pritty, and Patrick G Grosz. 2017. Revisiting pronominal typology. *Linguistic Inquiry* 48:259–297.
- Perlmutter, David. 1971. *Deep and Surface Structure Constraints in Syntax*. New York: Holt, Rinehart, and Winston.
- Perlmutter, David M. 1972. Evidence for shadow pronouns in French relativization. In *The Chicago Which Hunt: Papers from the Relative Clause Festival*, ed. Paul M Peranteau, Judith N Levi, and Gloria C Phares, 73–105. The University of Chicago, Chicago, IL: Chicago Linguistic Society.
- Perlmutter, David M., and John Robert Ross. 1970. Relative clauses with split antecedents. *Linguistic Inquiry* 1:350.
- Pesetsky, David. 1982. Complementizer-trace phenomena and the nominative island condition. *The Linguistic Review* 1:297–343.
- Pesetsky, David. 1987. *Wh-in-situ: Movement and unselective binding*. In *The Representation of (In)definiteness*, ed. Eric J Reuland and Alice G. B ter Meulen, 98–129. Cambridge, MA: MIT Press.
- Pesetsky, David. 1991. Zero Syntax. Vol. 2: Infinitives. Ms., MIT.
- Pesetsky, David. 1995. *Zero Syntax: Experiencers and Cascades*. Cambridge, MA: MIT Press.

- Pesetsky, David. 1998. Some optimality principles of sentence pronunciation. In *Is the Best Good Enough? Optimality and Competition in Syntax*, ed. Pilar Barbos, Danny Fox, Paul Hagstrom, Martha McGinnis, and David Pesetsky, 337–383. Cambridge, MA: MIT Working Papers in Linguistics.
- Pesetsky, David. 2000. *Phrasal Movement and Its Kin*. Cambridge, MA: MIT Press.
- Pesetsky, David. 2013. Phrasal movement and its discontents: Diseases and diagnoses. In *Diagnosing Syntax*, ed. Lisa Lai-Shen Cheng and Norbert Corver. Oxford: Oxford University Press.
- du Plessis, Hans. 1977. Wh-movement in Afrikaans. *Linguistic Inquiry* 8:723–726.
- Polinsky, Maria, and Eric Potsdam. 2001. Long-distance agreement and topic in Tsez. *Natural Language & Linguistic Theory* 19:583–646.
- Pollard, Carl, and Ivan A Sag. 1992. Anaphors in English and the scope of binding theory. *Linguistic Inquiry* 23:261–303.
- Pollard, Carl, and Ivan A. Sag. 1994. *Head-Driven Phrase Structure Grammar*. Chicago: The University of Chicago Press.
- Poole, Ethan. 2015. A configurational account of Finnish case. *University of Pennsylvania Working Papers in Linguistics* 21:1–12.
- Poole, Ethan. 2017. Movement and the semantic type of traces. Doctoral Dissertation, University of Massachusetts Amherst.
- Poole, Ethan. 2022a. (im)possible traces. *Linguistic Inquiry* 1–40. Online Early.
- Poole, Ethan. 2022b. Improper case. *Natural Language & Linguistic Theory* 1–51.
- Postal, Paul. 1966. On so-called “pronouns” in English. In *Report of the seventeenth annual round table meeting on linguistics and language studies*, ed. Francis P Dinneen, 177–206. Washington, DC: Georgetown University Press.
- Postal, Paul. 1993. Remarks on weak crossover effects. *Linguistic Inquiry* 24:539–556.
- Postal, Paul M. 1971. *Cross-Over Phenomena*. New York, NY: Holt, Rinehart and Winston.
- Postal, Paul M. 2004. *Skeptical Linguistic Essays*. Oxford: Oxford University Press.
- Potts, Christopher. 2007. The expressive dimension. *Theoretical Linguistics* 33:165–197.
- Preminger, Omer. 2014. *Agreement and Its Failures*. Cambridge, MA: MIT Press.
- Preminger, Omer. 2019. What the PCC tells us about “abstract” agreement, head movement, and locality. *Glossa* 4:1–42.

- Prince, Ellen F. 1990. Syntax and discourse: A look at resumptive pronouns. In *Annual Meeting of the Berkeley Linguistics Society* 16, 482–497.
- Pylkkänen, Liina. 2008. *Introducing Arguments*. Cambridge, MA: MIT Press.
- Quintero, Carolyn. 1984. Resumptive pronoun strategy in Spanish. In *Papers from the XIIth Linguistic Symposium on Romance Languages, University Park, April 1–3, 1982*, ed. Philip Baldi. Amsterdam: John Benjamins.
- Rackowski, Andrea, and Norvin Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36:565–599.
- Radford, Andrew. 2019. *Relative clauses: Structure and variation in everyday English*. Cambridge: Cambridge University Press.
