UNIVERSITY OF CALIFORNIA

Los Angeles

Clausal relations at the interfaces: A study of Hittite correlatives at the intersection of syntax,

semantics, and discourse

A dissertation submitted in partial satisfaction

of the requirements for the degree

Doctor of Philosophy in Indo-European Studies

by

Thomas Clarence Motter

2023

ABSTRACT OF THE DISSERTATION

Clausal relations at the interfaces: A study of Hittite correlatives at the intersection of syntax, semantics, and discourse

by

Thomas Clarence Motter

Doctor of Philosophy in Indo-European Studies

University of California, Los Angeles, 2023

Professor David M. Goldstein, Chair

This dissertation presents a theoretical analysis of the interaction between the clauses in correlative constructions in Hittite at the syntactic, semantic, and discourse level. I argue that the relative clause is not connected with the main clause in the syntax, only at the discourse level. I defend this claim by examining the syntactic and semantic relationships that the correlative has with the main clause and the resumptive correlate.

I argue that the correlate is a discourse anaphor coreferent with the correlative, not a variable bound by it. This is the simplest explanation of the fact that the distribution of NP types as correlates is completely explained by Hittite-wide principles governing the distribution of NPs as discourse anaphors. There are no special requirements attributable to the correlative construction itself. Moreover, numerous correlatives are linked indirectly to the main clause and not resumed by a coreferent correlate — a fact incompatible with variable binding but ordinary for discourse anaphora.

I argue that the correlative's position cannot be derived by movement from within the main clause. Moreover, the correlative is not syntactically integrated into the main clause, despite being semantically dependent on it. The correlative is a clausal hanging topic and is external to the main clause, linked to it only in the discourse. This accounts for a variety of complex multi-clausal correlative constructions that pose difficulties for integrative approaches.

I propose a model of correlative semantics framed in Segmented Discourse Representation Theory (Asher and Lascarides 2003), a dynamic framework that models the rhetorical relationships between segments of discourse. I posit a function ref that makes the correlative into a referential expression and a rhetorical relation HT that predicates the main clause conditions on the correlative's referent(s). I demonstrate how this model encodes the characteristic maximal interpretation of correlatives in definite and indefinite readings as a reflection of referent identifiability in context.

A common assumption in the theoretical literature is that dependent clauses are syntactically subordinate to their main clause. I articulate a different view of the division of labor between syntax and discourse, and I suggest that standard assumptions should be re-examined.

The dissertation of Thomas Clarence Motter is approved.

Petra Goedegebuure

Hilda Koopman

H. Craig Melchert

David M. Goldstein, Committee Chair

University of California, Los Angeles

2023

To my family

TABLE OF CONTENTS

SYMBOLS AND ABBREVIATIONS

1	first person
2	second person
3	third person
ABL	ablative
ACC	accusative
ALL	allative
ANIM	animate
CC	correlate clause
CHD	*Chicago Hittite Dictionary* (Güterbock, Hoffner, and van den Hout 1989–)
CONN	connective
CONTR	contrastive
DAT	dative
ERG	ergative
FOC	focus
FUT	future
GEN	genitive
HAB	habitual
HED	*Hittite Etymological Dictionary* (Puhvel 1984–)
HT	hanging topic
HTLD	Hanging Topic Left Dislocation
IMP	imperative
IMPF	imperfective
INS	instrumental

IRR	irrealis
LOC	locative
MH	Middle Hittite
MS	Middle Script
N	neuter
NH	New Hittite
NOM	nominative
NS	New Script
OBL	oblique
OH	Old Hittite
OS	Old Script
PL	plural
PROH	prohibitive
PTC	particle
PTCP	participle
QUD	Question Under Discussion
QUOT	quotative
RC	relative clause
REFL	reflexive
Rel, REL	relative morpheme
Rel NP	relative NP
SG	singular
[XP ...]	syntactic XP constituent
[...]	material lost in textual break

[(…)]	material lost in a textual break, restored from a duplicate
⟨…⟩	material accidentally omitted by the scribe
⟨⟨…⟩⟩	material to be omitted
!	corrected reading of errant sign
=	clitic boundary
⸠	Glossenkeil, marks foreign words in Hittite
§	paragraph line in Hittite texts
*	reconstructed form
*	ungrammatical form
x	unattested hypothetical form

ACKNOWLEDGMENTS

A dissertation is the culmination of many years of training, mentorship, and labor. Such an endeavor is not possible without a great deal of support and influence from others. There are many people who have played a role in transforming an eager but green first-year into the scholar that I am today.

I would like to thank the members of my dissertation committee: David Goldstein, Petra Goedegebuure, Hilda Koopman, and Craig Melchert. They have been very generous with their time, reading multiple drafts of each chapter and providing many thoughtful comments. I am grateful that they were willing to assist me on this project, as their insightful feedback has made this dissertation a better work than it would otherwise have been.

The Program in Indo-European Studies has been my home for much of the past decade, and a welcoming one. I would like to express my gratitude to the faculty of the program: David Goldstein, Stephanie Jamison, Craig Melchert, Brent Vine, and Tony Yates. Their guidance and mentorship has been critical to my development as a scholar. From them I have learned how to work with, think about, research, and most of all enjoy ancient languages. David and Craig in particular have been instrumental in the growth of my research program. David has been a major force in showing me how to push the theoretical impact of my work forward. In an environment (Indo-European linguistics) that is often focused on narrow empirical matters, David has consistently emphasized the bigger picture, showing me how to take the empirical facts and build from them something of broader theoretical significance. Of course, the empirical foundation is critical, and I am immensely grateful to Craig for countless hours (and emails) of discussion over Hittite matters big and small. It is most of all from Craig that I have learned how to carefully analyze written language in context.

I would also like to thank my fellow students in the program. I am happy that I can call them friends and not just colleagues. It is a privilege to have a group around me who are eager to discuss the nitty-gritty of historical linguistics and ancient languages, and just as eager to talk about random nonsense and destroy our collective competence at using any one language

VITA

2008–2012	B.A., Mathematics, Classical Studies, Rice University, Houston, TX
2011–2012	Intern, The University of Texas MD Anderson Cancer Center, Houston, TX
2012–2013	Associate Statistical Analyst, The University of Texas MD Anderson Cancer Center, Houston, TX
2013–2014	Post-Baccalaureate Certificate in Classical Studies, University of Pennsylvania, Philadelphia, PA
2015	Graduate Summer Research Mentorship (under Prof. Brent Vine), UCLA
2015–2016	Student Researcher, Center for Medieval and Renaissance Studies, UCLA
2016	Graduate Summer Research Mentorship (under Prof. Christopher Stevens), UCLA
2017–2018	Graduate Research Mentorship (under Prof. David Goldstein), UCLA
2019	Graduate Certificate in Linguistics, University of California, Los Angeles, CA
2019	Teaching Assistant, Department of Near Eastern Languages and Culture, UCLA
2019	Co-instructor (Latin 1), Department of Classics, UCLA
2019	Summer Instructor (Introduction to Linguistic Analysis), Department of Linguistics, UCLA
2021	Summer Instructor (Introduction to Historical Linguistics), Department of Linguistics, UCLA
2016–2022	Teaching Assistant, Department of Linguistics, UCLA

2022	Summer Instructor (Origins and Nature of English Vocabulary), Department of Classics, UCLA
2022–2023	Dissertation Year Fellowship, UCLA

PUBLICATIONS AND PRESENTATIONS

PUBLICATIONS

2023. Hittite correlatives are paratactic. *Glossa: a journal of general linguistics* 8 (1): 1–43. https://doi.org/10.16995/glossa.8900.

2020. Hittite Correlative Resumption as Discourse Anaphora. In *Proceedings of the 31st Annual UCLA Indo-European Conference*, edited by David M. Goldstein, Stephanie W. Jamison, and Brent Vine, 215–227. Hamburg: Buske.

2018. The Structure of Relative Clauses in Early Germanic. In *Proceedings of the 29th Annual UCLA Indo-European Conference*, edited by David M. Goldstein, Stephanie W. Jamison, and Brent Vine, 163–180. Bremen: Hempen.

PRESENTATIONS

November 2022. The extra-clausality of Hittite correlatives. Delbrück Colloquium on Historical and Comparative Syntax of Indo-European, Verona.

March 2022. Hittite determinate correlatives are not indefinite. 232nd Annual Meeting of the American Oriental Society, Boston, MA.

November 2021. Proleptic correlatives in Hittite. 32nd Annual UCLA Indo-European Conference, online.

November 2019. Hittite and the unaccusative hypothesis of reflexives. 28th Western Conference on Linguistics, Fresno, CA.

November 2019. Hittite correlative relative clauses are hanging topics. 31st Annual UCLA Indo-European Conference, Los Angeles, CA.

June 2018. The First Compensatory Lengthening in Ancient Greek: an articulatory approach. 37th Annual East Coast Indo-European Conference, Ann Arbor, MI.

November 2017. The Structure of Relative Clauses in Early Germanic. 29th Annual UCLA Indo-European Conference, Los Angeles, CA.

CHAPTER 1

Introduction

1.1 Does semantic dependence require syntactic dependence?

The goal of this dissertation is to provide a theoretical analysis of correlative constructions in Hittite, bringing together syntactic, semantic, and discourse perspectives to achieve a holistic model of the interaction between the two clauses making up the construction.

A fundamental issue for modeling the interaction between clauses is how their semantic relationship is reflected in hierarchical structure, and how the labor is divided between the syntax and discourse components of the grammar. Compare the following examples:

(1)   John shielded his eyes. The sun was too bright.

(2)   John shielded his eyes as he stepped outside.

In (1), there is clearly no syntactic dependence of one clause on the other, as each clause can stand perfectly well on its own. We infer that the clauses are connected at the discourse level by a causal relation. By contrast, the clause *as he stepped outside* in (2) seems to be neither syntactically nor semantically viable on its own, such that it is widely viewed as being *syntactically* as well as semantically dependent on the main clause *John shielded his eyes.*

It is often taken for granted that a clause which is semantically dependent on another clause is also syntactically dependent on it, which is to say subordinated to it. But not all semantically dependent utterances are syntactically dependent. Consider the following dialogue:

(3)   A: Did you take out the trash?

      B: I did not.

B's answer is syntactically independent, but its interpretation is completely dependent on A's question. Thus, we must distinguish between semantic dependence and syntactic dependence. The question, then, is how these two types of dependence are related. Comparing (2) and (3), it is clear that semantic dependence can be present with or without syntactic dependence. It is also clear from (3), compared with (1), that syntactic independence does not entail a lack of semantic dependence.[1] So we are led to two questions that lie at the heart of this dissertation: what determines whether one clause is semantically dependent on another, and what determines whether a semantically dependent clause is also syntactically dependent? These are fundamental questions for the interfaces of syntax, semantics, and discourse, and the answer has major implications for our understanding of the relationship between the levels of hierarchical structure in language (syntax and discourse), as well as how semantics interacts with that structure.

A proper answer to these questions requires an attack on two fronts. First, we need a model of the semantics of clauses and of semantic relationships between clauses. Second, we need an analysis of the syntactic relationships (or lack thereof) between clauses. In this dissertation, I pursue these lines of investigation for Hittite correlatives, such as the following:

(4)   nu=mu   MUŠEN.ḪI.A kue uppešta n=at   arḫa ḫ[ar]ranteš eš[er]
      CONN=me birds   REL you.sent CONN=they spoiled   were

      'The birds which you sent to me, they were spoiled.'

<div align="right">(AT 125 11–12 (NH); Hoffner 2009: 373)</div>

In this construction, a relative clause (RC) acts as a topic which is commented on by a second clause (the *correlate clause* (CC)) by use of a resumptive anaphoric pronoun (the *correlate*). The RC is semantically dependent on the CC. Is it syntactically dependent as well? The two clauses

---

1. It seems to me that syntactic dependence without semantic dependence would be strange and perhaps conceptually impossible. At the very least, I cannot presently think of examples.

are linearly adjacent, but is the RC hierachically subordinate to the CC? Even in this one example, we can identify elements that suggest it is not. Both clauses begin with the word *n(u)*, a sentence connective which always comes at the beginning of its clause. At a first glance, we can observe a clear syntactic parallelism in that *both* clauses begin with a connective. More suggestive is the fact that the connective in the CC comes *after* the RC, giving the impression that the RC is beyond the left edge of the CC. It is therefore worth investigating rigorously whether Hittite correlative constructions exhibit a hypotactic (i.e., subordinating) structure or a paratactic one (i.e., clauses juxtaposed without syntactic subordination).

1.2   Overview of literature on correlatives

1.2.1   Syntactic literature

Treatments of the syntax of correlative constructions have generally addressed one (or more) of three questions: 1) what is the structural relation between the RC and the CC, 2) how does the RC get to its observed position, and 3) what is the relationship between the RC and the correlate?