- Rasin, Ezer. 2017. Two types of resumptive pronouns: a minimal account of Hebrew interpretive asymmetries. In *Proceedings of NELS 47, Vol. 3*, ed. Andrew Lamont and Katerina Tetzloff, 25–34. Amherst, MA: GLSA Publications.
- Reinhart, Tanya. 1981. Definite NP anaphora and c-command domains. *Linguistic Inquiry* 12:605–635.
- Reinhart, Tanya. 1983a. *Anaphora and Semantic Interpretation*. Chicago, IL: University of Chicago Press.
- Reinhart, Tanya. 1983b. Coreference and bound anaphora: A restatement of the anaphora questions. *Linguistics and Philosophy* 6:47–88.
- Reinhart, Tanya. 1992. *Wh*-in-situ: An apparent paradox. In *Proceedings of the Eighth Amsterdam Colloquium*, ed. Paul Dekker and Martin Stokhof, 483–492. Amsterdam: ILLC, University of Amsterdam.
- Reinhart, Tanya. 1998. *Wh*-in-situ in the framework of the Minimalist Program. *Natural Language Semantics* 6:29–56.
- Reinhart, Tanya. 2006. *Interface Strategies: Optimal and Costly Computations*. Cambridge, MA: MIT Press.
- Reinhart, Tanya, and Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24:657–720.
- Reintges, Chris. 2000. The licensing of gaps and resumptive pronouns in Older Egyptian relatives. In *Research in Afroasiatic Grammar: Papers from the Third Conference on Afroasiatic Languages. Sophia Antipolis, France, 1996*, ed. Jacqueline Lecarme, Jean Lowenstamm, and Ur Shlonsky, 243–262. Amsterdam: John Benjamins.
- Retsö, Jan. 2004. Relative-clause marking in Arabic dialects: A preliminary survey. In *Approaches to Arabic Dialects: A Collection of Articles Presented to Manfred Woidich on the Occasion of His Sixtieth Birthday*, ed. Martine Haak, Rudolf de Jong, and Kees Versteegh, 263–273. Leiden: Brill.

- Rezac, Milan. 2008. The syntax of eccentric agreement: The Person Case Constraint and absolutive displacement in Basque. *Natural Language & Linguistic Theory* 26:61–106.
- Rezac, Milan. 2011. *Phi-Features and the Modular Architecture of Language*. Dordrecht: Springer.
- van Riemsdijk, Henk, and Edwin Williams. 1981. NP-Structure. *The Linguistic Review* 1:171–217.
- Ritter, Elisabeth. 1991. Two functional categories in Noun Phrases: Evidence from Modern Hebrew. In *Perspectives on Phrase Structure: Heads and Licensing*, ed. Susan D Rothstein, 37–62. New York: Academic Press.
- Ritter, Elisabeth. 1988. A head-movement approach to construct-state noun phrases. *Linguistics* 26:909–930.
- Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, MA: MIT Press.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar*, 281–337. Springer.
- Roberts, Ian. 2010. *Agreement and Head Movement: Clitics, Incorporation, and Defective Goals*. Cambridge, MA: MIT Press.
- Rodríguez, L Cortés. 1990. Unos anómalos del relativo en español hablado. *Revista española de lingüística* 20:431–446.
- Roelofson, Floris. 2010. Condition B effects in two simple steps. *Natural Language Semantics* 18:115–140.
- Romero, Maribel. 1997. Syntactic or non-syntactic reconstruction? In *Proceedings of the Twenty-Third Annual Meeting of the Berkeley Linguistics Society: General Session and Parasession on Pragmatics and Grammatical Structure*, ed. Matthew L Juge and Jeri L Moxley, 303–314. Berkeley, California: Berkeley Linguistics Society.
- Romero, Maribel. 1998a. The correlation between scope reconstruction and connectivity effects. In *The Proceedings of the Sixteenth West Coast Conference on Formal Linguistics (WCCFL 16)*, ed. Emily Curtis, James Lyle, and Gabriel Webster, 351–366. Stanford: CSLI Publications.
- Romero, Maribel. 1998b. Focus and reconstruction effects in *wh*-phrases. Doctoral Dissertation, University of Massachusetts Amherst.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT.
- Rouveret, Alain. 1994. *Syntaxe du gallois. principes généraux et typologie*. Paris: CNRS Editions.

- Rouveret, Alain. 2002. How are resumptive pronouns linked to the periphery? *Linguistic variation yearbook* 2:123–184.
- Rouveret, Alain. 2008. Phasal agreement and reconstruction. In *Foundational Issues in Linguistic Theory*, ed. Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 167–195. Cambridge, MA: MIT Press.
- Rouveret, Alain. 2011. Some issues in the theory of resumption: A perspective on early and recent research. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 1–62. Amsterdam: John Benjamins.