Most authors have treated the RC as adjoined to the CC, in some cases as an explicit claim and in others taken for granted. Among those making the structural architecture explicit, Srivastav (1991), Dayal (1996), Bhatt (2003), and Leung (2009) treat the RC as an adjunct to IP, while Izvorski (1996) argues that Serbo-Croatian correlatives are adjuncts to CP. Davison (2009) argues that Hindi correlatives are asymmetrically adjoined to IP, while Sanskrit correlatives are symmetrically adjoined to CP. Lipták (2009a), differing notably from the rest, argues that Hungarian correlatives are not adjuncts, but something more loosely integrated.

Regarding the question of derivation, there are two camps: those who derive the RC's position through movement, and those who treat it as base-generated where it is. Mahajan (2000) and Bhatt (2003) argue that the correlative originates in a CC-internal position and moves to its observed position. Srivastav (1991), Dayal (1996), Izvorski (1996), and Lipták (2009a) argue that the RC is base-generated in its observed location and undergoes no movement.

The relationship between the RC and the correlate sees the widest variety of proposals. For

Srivastav (1991), Dayal (1996), and Izvorski (1996), it is a variable bound by the RC, which acts as a generalized quantifier. Mahajan (2000), Bhatt (2003), and Leung (2009) argue that the RC originates as part of a syntactic constituent with the correlate, establishing a local relation via Merge before moving to the left edge of the clause. Mahajan derives correlatives from headed relatives, with the correlate as the head. For Bhatt the RC begins as an adjunct of the correlate. Leung assumes that the relative morpheme (Rel) and the correlate form a constituent in the CC, and that the Rel undergoes sideways movement to reach the RC, which is already in an adjoined position. Others (e.g., Arsenijević 2009) treat the correlate as simply an anaphoric pronoun.

1.2.2 Semantic literature

The literature on correlative semantics mostly revolves around two topics. The first is the fact that correlatives are one of a class of RCs that have maximalizing semantics, meaning they refer to the maximal number of individuals matching their content, not a subset. This maximal interpretation yields multiple different readings. Most treatments distinguish two readings: definite (*The girls who are standing, they are tall*) and universal (*Whoever eats one of my cookies, they get a stomachache*). Dayal (1995) distinguishes a third reading, which we can call the unknown-identity reading (*Whatever movie it is that John saw, he seems to have liked it*). There have been several theoretical accounts for how to derive the maximal semantics of correlatives in general, as well as how the different readings are generated. Srivastav (1991), Dayal (1996), Grosu and Landman (1998), Grosu (2002), and Gajewski (2008) all achieve maximalization through the use of maximalizing operators that map a set onto its maximal element; the accounts differ in the exact implementation. Belyaev and Haug (2020) derive maximality differently, and propose different mechanisms for languages where the Rel is a *wh*-item versus a demonstrative-based item. Their analysis is diachronically oriented: demonstrative-based correlatives derive from a grammaticalization of definite expressions, which are known to be maximalizing, whereas *wh*-based correlatives derive from conditionals, which involve universal quantification over situations.

The second major topic with respect to correlative semantics is the similarity between cor-

relatives and conditionals. It is widely recognized that it is possible to paraphrase a correlative with a conditional (see Lipták 2009b: 26 with references): *Whoever eats a cookie, they get a stomachache → If anyone eats a cookie, they get a stomachache*. Both types of construction involve maximalizing semantics (correlatives over individuals, conditionals over situations) and are structured in a topic-comment format. Some semantic treatments have sought to explain the connection. Bittner (2001) presents a logical formalism for interpreting the topic-comment structure that allows the topic clause to center a topic in some domain, either individuals or possible situations. Arsenijević (2009) analyzes correlatives as a type of conditional. Belyaev and Haug (2020), as noted above, derive *wh*-based correlatives diachronically from conditionals, and in their semantic model (framed in Discourse Representation Theory) the correlative structure has a conditional in its semantic representation.

1.2.3 Hittite literature

The majority of literature on Hittite correlatives concerns the relation between the RC's semantics and the word order of the Rel. Held (1957) established a basic connection: universal correlatives have the Rel in clause-initial position, whereas it must be non-initial in definite correlatives. Garrett (1994), Lühr (2001), and Lyutikova and Sideltsev (2022) refine the ordering correlation and propose structural mechanisms to derive them. Raman (1973) proposed essentially the reverse of Held's proposal, but it has not been generally accepted. Huggard (2015) takes a different approach, recasting definite RCs as independent sentences with existential indefinites (reviving an old idea of Hahn (1946)), and recasting universal RCs as a type of conditional (compare Arsenijević 2009 and Belyaev and Haug 2020).

Most scholars working on Hittite correlatives have been interested in this ordering question, and thus there has been relatively little attention devoted to the relation of the RC to the CC. Probert (2006) contrasts correlatives and "embedded" free relatives in clausal argument positions, using the presence of a correlate and a CC-initial sentence connective to identify correlatives. Probert presents a structure which puts the correlative in a CC-adjoined topic position. Sideltsev (forthcoming[b]) addresses an apparent bracketing paradox involved in some Hittite

correlatives and renders the RC either as an adjunct to CP or in a left-peripheral functional projection (depending on the particular details of the bracketing paradox in each case).

1.3   Outline of the dissertation

The dissertation is structured as follows. Chapter 2 provides an overview of the types of RCs found in Hittite. I define the correlative construction and identify subtypes: basic correlatives, which feature a single Rel and a single matching correlate; multiple correlatives, which feature more than one Rel; and frame relatives, which either lack a correlate or have a "pseudo-correlate" that is not identical in reference. I show that the properties of these constructions warrant a unified treatment. I contrast these with other types of RCs in Hittite, namely embedded free RCs, externally-headed restrictive RCs, and appositive RCs.

The first matter to tackle is the structural nature of the correlative construction. This involves identifying the relationship that the RC has with the correlate and with the CC. Chapter 3 shows that there is no syntactic connection between the RC and the correlate. Instead, the correlate is an ordinary anaphoric NP[2] whose semantic value is determined by the normal principles operative in discourse anaphora. There are no syntactic restrictions on the correlate imposed by the correlative construction: it can take any form of NP available for discourse anaphora, and the distribution of forms is determined by Hittite-wide syntactic rules based on the argument and information structure of the CC. Moreover, there are correlatives that lack a coreferent correlate: in some cases there is a pseudo-correlate that is related to the RC referent by some indirect bridging relation (e.g., set-member or body-part), and in other cases there simply is nothing that qualifies as a proper correlate. These facts together rule out a syntactic connection between the RC and correlate, meaning that it can only be a matter of discourse connection.