- Rouveret, Alain. 2018. Computational and semantic aspects of resumption. In *Aspects of Grammatical Architecture*, ed. Alain Rouveret, 274–324. Milton Park, Abingdon, Oxon.
- Rudin, Catherine. 1986. *Aspects of Bulgarian Syntax: Complementizers and WH Constructions*. Columbus, OH: Slavica.
- Rudin, Catherine. 2012. *Aspects of Bulgarian Syntax: Complementizers and WH Constructions*. Bloomington, IN: Slavica.
- Rullmann, Hotze. 1995. Maximality in the semantics of *wh*-constructions. Doctoral Dissertation, University of Massachusetts Amherst.
- Ruys, Eddy G. 2000. Weak crossover as a scope phenomenon. *Linguistic inquiry* 31:513–539.
- Ruys, Eddy G. 2004. A note on weakest crossover. *Linguistic Inquiry* 35:124–140.
- Ruys, Eddy G. 2015. A minimalist condition on semantic reconstruction. *Linguistic Inquiry* 46:453–488.
- Ryding, Karin C. 2014. *Arabic: A Linguistic Introduction*. Cambridge: Cambridge University Press.
- Saab, Andrés. 2008. Hacia una teoría de la identidad parcial en las elipsis. Doctoral Dissertation, Universidad de Buenos Aires.
- Saab, Andrés. 2022. Bleeding restructuring by ellipsis: New hopes for a motivated verbal ellipsis parameter. Ms., Universidad de Buenos Aires. Available at <https://ling.auf.net/lingbuzz/006717>.
- Saab, Andrés, and Anikó Lipták. 2016. Movement and deletion after syntax: Licensing by inflection reconsidered. *Studia Linguistica* 70:66–108.
- Saab, Andrés, and Laura Stigliano. 2023. On an undocumented type of predicate ellipsis in Spanish and its consequences for the theory of ellipsis licensing. Ms. Available at <https://ling.auf.net/lingbuzz/007280>.
- Saah, Kofi K. 1994. Studies in Akan syntax, acquisition and sentence processing. Doctoral Dissertation, University of Ottawa.

- Sadler, Louisa. 1988. *Welsh Syntax: A Government-Binding Approach*. London: Croom Helm.
- Sadler, Louisa, and Maris Camilleri. 2018. Free relatives in Maltese. *Brill's Journal of Afroasiatic Languages and Linguistics* 10:115–159.
- Safir, Ken. 1984. Multiple variable binding. *Linguistic Inquiry* 15:603–638.
- Safir, Ken. 1986. Relative clauses in a theory of binding and levels. *Linguistic Inquiry* 17:663–689.
- Safir, Ken. 1996. Derivation, representation, and resumption: The domain of weak crossover. *Linguistic Inquiry* 27:313–339.
- Safir, Ken. 1999. Vehicle change and reconstruction in \bar{A} -chains. *Linguistic Inquiry* 30:587–620.
- Safir, Ken. 2004a. *The Syntax of Anaphora*. Oxford: Oxford University Press.
- Safir, Ken. 2004b. *The Syntax of (In)dependence*. Cambridge, MA: MIT Press.
- Safir, Ken. 2008. Coconstrual and narrow syntax. *Syntax* 11:330–355.
- Safir, Ken. 2010. Viable syntax: Rethinking Minimalist architecture. *Biolinguistics* 4:35–107.
- Safir, Ken. 2013. Syntax, binding, and patterns of anaphora. In *The Cambridge Handbook of Generative Syntax*, ed. Marcel den Dikken, 515–576. Cambridge: Cambridge University Press.
- Safir, Ken. 2017. Weak Crossover. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- Safir, Ken. 2019. The A/\bar{A} distinction as an epiphenomenon. *Linguistic Inquiry* 50:285–336.
- Sag, Ivan. 1976. Deletion and Logical Form. Doctoral Dissertation, Massachusetts Institute of Technology.
- Sahawneh, Meera. 2017. Probes and pronouns: Variation in agreement and clitic doubling in Arabic. Doctoral Dissertation, University of Manitoba.
- Salzmann, Martin. 2006. *Resumptive Prolepsis. A Study in Indirect A'-Dependencies*. Utrecht: LOT.
- Salzmann, Martin. 2009. When movement and base-generation compete: On the definition of reference set, the typology of resumption, and ranked economy constraints. *GAGL: Groninger Arbeiten zur germanistischen Linguistik* 27–63.
- Salzmann, Martin. 2011. Silent resumptives in Zurich German possessor relativization. In *Null Pronouns*, ed. Peter Gallmann and Melani Wratil, 141–221. Berlin: de Gruyter.

- Salzmann, Martin. 2012a. A derivational ellipsis approach to ATB-movement. *The Linguistic Review* 29:397–438.
- Salzmann, Martin. 2012b. Deriving reconstruction asymmetries in ATB-movement by means of asymmetric extraction + ellipsis. In *Comparative Germanic Syntax: The State of the Art*, ed. Peter Ackema, Rhona Alcorn, Caroline Heycock, Dany Jaspers, Jeroen van Craenenbroeck, and Guido Vanden Wyngaerd, 353–386. Benjamin: John Benjamins.
- Salzmann, Martin. 2017a. Prolepsis. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk. Malden, MA: Wiley-Blackwell, 2nd edition.
- Salzmann, Martin. 2017b. *Reconstruction and Resumption in Indirect A'-Dependencies: On the Syntax of Prolepsis and Relativization in (Swiss) German and Beyond*. Berlin: de Gruyter.
- Salzmann, Martin. 2019. A new version of the matching analysis of relative clauses. In *Reconstruction Effects in Relative Clauses*, ed. Manfred Krifka and Mathias Schenner, 187–223. Berlin: De Gruyter.
- Sano, Tatsuya. 1994. Resumptive pronouns in Nchufie, the ECP, and the Least-Effort Condition. In *Aspects of Nchufie Grammar*, ed. Hilda Koopman and Murat Kural, 115–123. University of California, Los Angeles: Linguistics Department, University of California, Los Angeles.
- Sauerland, Uli. 1998. The meaning of chains. Doctoral Dissertation, Massachusetts Institute of Technology.
- Sauerland, Uli. 2003. Unpronounced heads in relative clauses. In *The Interfaces: Deriving and Interpreting Omitted Structures*, ed. Kerstin Schwabe and Susanne Winkler, 205–226. Amsterdam: John Benjamins.
- Sauerland, Uli. 2004. The interpretation of traces. *Natural Language Semantics* 12:63–127.
- Sauerland, Uli. 2007. The syntax of (in)dependence (review). *Language* 83:901–904.
- Schachter, Paul. 1973. Focus and relativization. *Language* 19–46.
- Schafer, Robin Jayne. 1994. *Nonfinite predicate initial constructions in Breton*. University of California, Santa Cruz.
- Schenner, Mathias. 2019. An introduction to reconstruction effects in relative clauses. In *Reconstruction Effects in Relative Clauses*, ed. Manfred Krifka and Mathias Schenner, 1–33. Berlin: De Gruyter.
- Schneider-Zioga, Patricia. 2007. Anti-agreement, anti-locality and minimality: The syntax of dislocated subjects. *Natural Language & Linguistic Theory* 25:403–446.

- Schneider-Zioga, Patricia. 2009. Wh-agreement and bounded unbounded movement. In *Merging Features: Computation, Interpretation, and Acquisition*, ed. José Brucart, Anna Gavarró, and Jaume Solà, 46–59. Oxford: Oxford University Press.
- Schwarz, Florian. 2009. Two types of definites in natural language. Doctoral Dissertation, University of Massachusetts Amherst.
- Scott, Tessa. 2021a. Formalizing two types of mixed A/ \bar{A} -movement. Ms., UC Berkeley. Available at <https://ling.auf.net/lingbuzz/005874>.
- Scott, Tessa. 2021b. Two types of resumptive pronouns in Swahili. *Linguistic Inquiry* 52:812–833.
- Seely, T. Daniel. 2006. Merge, derivational C-command, and subcategorization in a label-free Syntax. In *Minimalist Essays*, ed. Cedric Boeckx, 182–217. Amsterdam: John Benjamins.
- Sellami, Zeineb. 2021. Clitic doubling in Tunisian Arabic. Ms., The University of Chicago.
- Sellami, Zeineb. 2022. Complementizer agreement in Tunisian Arabic is subject clitic doubling. Talk presented at the 35th Annual Symposium on Arabic Linguistics (ASAL 35).
- Sellami, Zeineb. In progress. φ -agreement vs. clitic doubling in Arabic. Ms., The University of Chicago.
- Sells, Peter. 1984. Syntax and semantics of resumptive pronouns. Doctoral Dissertation, University of Massachusetts.
- Shan, Chung-chieh, and Chris Barker. 2006. Explaining crossover and superiority as left-to-right evaluation. *Linguistics and Philosophy* 29:91–134.
- Sharvit, Yael. 1997. The syntax and semantics of functional relative clauses. Doctoral Dissertation, Rutgers University.
- Sharvit, Yael. 1998. Possessive wh-expressions and reconstruction. In *Proceedings of NELS 28, Vol. 1*, ed. Pius N. Tamanji and Kiyomi Kusumoto, 409–423. Amherst, MA: GLSA.
- Sharvit, Yael. 1999a. Connectivity in specificational sentences. *Natural Language Semantics* 7:299–339.
- Sharvit, Yael. 1999b. Functional relative clauses. *Linguistics and Philosophy* 447–478.
- Sharvit, Yael. 1999c. Resumptive pronouns in relative clauses. *Natural Language & Linguistic Theory* 17:587–612.