Chapter 4 picks up the other half of the structural question: the relationship between the RC and the CC. I address the two key questions: how does the RC arrive in its observed left-edge position, and what is the structural nature of that position? I show that the RC is base-generated in

---

2. I will use the label NP for nominal constituents throughout the dissertation. Hittite does not have articles; whether the DP hypothesis is a good fit for Hittite is irrelevant to this investigation.

place, not moved from somewhere within the CC. More than that, the RC is not a syntactic part of the CC at all (not even adjoined). The RC and CC are not syntactically linked to one another, but juxtaposed in parataxis; their structural connection lies at the level of discourse. This is supported by similarities with hanging topics, by the fact that the correlate is a discourse anaphor, and by the existence of non-prototypical correlative constructions that are incompatible with a syntactic connection. I introduce a discourse-oriented semantic model of the paratactic structure that better accommodates the variety of constructions found in Hittite.

In the final two chapters, I turn from syntactic matters to the semantic model I propose for analyzing the interpretation of correlative constructions. Chapter 5 lays out the technical details of the model. I analyze correlatives within Segmented Discourse Representation Theory (Asher and Lascarides 2003), a dynamic semantic framework that models the rhetorical relations that bind discourse constituents. The framework is built for discourses involving event-describing clauses rather than individual-referring expressions (as correlatives are), so I propose an extension that accommodates referential discourse constituents. Formally, I define a function ref that turns a clause into a referring expression whose semantic value is the set of all possible referents for the RC, and a discourse relation HT that embodies the topic-comment link by applying the CC to all of those referents. I show how correlative constructions are formed and interpreted dynamically, and I show that a dynamic model can offer a straightforward analysis of some exceptional correlative structures.

Chapter 6 addresses one major aspect of correlative semantics: maximalization. I show how maximalization is reflected in my model through the collection of all possible referents for the RC (only maximal individuals) by ref and universal quantification over those possible referents by HT. There are three different readings of correlatives in Hittite: definite, universal, and unknown-identity, the last two of which can be grouped as indefinite. I show how these readings emerge from the nature of the set produced by ref. The RC is definite if the ref set contains only one individual and is identical across all possible worlds. The RC is indefinite if different worlds yield different ref sets; the unknown-identity reading obtains if the set has only one member in any given world, and the universal reading obtains if it potentially contains multiple

7

individuals in some worlds. Finally, I discuss the often-cited semantic similarity between cor-reltaives and conditionals, showing that the similarity is due to partial truth-conditional overlap but only applies for universal correlatives, meaning that they should not be treated as equiva-lent.

CHAPTER 2

Overview of Hittite correlatives

2.1 Introduction

In this chapter, I provide an overview of the types of relative clauses found in Hittite, to lay the empirical foundation for the investigation of correlatives to follow. In particular, I identify three types of correlatives and discuss their differences as well as a number of similarities that justify a unified treatment.

2.2 Background on Hittite

Hittite is the earliest attested Indo-European language, found on cuneiform tablets dating from the end of the 17th century BCE to the beginning of the 12th. The best-attested member of the Anatolian subgroup of Indo-European, Hittite was the administrative language of the Hittite kingdom in ancient Anatolia, covering the modern-day areas of central and eastern Turkey and stretching into the northern Levant. The Hittite corpus consists of around 300,000 words (Yates 2017: 36).

Hittite cuneiform is a logosyllabic script in which Hittite words can be spelled phonetically or represented by logograms. Hittite scribes use both Sumerian words and Akkadian words as logograms (*Sumerograms* and *Akkadograms*, respectively) to represent the Hittite word with the same meaning. Hittite examples in this paper are transliterated into *broad transcription* using standard conventions: phonetic signs are written in lowercase letters, Sumerograms are written in plain uppercase letters, and Akkadograms are written in italic uppercase letters. Where

a phonetic word (or part of word) or an Akkadogram is spelled with multiple signs, the boundaries between signs are not represented and redundant vowels are omitted. Combinations of Sumerograms are indicated with a joining period (e.g., MUŠEN.ḪI.A). Boundaries between sign type are indicated by a hyphen (e.g., DINGIR-*LIM*); this hyphen does not represent a morpheme boundary, only an orthographic boundary. Clitic boundaries are represented with an equal sign (=). Some logograms function to indicate a noun's semantic class and do not actually represent linguistic content; these *determinatives* are written as superscripts. As a last point of note, Hittite texts are preserved on clay tablets, which are not always in perfect condition. Square brackets in Hittite examples indicate textual restorations. Parentheses inside a square bracket indicate a restoration based on another copy of the given text. (In an unfortunate but unavoidable overlap of notation, square brackets are used in philology for textual restoration and in syntax for marking the edges of constituents. Since the philological use cannot be avoided, I have tried to limit my use of the syntactic notation in Hittite examples. In cases where it has been necessary, I have tried to use subscript labels on the left bracket to make clear that a constituent edge is being marked.)

Hittite texts are divided into three chronological periods (see Hoffner and Melchert 2008: xvii): Old Hittite (OH; ca. 1650–1450 BCE), Middle Hittite (MH; ca. 1450–1350 BCE), and New Hittite (NH; ca. 1350–1190 BCE). For any given text, a particular exemplar can be contemporaneous with the composition or may instead be a later copy. For this reason, it is common practice to identify the date of the exemplar as Old Script (OS), Middle Script(MS), or New Script (NS), contemporaneous with OH, MH, and NH respectively. In the citations of Hittite examples in this dissertation, I list both dates;[1] for example, OH/NS signifies a New Script copy of an Old Hittite text.

This study is based on a sample of 912 correlatives spanning all periods of Hittite documentation and representing several different genres. A link to the dataset may be found in the appendix.

---

1. Except for NH, which necessarily implies NS.

2.3 Overview of relative clause types in Hittite

Hittite exhibits multiple types of relative clause construction (cf. Melchert 2016). The focus of this dissertation is on correlatives, so we will not have anything to say about the other types, but it is worth beginning our investigation by surveying the various relative clause strategies available to the language, to situate correlatives in their broader Hittite grammatical context and identify diagnostics we can use to identify them.

Relative clauses (RC) in Hittite are characterized fundamentally by the presence of the relative morpheme (Rel) *kuiš*, which has the following forms:

(5)

	SINGULAR	PLURAL
NOM ANIM	*kuiš*	*kuiēš, kuēš*
ACC ANIM	*kuin*	*kuiuš, kuiēš*
NOM-ACC N	*kuit*	*kue*
GEN	*kuēl*	*kuenzan
DAT-LOC	*kuedani*	*kuedaš*
ABL	*kuēz(za)*

Locative adverb: *kuwapi(t)* 'where'
Temporal adverb: *kuwapi* 'when'

The morpheme *kuiš* is also used as an interrogative *wh*-morpheme, and as an indefinite (sometimes bare, sometimes in the augmented form *kuiški*).