- Shlonsky, Ur. 1986. Donkey-parasites. In *Proceedings of NELS 17*, ed. Joyce McDonough and Bernadette Plunkett, volume 2, 569–580.
- Shlonsky, Ur. 1992. Resumptive pronouns as a last resort. *Linguistic Inquiry* 23:443–468.

- Shlonsky, Ur. 1997. *Clause Structure and Word Order in Hebrew and Arabic: An Essay in Comparative Semitic Syntax*. Oxford: Oxford University Press.
- Shlonsky, Ur. 2002. Constituent questions in palestinian arabic. In *Themes in arabic and hebrew syntax*, ed. Jamal Ouhalla and Ur Shlonsky, 137–159. Springer.
- Shlonsky, Ur. 2004a. The form of Semitic noun phrases. *Lingua* 114:1465–1526.
- Shlonsky, Ur. 2004b. Resumptive pronouns in Hebrew. Handout for a mini-course at University of Siena.
- Sībawayh, 'Amr ibn Uthmān. 1938. *Al-Kitāb*. Cairo: Būlāq.
- Sichel, Ivy. 2003. Phrasal movement in Hebrew DPs. In *Research in Afroasiatic Grammar, Vol. II*, 447–479. Amsterdam: Lecarme, Jacqueline.
- Sichel, Ivy. 2014. Resumptive pronouns and competition. *Linguistic Inquiry* 45:655–693.
- Sichel, Ivy. 2018. Anatomy of a counterexample: Extraction from relative clauses. *Linguistic Inquiry* 49:335–378.
- Sichel, Ivy. 2021. Towards an understanding of the derivational timing of resumption. Pre-publication manuscript. To appear in *Proceedings of the 39th West Coast Conference in Formal Linguistics (WCCFL 39)*. Available at: <https://babel.ucsc.edu/animacy/papers/sichel-wccfl39.pdf>.
- Sichel, Ivy. 2022. How resumptive pronouns ameliorate island violations. In *For Hagit: A celebration*, ed. Linnaea Stockall, Luisa Martí, David Adger, Isabelle Roy, and Sarah Ouwayda. Available at: <https://www.qmul.ac.uk/sllf/media/sllf-new/department-of-linguistics/hagit-borer-celebration/Sichel.pdf>.
- Siloni, Tal. 1997. *Noun Phrases and Nominalizations: The Syntax of DPs*. Dordrecht: Springer.
- Siloni, Tali. 2001. Construct states at the PF interface. *Linguistic Variation Yearbook* 1:229–266.
- Simonenko, Alexandra. 2014. Grammatical ingredients of definiteness. Doctoral Dissertation, McGill University.
- Sneddon, James Neil. 1996. *Indonesian: A Comprehensive Grammar*. St Leonards, NSW: Allen and Unwin.
- Soltan, Usama. 2012. On licensing wh-scope: Wh-questions in Egyptian Arabic revisited. In *Arabic Language and Linguistics*, ed. Reem Bassiouney and E Graham Katz, 99–114. Washington, D.C.: Georgetown University Press.
- Soltan, Usama. 2020. On null objects in Egyptian Arabic: An argument ellipsis analysis. *Brill's Journal of Afroasiatic Languages and Linguistics* 12:204–259.

- Soltan, Usama. 2021. On Arabic morphosyntax and its implications for the theory of generative grammar. In *The Cambridge Handbook of Arabic Linguistics*, ed. Karin Christina Ryding and David Wilmsen, 371–404. Cambridge: Cambridge University Press.
- Sommerstein, Alan H. 1972. On the so-called definite article in English. *Linguistic Inquiry* 3:197–209.
- Souag, Lameen. 2017. Clitic doubling and contact in Arabic. *Zeitschrift für arabische Linguistik* 66:45–70.
- Souag, Mostafa Lameen. 2006. Explorations in the syntactic cartography of Algerian Arabic.
- Sportiche, Dominique. 1983. Structural invariance and symmetry. Doctoral Dissertation, MIT.
- Sportiche, Dominique. 1996. Clitic constructions. In *Phrase Structure and The Lexicon*, ed. Johan Rooryck and Laurie Zaring, 213–277. Dordrecht: Kluwer.
- Sportiche, Dominique. 2016. Neglect. Ms., UCLA. Available at <https://ling.auf.net/lingbuzz/002775>.
- Sportiche, Dominique. 2017a. Reconstruction, binding, and scope. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk C. van Riemsdijk, 3569–3626. Malden, MA: Wiley-Blackwell, 2nd edition.
- Sportiche, Dominique. 2017b. Relative clauses: Promotion only, in steps. Ms., UCLA. Available at <http://ling.auf.net/lingbuzz/003444>.
- Sportiche, Dominique. 2018. Resumed phrases (are always moved, even with in-island resumption). In *Romance Languages and Linguistic Theory 14: Selected papers from the 46th Linguistic Symposium on Romance Languages (LSRL), Stony Brook, NY*, ed. Lori Repetti and Francisco Ordóñez, 309–324. Amsterdam: John Benjamins.
- Sportiche, Dominique. 2019. Somber prospects for late merger. *Linguistic Inquiry* 50:416–424.
- Sportiche, Dominique. 2020. Some (but not all) movement types systematically violate islands. Ms., UCLA.
- Sproat, Richard. 1985. Welsh syntax and VSO structure. *Natural Language & Linguistic Theory* 173–216.
- Stabler, Edward P. 1997. Derivational minimalism. In *Logical Aspects of Computational Linguistics: First International Conference, LACL '96 Nancy, France, September 23–25, 1996 Selected Papers*, ed. Christian Retoré. Berlin: Springer.
- Stabler, Edward P. 2011. Computational perspectives on minimalism. In *The Oxford Handbook of Linguistic Minimalism*, ed. Cedric Boeckx. Oxford: Oxford University Press.

- Stateva, Penka. 2005. On the status of parasitic gaps in Bulgarian. *Journal of Slavic Linguistics* 13:137–155.
- Stegovec, Adrian. 2020. Taking case out of the Person-Case Constraint. *Natural Language & Linguistic Theory* 38:261–311.
- Steiner, Richard C. 1997. Ancient Hebrew. In *The Semitic Languages*, ed. Robert Hetzron, 145–173. London/New York: Routledge.
- Steriade, Donca. 1980. Clitic doubling in the Romanian *wh* constructions and the analysis of topicalization. In *Papers from the Sixteenth Regional Meeting of the Chicago Linguistic Society*, ed. Jody Kreiman and Almerindo E Ojeda, 282–297. Chicago, IL: Chicago Linguistic Society.
- Sterian, Laura-Andreea. 2014. On the D-linked character of genitive interrogatives in Iraqi Arabic. *The Canadian Journal of Linguistics/La revue canadienne de linguistique* 59:201–234.
- Sterian, Laura-Andreea. 2015. Obligatory and optional resumption; case studies in the syntax of Iraqi Arabic and Romanian. Doctoral Dissertation, University of Edinburgh.
- Sternefeld, Wolfgang. 2001a. Partial movement constructions, pied-piping, and higher order choice functions. In *Audiatur Vox Sapientiae: A Festschrift for Arnim von Stechow*, ed. Caroline Féry and Wolfgang Sternefeld, 473–486. Berlin: Akademie Verlag.
- Sternefeld, Wolfgang. 2001b. Semantic vs. syntactic reconstruction. In *Linguistic Form and Its Computation*, ed. Christian Rohrer, Antje Rossdeutscher, and Hans Kamp, 145–182. Stanford: CSLI Publications.
- Stigliano, Laura. 2022. The silence of syntax: A theory of ellipsis licensing and identity. Doctoral Dissertation, The University of Chicago.
- Stigliano, Laura, and Ming Xiang. 2021. Interaction between sentence complexity and resumption: Experimental evidence from Spanish. Slides from LSA 2021.
- Stockwell, Richard, Aya Meltzer-Asscher, and Dominique Sportiche. 2021. There is reconstruction for Condition C in English questions. In *Proceedings of NELS 51, Vol. 2*, ed. Alessa Farinella and Angelica Hill, 205–214. Amherst, MA: GLSA Publications.
- Stokes, Phillip W. 2018. The plural demonstratives and relatives based on *'VI in Arabic and the origin of dialectal *illī*. In *Reengaging Comparative Semitic and Arabic Studies*, ed. Daniel Birnstiel and Na'ama Pat-El, 127–150. Wiesbaden: Harrassowitz.
- Suaieih, Saadun Ismail. 1980. Aspects of Arabic relative clauses. Doctoral Dissertation, Indiana University.
- Sulaiman, Mais. 2016. The syntax of *wh*-questions in Syrian Arabic. Doctoral Dissertation, Newcastle University.

- Sulemana, Abdul-Razak. 2019. PRO as a partial copy: a movement-based account of control. In *Proceedings of CLS 54*, ed. Eszter Ronai, Laura Stigliano, and Yen-an Sun, 493–502. Chicago, IL: Chicago Linguistic Society.
- Suñer, Margarita. 1988. The role of agreement in clitic-doubled constructions. *Natural Language & Linguistic Theory* 6:391–434.
- Suñer, Margarita. 1998. Resumptive restrictive relatives: A crosslinguistic perspective. *Language* 74:335–364.
- Tada, Hiroaki. 1993. A/A-bar partition in derivation. Doctoral Dissertation, Massachusetts Institute of Technology.
- Taghvaipour, Mehran A. 2004. An HPSG analysis of Persian relative clauses. In *Proceedings of the 11th International Conference on Head-Driven Phrase Structure Grammar; Center for Computational Linguistics, Katholieke Universiteit Leuven*, ed. Stefan Müller, 274–293.