In RCs, this morpheme can stand on its own as a relative pronoun, but it may also combine with a head noun; in either case, I use the term *relative NP* (Rel NP) to refer to the constituent in the RC that contains the Rel. When associated with generalizing semantics ('whichever, whichsoever'), the Rel can be doubled (*kuiš kuiš*, etc.) or can appear with the particle *imma* (*kuiš imma*), or both (*kuiš imma kuiš*).

2.3.1 Correlatives

The most common type of RC (by far) in Hittite is the correlative. The prototypical correlative construction consists of two clauses in a topic-comment relation (Bittner 2001; Garrett 1994):

(6) nu=mu   MUŠEN.ḪI.A kue uppešta n=at   arḫa ḫ[ar]ranteš eš[er]
    CONN=me birds   REL you.sent CONN=they spoiled   were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

The first clause is a free RC, termed the *correlative*;[2] the RC activates a discourse referent as a topic for the ensuing discourse. If the Rel NP in a correlative has a head noun, that head is internal to the RC. The second clause contains the nominal correlate that is coreferent with the RC (if there is one — see section 3.6 on correlate-less constructions) and serves to comment on that referent further. Because it contains the correlate, I will call it the *correlate clause* (CC). Although in many cases the CC is an independent clause, and thus could appropriately be called the "main clause" or something similar, this is not always the case:

(7) kāšma=wa MUŠEN.ḪI.A kue *ANA* EN=*YA*   uppaḫḫun nu=wa=za   mān
    there=QUOT birds   REL to   lord=my I.sent   CONN=QUOT=REFL if
    EN=*YA* apē   MUŠEN.ḪI.A malāši   nu=wa=mu   EN=*YA* EGIR-pa
    lord=my those birds   approved.2SG CONN=QUOT=me lord=my back
    ḫatrāu
    write.2SG.IMP

'The birds which I have sent there to My Lord, if you My Lord approved of those birds, may My Lord write back to me.'

(AT 125 5–9 (NH); Hoffner 2009: 373)

---

2. There is variation in the terminology used for the parts of a correlative construction. I follow the generative literature in using "correlative" for the relative clause, not for the main clause or for the resumptive NP.

Therefore I eschew the term "main clause" to avoid such implications. "CC" is agnostic to the clause's (in)dependent status and focuses on its relevance to the correlative construction.

2.3.1.1 Maximalization

A notable property of correlatives cross-linguistically is that they have maximalizing semantics, referring to the maximal entity to which the RC applies in context (Grosu and Landman 1998). For example, in (6) the referent of the RC is the entire set of birds that the speaker received from the addressee, not just some of them. Maximalization can have either a definite reading as in (6) or an indefinite reading as in (8).

(8)   *'If a slave$_j$ flees and he$_j$ goes into an enemy land,'*[3]

kuiš$_i$=an$_j$ āppa=ma   uwatezzi n=an$_j$=za   apāš$_i$=pat dāi
REL=him   back=CONTR brings   CONN=him=REFL he=FOC   takes

'whoever$_i$ brings him back, HE$_i$[4] shall take him$_j$ for himself$_i$.'

(KBo 6.2 i 53 (OH/OS); Hoffner 1997: 32)

I will discuss maximalization in detail in chapter 6.

Interestingly, it seems that an analogue of the restrictive/nonrestrictive distinction for RCs can be seen in definite correlatives in Hittite, even though maximalizing RCs are usually treated as a separate third kind, distinct from both restrictive and nonrestrictive RCs. In (6), the head noun 'birds' is not sufficient to identify the referent. The rest of the RC content is required to specify which birds are meant. Thus, even though the correlative is properly maximalizing in the sense that the RC refers to all individuals matching its conditions, that referent is not co-extensive with the denotation of the head itself, and the RC is thus in a certain sense "restrictive". By contrast, there are correlatives where the head noun alone would serve to identify the

---

3. If, in the presentation of a Hittite passage, the preceding or following context is relevant for interpretation or for the argumentation, I provide it in italics before the Hittite or after the translation, respectively.

4. Small caps in English translations represent pitch accent.

intended referent:

(9) KUR ^{URU.d}U-tašša=tta kuit peḫḫun n=at   katta tuel=pat NUMUN-anza
     land Tarḫuntašša=you REL I.gave   CONN=it down your=FOC descendant
     ḫarzi
     holds

     'The land of Tarḫuntašša, which I have given to you, only YOUR descendant will hold it.'

(Bo 86/299 ii 97–98 (NH); Otten 1988: 20)

There is only one land called Tarḫuntašša, so the name by itself could identify the referent. The remainder of the RC provides extra information, so that we could say it has a "nonrestrictive" flavor. This distinction will not play a role in this dissertation.

2.3.1.2 Identifying clausal boundaries

A couple of other properties of Hittite correlatives are worth mentioning at this point. In Hittite, the CC of a correlative construction frequently begins with a discourse connective (*nu, šu, ta*), such as the *n(u)* in example (6). These morphemes commonly occur at the left edge of a Hittite sentence, indicating connectedness (such as narrative continuity) to the preceding material. In the context of correlatives, we can use connectives to identify the left boundary of the CC, and therefore to distinguish the RC and the CC.

Another boundary diagnostic is Hittite's clitic chain: many clauses begin with a chain of sentential clitics that follow the first word of the clause. They are generally conceived as being enclitic on the first phonological word of the clause.[5] These elements include clitic pronouns, the

---

5. Kloekhorst (2014: 601–604) argues that these clitics cannot be treated as enclitic on the first phonological word if the first word is a discourse connective *nu, šu, ta,* because these elements on their own seem to be proclitic. The matter is unimportant for the purposes of using the chain as a diagnostic for clause boundary. The point is that the clitic chain follows the first word of the clause, whether it is an accented word or a discourse connective, regardless of what we think of their exact phonological properties. For ease of discussion, I will make the assumption that this first word counts as the first phonological word.

reflexive marker =*z(a)*, the quotative particle =*wa(r)*, and the so-called "local particles" (e.g., =*kan*, =*ašta*); see Hoffner and Melchert 2008: 410–412. The contrastive marker =*ma* and the additive marker =*ya* can also appear in the clitic chain, though they are not confined to it.[6] Since the clitic chain follows the first word of the clause, we may deduce a clausal boundary to the left of the host. It is necessary to note that if a constituent is spelled by a sequence of logographic signs (wholly or partially), the clitic chain usually does not interrupt the logographic sequence (Hoffner and Melchert 2008: 354), and is instead written at the end of the sequence:

(10) [CP**NINDA.GUR₄.RA DINGIR-*LIM***=za=kan NINDA.SIG lē   kuiški   dāliyazi]
        leavened.bread   god=REFL=PTC   flatbread   PROH someone allow

    'Let no one allow himself a leavened-bread loaf of the god or a flatbread.'