- Takahashi, Shoichi, and Martina Gračanin-Yuksek. 2008. Morphosyntax of movement dependencies in Haitian Creole. *Syntax* 11:223–250.
- Takahashi, Shoichi, and Sarah Hulseley. 2009. Wholesale late merger: Beyond the A/ \bar{A} distinction. *Linguistic Inquiry* 40:387–426.
- Tallerman, Maggie. 1983. Island constraints in Welsh. *York Papers in Linguistics* 10:197–204.
- Tallerman, Maggie. 1990. Relativization strategies: NP accessibility in Welsh. *Journal of Linguistics* 26:291–314.
- Taraldsen, Knut Tarald. 1981. The theoretical interpretation of a class of marked extractions. In *Theory of Markedness in Generative Grammar: Proceedings of the 1979 GLOW Conference*, ed. Adriana Belletti, Luciana Brandi, and Luigi Rizzi. Scuola Normale Superiore di Pisa.
- Tellier, Christine. 1988. Universal licensing: Implications for parasitic gap constructions. Doctoral Dissertation, McGill University.
- Tellier, Christine. 1989. Head-internal relatives and parasitic gaps in Mooré. In *Current approaches to African linguistics Vol. 6*, ed. Isabelle Haïk and Laurice Tuller, 298–318. Dordrecht: Foris.
- Tellier, Christine. 1991. *Licensing Theory and French Parasitic Gaps*. Dordrecht: Springer.
- Thoms, Gary, and Caroline Heycock. 2022. Deriving ‘late merge’ with External Remerge. In *Proceedings of NELS 52, Vol. 2*, ed. Özge Bakay, Breanna Pratley, Eva Neu, and Peyton Deal, 159–172. Amherst, MA: GLSA Publications.

- Thoms, Gary, and George Walkden. 2019. vP-fronting with and without remnant movement. *Journal of Linguistics* 55:161–214.
- Titov, Elena. 2019. Morphosyntactic encoding of information structure in Akan. *Glossa* 4:1–36.
- Toman, Jindrich. 1998. A discussion of resumptives in Colloquial Czech. In *Formal Approaches to Slavic Linguistics*, ed. Željko Bošković, Steven Franks, and William Snyder, 303–318. Ann Arbor, MI: Michigan Slavic Publications.
- Tomić, Olga Mišeska. 2008. Towards grammaticalization of clitic doubling: Clitic doubling in Macedonian and neighbouring languages. In *Clitic Doubling in the Balkan Languages*, ed. Dalina Kalluli and Liliane Tasmowski, 65–88. Amsterdam: John Benjamins.
- Toosarvandani, Maziar. 2014. Two types of deverbal nominalization in Northern Paiute. *Language* 786–833.
- Torrego, Esther. 1984. On inversion in Spanish and some of its effects. *Linguistic Inquiry* 15:103–129.
- Torrego, Esther. 1988. Pronouns and determiners: A DP analysis of Spanish nominals. Ms., University of Massachusetts, Boston.
- Torrego, Esther. 1998. *The Dependencies of Objects*. Cambridge, MA: MIT Press.
- Torrence, Harold. 2005. On the distribution of complementizers in Wolof. Doctoral Dissertation, University of California, Los Angeles.
- Tuller, Laurice. 1986. Bijective relations in universal grammar and the syntax of hausa. Doctoral Dissertation, University of California, Los Angeles.
- Uriagereka, Juan. 1991. A note on determiners, obviation, and opacity. *Anuario del Seminario de Filología Vasca "Julio de Urquijo"* 947–958.
- Uriagereka, Juan. 1995. Aspects of the syntax of clitic placement in Western Romance. *Linguistic Inquiry* 26:79–123.
- van Urk, Coppe. 2015. A unified syntax for phrasal movement: A case study of Dinka Bor. Doctoral Dissertation, MIT.
- van Urk, Coppe. 2017a. Phase impenetrability and resumption in Dinka. Paper presented at GLOW 40, Leiden.
- van Urk, Coppe. 2017b. Why A-movement does not license parasitic gaps. In *A Pesky Set: Papers for David Pesetsky*, ed. Claire Halpert, Hadas Kotek, and Coppe van Urk, 533–542. Cambridge, MA: MITWPL.
- van Urk, Coppe. 2018. Pronoun copying in Dinka Bor and the copy theory of movement. *Natural Language & Linguistic Theory* 36:937–990.

- van Urk, Coppe. 2020. Successive cyclicity and the syntax of long-distance dependencies. *Annual Review of Linguistics* 6:111–130.
- van Urk, Coppe, and Norvin Richards. 2015. Two components of long-distance extraction: Successive cyclicity in Dinka. *Linguistic Inquiry* 46:113–155.