(KUB 13.4 i 61' (MH/NS); Miller 2013: 250)

Here, the clitic chain follows the entire logographic sequence NINDA.GUR₄.RA DINGIR-*LIM* which constitutes a single NP. The clause boundary is to be understood as preceding this whole sequence.

2.3.2 Embedded RCs

Hittite also employs free RCs which occupy an argument position *within* a superordinate clause (Probert 2006); I will call these *embedded* free RCs:

(11) [CP [RCpaprezzi kuiš] 3 GÍN   KÙ.BABBAR pāi]
           is.impure REL   3 shekels silver   gives

    '(The one) who is impure gives 3 shekels of silver.'

(KBo 6.2 i 57 (OH/OS); Hoffner 1997: 33)

---

6. The particle =*ya* has two allomorphs: it appears as =*ya* after vowels and =*a* after consonants. The form =*a* triggers gemination of the preceding consonant. In OH, the particle =*ma* also had an allomorph =*a* with the same distribution, except its allomorph =*a* did not trigger gemination. In later periods, =*ma* was generalized to all contexts (with limited exceptions — see Hoffner and Melchert 2008: 395). For convenience, I will refer to these particles by their consonant-ful versions.

(12) kuit imma kuit ⸢kukupalatar GAM *NIŠ* DINGIR-*LIM* GAR-ru

REL   conspiracy   under oath   place.3SG.IMP

'Whatever conspiracy (there is) shall be placed under oath.'

(KUB 26.1 iv 52–53 (NH); Miller 2013: 306)

These RCs are comparable to free RCs such as the English example in (13):

(13)   Give me [RC whatever sauces you have].

Like correlatives, and like free RCs in other languages, embedded free RCs in Hittite have maximalizing semantics — cf. the (contextually validated) definite reading in (11) and the universal reading in (12).

Probert (2006) argued that embedded free RCs were an OH phenomenon, because she did not find any examples in her MH and NH corpora. In light of examples such as (12), it is evident that Probert's conclusion is mistaken. In reality, her MH and NH corpus just happened not to include any text featuring embedded RCs.

Above, I noted that one often finds a connective beginning the CC of a correlative construction, but not always. In Old Hittite especially, clauses could be juxtaposed in asyndeton, without any connective and without the particles =*ma*/=*ya* (Hoffner and Melchert 2008: 401–405):

(14) mān lukkata=ma   LUGAL-uš araḫza nāwi   p[aizzi]

when dawns=CONTR king   outside not.yet goes

'But when the daylight comes, the king does not yet [go] outside.'

(KBo 17.1+25.3 ii 30 (OH/OS); Inglese 2016: 9)

This creates a gray area for the differentiation of correlatives from embedded free RCs: a correlative whose CC lacks a connective and also has a null-pronoun correlate would be indistinguishable on the surface from an embedded free RC. Hittite permits null pronouns as subjects to transitive and unergative predicates, but not to unaccusative and passive predicates (Garrett

1990a, 1996; for more discussion, see chapter 3), and also permits null objects under certain circumstances (Inglese, Rizzo, and Pflugmacher 2019). Thus, embedded free RCs can only truly be unambiguously identified if the superordinate predicate is unaccusative or passive; the lack of a subject pronoun would indicate that the RC itself is the subject. (12) has a passive predicate, so we can confidently conclude that the RC is embedded as the subject. By contrast, (11) could in principle be analyzed as a correlative because the RC represents the subject of a transitive predicate.[7] Nevertheless, I will assume that ambiguous cases involve embedded free RCs unless there is good reason not to.

2.3.3 Externally-headed (restrictive) RCs

In addition to free RCs (correlative or embedded), which have an internal head (if there is one), Hittite also has externally-headed RCs. These RCs restrictively modify a noun which is external to them. The RC can either be adjacent to its head, bolded below, or (more commonly) extraposed to the right of the clause:

(15)   a.   Head-adjacent

nu   **4 ᴺᴵᴺᴰᴬmūlatin pittalwan** [RCMUN-an kuedani   *ŪL* išḫuwān]
CONN   4 *mulati*-breads plain   salt   REL.LOC not   poured

memall=a pittalwan dāi
flour=and   plain   takes

'He takes four plain *mulati*-breads into which salt has not been poured, and plain flour.'

(KBo 5.2 ii 15–16 (MH/NS); Melchert 2016: 293)

---

7. In fact, due to the particular corpus she chose, most of the examples that Probert (2006) identified, all of OH date, are ambiguous between an embedded free RC analysis and a correlative analysis because they embody subjects of transitive predicates in the main clause. Only one of her examples (KBo 3.22 35) could act as a smoking gun, because the superordinate clause has an unaccusative predicate and would require a subject clitic pronoun (Garrett 1996: 101–102) in a correlative structure (i.e., if the RC were not occupying the subject slot). Unfortunately, the text is damaged at the exact point where a connective and clitic might appear, so we cannot be sure that there is no left clausal boundary after the RC. Though these considerations weaken Probert's precise arguments, her overall claim that Hittite has embedded RCs remains valid on the strength of clear examples like (12).

b. Extraposed

māḫḫan[=ma] **LÚ.KÚR-aš** aki [_RC_kūrur kuiš ḫarzi] ...
when=CONTR enemy dies hostility REL holds

'When an enemy dies who harbors hostility, ...'

(KUB 26.17 i 5–6 (MH/MS); Miller 2013: 130)

The RC can be extraposed even if its head is not part of a clause; in the following example, the head is a genitive within a hanging topic:

(16) *'You judge the case of the dog and the pig.'*

šuppalann=a ḫannessar [_RC_išš[i]t kuiēš *ŪL* memiškanzi] apātt=a
of.animals=also case with.mouths REL not speak.3PL that=too
ḫan[n]attari
you.judge

'The case also of animals who do not speak with mouths, you judge that too.'

(KUB 31.127+ i 43–44 (OH/NS); Rieken, Lorenz, and Daues 2017a)

2.3.4 Appositive RCs

Hittite allows the use of appositive RCs to modify already-determined referents which are external to the RC. The RC can be appositional to an NP (17) or to a correlative (18), since correlatives themselves are functionally referential. Like with externally-headed RCs, when an RC is appositional to an NP, it can be NP-adjacent or extraposed.

(17) a. NP-adjacent

... *Ù* DINGIR.MEŠ ḫūmanduš *ŠA* KUR ^{URU}KÙ.BABBAR-ti EN.MEŠ

    and gods   all   of land Ḫatti   lords

[_{RC}^{LÚ}SANGA=az kuedaš]

    priest=REFL   REL.DAT

'... and all the gods of the land of Ḫatti, My Lords, for whom I am priest'

(KUB 6.45 i 16–19 (NH); Rieken, Lorenz, and Daues 2017d)

b. Extraposed

EGIR-*ŠU*=ma 3 NINDA.GUR₄.RA BABBAR *ANA* DINGIR MUNUS.MEŠ

then=CONTR 3 thickbreads   white   for   goddesses

KUR-eaš ḫūmandaš paršiya [_{RC}arkuwar=za [(k)]uedaš dāiš]

lands.GEN all.GEN   breaks   plea=REFL   REL.DAT put

'Then he breaks three white thickbreads for the goddesses of all lands, to whom he made his plea.'

(KUB 6.45+ iv 52–53 (NH); Rieken, Lorenz, and Daues 2017d)

(18) ḫantezziuš LUGAL.MEŠ kuiēš ešer [$_{RC}$ $^{[d]}$UTU ^{URU}PÚ-na GAŠAN=*YA*

former   kings   REL   were   Sungoddess Arinna   lady=my

kuedaš ^{GIŠ}TUKUL.MEŠ SUM-an ḫarta]   [araḫzen]aš KUR.KUR.MEŠ LÚ.KÚR

REL.DAT weapons   given had.2SG surrounding lands   enemy

taruḫḫišker

they.defeated.IMPF

'Those who were former kings, to whom you, O Sungoddess of Arinna, My Lady,
had given weapons, they kept defeating the [surround]ing enemy lands,'
'but no one managed to take the city of Nerik.'

(KUB 21.27+676/v i 18–20 (NH); Rieken, Lorenz, and Daues 2016c)

All such RCs are nonrestrictive, but I use the term "appositive" to make clearer the structural relationship, as well as because Hittite allows "nonrestrictive" correlatives.

2.3.5 Summary

We can identify the following types of RC in Hittite: correlatives, embedded free RCs, externally-headed RCs, and appositive RCs. Correlatives and embedded free RCs are both free RCs, differing in how they are related to their associated clause: correlatives are part of a two-part construction in a juxtaposed topic-comment format, while embedded free RCs directly occupy an argument position *within* a superordinate clause. These two types of free RCs contrast with externally-headed RCs which restrictively modify a head noun that is external to the RC, and appositive RCs which modify an external NP or RC. These externally-modifying RCs are either adjacent to the modified element or are extraposed to the end of the clause.

2.4 Word order in the Rel NP

For readers unfamiliar with Hittite RC syntax, a word of caution is in order about the word order of the Hittite Rel, to avoid confusion between the types. It is well documented (Held 1957; Raman 1973; Garrett 1994; Lühr 2001; K. Becker 2014; Huggard 2015; Lyutikova and Sideltsev 2022;

Rieken and Görke, forthcoming) that the surface order of the Rel with respect to other elements in the Rel NP is not rigidly fixed. I assume that the Rel precedes all other elements of the Rel NP in the underlying structure. This order is observed directly in the examples below, where the Rel precedes an adjective (19), a genitive expression (20), a numeral (21), and a demonstrative (22).

(19)   Rel before adjective:

nu=kan   [Rel NP**kuit ḪUL-lu** ēšḫʾar] anda
CONN=PTC   REL   evil   blood   inside

'What evil blood is inside'

(KUB 41.8+ iii 9–10 (MH/NS); Trameri 2022: 71)

(20)   Rel before genitive expression:

kāša=wa=ššan   [Rel NP**kuit kēl   *ŠA*   KARAŠ** idālu] *ANA* AMILUTTI
here=QUOT=PTC   REL   this.GEN GEN camp   evil   DAT people

GU₄.ḪI.A UDU.ḪI.A ANŠE.KUR.RA.MEŠ ANŠE.GÌR.NUN.NA *Ù*   *ANA*
cattle   sheep   horses   mules   and DAT

ANŠE.ḪI.A anda   ēšta
donkeys   among   was

'Whatever evil of this camp was here among the people, cattle, sheep, horses, mules, and donkeys'

(KUB 9.31 iii 48–51 (?/NS); Chrzanowska 2016)

(21) Rel before numeral:

INA ^{URU}Gašipūra [_{Rel NP}**kuiuš 2** LÚ.MEŠ ^{URU}Malazziya] [^mP]išišši[ḫ]lin

in   Kašepura   REL 2 men   Malazziya   Pišiššiḫli

[^mN]aištūwarrinn=a appanteš
Naištuwarri=and   captured.PTCP

'The two men of Malazziya, Pišiššiḫli and Naištuwarri, who are held captive in
Kašepura'

(HKM 65 4–8 (MH/MS); Hoffner 2009: 217)

(22) Rel before demonstrative:

nu=mu=kan   ŠEŠ=*YA*   [_{Rel NP}**kue kī**   KUR.KUR.MEŠ ⟨dannatta]
CONN=me=PTC brother=my   REL these lands   empty

ŠU-i   dāiš
in.hand put

'These empty lands which my brother put in my hand'

(KUB 1.1 ii 63–64 (NH); Otten 1981: 14)

Nevertheless, it is common to find RCs where the Rel is *not* initial in its NP, as in the following:

(23) Correlative with Rel after head noun:

[_{RC}nu=mu   [_{Rel NP}MUŠEN.ḪI.A kue] uppešta] n=at   arḫa ḫ[ar]ranteš
  CONN=me   birds   REL you.sent CONN=they spoiled

eš[er]
were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

22

There is broad consensus that such orders are derived and do not reflect the underlying configuration (cf., e.g., Lyutikova and Sideltsev 2022: 10). The difference in surface word order is generally taken to correlate with the RC's referential semantics: the Rel is (or can be) clause-initial, ignoring connectives, in indefinite RCs, but is obligatorily non-initial in definite RCs. However, opinions differ considerably on how these word order properties are derived. Existing treatments have variously assigned primary responsibility to syntactic movement (Raman 1973; Garrett 1994; Lühr 2001; Huggard 2011), phonological movement (Huggard 2015), and pragmatic and information-structural factors (K. Becker 2014); Lyutikova and Sideltsev (2022) posit both syntactic and phonological movement, and Rieken and Görke (forthcoming) argue that all three types of factor are involved. It should be noted that this word order question applies to all RCs in Hittite, not just correlatives. A proper account cannot be adequately addressed without reviewing all of the data, which is beyond the scope of this dissertation. Nonetheless, recognizing the presence of such an issue is relevant for helping to distinguish between types of RCs, as I will now illustrate.