- Vaillette, Nathan. 2001. Hebrew relative clauses in HPSG. In *Proceedings of the 7th International Conference on Head-Driven Phrase Structure Grammar*, 305–324. Stanford: CLSI Publications.
- Vanden Wyngaerd, Guido, and Jan-Wouter Zwart. 1991. Reconstruction and vehicle change. In *Linguistics in the netherlands, 1991*, ed. Frank Drijkoningen and Ans van Kemenade, 151–160. Amsterdam: John Benjamins.
- VanDyne, Katie. 2020. The interaction of parasitic gaps and adjunct control in Spanish. In *Language Patterns in Spanish and Beyond: Structure, Context, and Development*, ed. Juan J Colomina-Almañana and Sandro Sessarego, 37–51. London: Routledge.
- Vergnaud, Jean-Roger. 1974. French relative clauses. Doctoral Dissertation, MIT.
- Von Stechow, Arnim. 1996. Against LF pied-piping. *Natural Language Semantics* 4:57–110.
- de Vries, Mark. 2002. *The syntax of relativization*. Utrecht: LOT.
- Wahba, Wafaa. 1984. Wh-constructions in Egyptian Arabic. Doctoral Dissertation, University of Illinois at Urbana-Champaign.
- Wahba, Wafaa. 1992. LF-movement in Iraqi Arabic. In *Logical Structure and Linguistic Structure: Cross-Linguistic Perspectives*, ed. C.-T. James Huang and Robert May, 253–276. Dordrecht: Springer.
- Wahba, Wafaa. 1995. Parasitic gaps in Arabic. In *Perspectives on Arabic Linguistics VII: Papers from the Seventh Annual Symposium on Arabic Linguistics*, ed. Mushira Eid, 59–68. Amsterdam: John Benjamins.
- Wasow, Thomas. 1972. Anaphoric relations in English. Doctoral Dissertation, Massachusetts Institute of Technology.
- Wasow, Thomas. 1979. *Anaphora in Generative Grammar*. Ghent: E. Story-Scientia.
- Wierzba, Marta, Martin Salzmann, and Doreen Georgi. 2021. An experimental investigation of reconstruction for Condition C in German A'-movement. In *Proceedings of CLS 56*, ed. Matthew Hewett, Corinne Kasper, Sanghee Kim, and Naomi Kurtz, 479–491. Chicago: Chicago Linguistic Society.
- Wiland, Bartosz. 2010. Overt evidence from left-branch extraction in Polish for punctuated paths. *Linguistic Inquiry* 41:335–347.

- Williams, Edwin. 1994. *Thematic Structure in Syntax*. Cambridge, MA: MIT Press.
- Willis, David. 2000. On the distribution of resumptive pronouns and *wh*-trace in Welsh. *Journal of Linguistics* 36:531–573.
- Willis, David. 2011. The limits of resumption in Welsh *wh*-dependencies. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 189–221. Amsterdam: John Benjamins.
- Yamada, Masahiro. 2010. Plurality, reciprocity, and plurality of reciprocity. Doctoral Dissertation, University of Delaware.
- Yip, Ka-Fai, and Comfort Ahenkorah. To appear. Non-agreeing resumptive pronouns and partial Copy Deletion. In *University of Pennsylvania Working Papers in Linguistics, Volume 29.1*.
- Zaenen, Annie. 1983. On syntactic binding. *Linguistic Inquiry* 14:469–504.
- Zaenen, Annie, Elisabet Engdahl, and Joan M Maling. 1981. Resumptive pronouns can be syntactically bound. *Linguistic Inquiry* 679–682.
- Zaenen, Annie, and Joan Maling. 1982. The status of resumptive pronouns in Swedish. In *Readings on Unbounded Dependencies in Scandinavian Languages*, ed. Elisabet Engdahl and Eva Ejerhed, 223–230. Stockholm: Almqvist and Wiksell International.
- Zwart, Jan-Wouter. 2002. Issues relating to a derivational theory of binding. In *Derivation and Explanation in the Minimalist Program*, ed. Samuel David Epstein and T. Daniel Seely, 269–304. Oxford: Blackwell.
- Zyman, Erik. 2018. On the driving force for syntactic movement. Doctoral Dissertation, University of California, Santa Cruz.
- Zyman, Erik. 2022a. Phase-constrained obligatory late adjunction. *Syntax* 25:84–121.
- Zyman, Erik. 2022b. Proleptic PPs are arguments: consequences for the argument/adjunct distinction and for selectional switch. *The Linguistic Review* 39:129–158.
- Zyman, Erik. 2023a. On the symmetry between Merge and Adjoin. Handout from a colloquium talk at UCLA.
- Zyman, Erik. 2023b. Raising out of finite clauses (hyperraising). *Annual Review of Linguistics* 9:29–48.
- Zyman, Erik. Accepted. On the definition of Merge. *Syntax* .