It is quite common that the Rel in a correlative appears after its head noun, as in the order MUŠEN.ḪI.A *kue* in (23). This could potentially lead to this correlative being mistaken for an externally-headed RC that is adjacent to its head noun:

(24)   Mistaken reading of (23) as externally-headed, head-adjacent RC:

nu=mu   MUŠEN.ḪI.A$_i$ [$_{RC}$kue uppešta]$_i$ n=at   arḫa ḫ[ar]ranteš eš[er]
CONN=me birds   REL you.sent CONN=they spoiled   were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

To distinguish correlatives from externally-headed RCs, the presence of sentential clitics provides a valuable diagnostic of clause scope and clause boundaries. The key principle is that sentential clitics, including pronominal arguments, appear in a clitic chain that follows the first phonological word of the clause that those clitics are part of. Thus, where the RC's clitic chain

attaches can tell us what material belongs to the RC: anything from the chain's host rightward, to the end of the clause. In (23), the pronominal clitic =*mu* is the indirect object of the RC predicate, and it attaches to the *nu* preceding the Rel's head MUŠEN.ḪI.A. Thus, the *nu* is part of the RC, and *a fortiori* the head must be as well, proving that it is a correlative and not an externally-headed RC.

Similarly, if the clitic chain attaches to the Rel's head, then the head must be part of the RC, as in the following example:

(25) LÚ.MEŠ ^{URU}Kašga=**ya=mu=ššan** kuiēš anda iyantat   nu=mu   namma
men   Kaška=even=me=PTC   REL   in   marched CONN=me anymore
kattan *UL* kuiški   wezzi
with   not someone comes

'Even the men of Kaška who used to march with me, no one comes with me anymore.'

(ABoT 1.60 Vo 5–7 (MH/MS); Hoffner 2009: 178)

The clitic chain attaches to the first phonological word of the clause. Since it attaches to the logographic sequence ^{URU}*Kašga* (recall that the clitic chain generally does not interrupt logographic sequences), we see clearly that LÚ.MEŠ ^{URU}*Kašga* must be within the RC, not outside it. In an externally-headed RC, the head will appear to the left of the chain's host:

(26) [n=ašt]a   ^{LÚ}AZU **SÍG** **SA₅** [_{RC}*AN*[*A* ^{GI]Š}ÉRIN-(a)=**ššan** kuit peran
CONN=PTC exorcist wool red   DAT   cedar.wood=PTC   REL in.front
ḫaminkan] [...]x tallāyaz   *Ù*   *IŠTU* Ì.DÙG.GA [š]arā dā[i]
tied   *tallai*-vessel.ABL and ABL   fine.oil   up   takes

'The exorcist picks up the red wool that is tied to the front of the cedar wood [...] with the *tallai*-vessel and the fine oil.'

(KUB 15.34 i 30–31 (MH/MS); García Trabazo 2002: 578)

The head here is SÍG SA₅, but the clitic chain attaches one word to the right of it, to *ANA* GIŠÉRIN.[8] This tells us that *ANA* GIŠÉRIN is the first phonological word of the RC, so SÍG SA₅ must be an external head.

Note that not all clauses have a clitic chain, so in principle not every otherwise-ambiguous case can be decided in such a manner.

2.5   Types of correlative constructions

Let us now turn our focus to correlatives. Though they are unified by a basic topic-comment structure, correlatives in Hittite are not all of a uniform type. In this section, I identify some subtypes that may be distinguished.

2.5.1   Basic correlatives

The prototypical correlative construction involves an RC with a single Rel NP which is matched to a single correlate in the CC:

(27) nu=mu   **MUŠEN.ḪI.A kue** uppešta   n=**at**   arḫa ḫ[ar]ranteš eš[er]
      CONN=me birds   REL you.sent CONN=they spoiled   were

'**The birds which** you sent to me, **they** were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

I will refer to these as either "basic" or "prototypical". The major properties of this type were outlined above in section 2.3.1.

2.5.2   Multiple correlatives

Hittite also allows *multiple correlatives* (Sideltsev 2019: 298–301), in which the RC contains multiple Rel NPs. This type of correlative is also found in Hindi (Dayal 1996: 197) and Hungarian

---

8. *ANA* is an Akkadian preposition, but here it simply signals that the following logographically spelled noun is in the dative case in the underlying Hittite.

(Lipták 2009a: 403–404). Examples (28) and (29) demonstrate this for Hindi and Hittite, respectively:[9]

(28) [RC**jis laRkii-ne**$_i$ **jis laRke-ke**$_i$ saath khelaa] us-ne   us-ko   haraayaa
        REL girl-ERG   REL boy-GEN   with played that-ERG that-ACC defeated

'Every girl defeated the boy she played with.'
(Lit. '**Which girl**$_i$ played with **which boy**$_j$, she$_i$ defeated him$_j$.')

(Dayal 1996: 197)

(29) nu   **kuiš**$_i$ **kuedani**$_j$ arzananza   ēšta nu=šši$_j$ *pro*$_i$ NUMUN.ḪI.A
        CONN REL.NOM REL.DAT   tenant.farmer was CONN=him   seed
        kuit [(an)]iyat ...
        REL   sowed

'And whoever$_i$ has been made a tenant farmer to whomever$_j$, the seed that (he$_i$) has sown for him$_j$, ...'

(KUB 56.1 i 28–30 (NH); Otten and Souček 1965: 30)

Note that the term "multiple" here refers to the number of Rels inside a single relative clause; it does not refer to a construction featuring more than one RC (on that, see section 2.5.5.2 below). When relevant for contrast with multiple correlatives, I may use the term "single correlative" to refer to correlatives with a single Rel NP.

2.5.2.1 Matching requirement

The prototypical multiple correlative has as many correlates as Rel NPs; this parity, treated as a syntactic rule, is known as the *matching requirement* (Bhatt 2003: 533–534; Leung 2009: 317–318). Bhatt and Leung both discuss situations where the matching requirement may be violated.

---

9. Hindi examples are presented in transliteration with the following conventions: long vowels are written with doubling of the vowel, nasal vowels are represented with a postvocalic N, and retroflex consonants are written as capitals.

For example, Hindi allows covert *pro* correlates if they have the same case as the corresponding Rel. Hittite also permits *pro* correlates (see chapter 3), but does not share this case restriction (though my sample only has examples involving *single* correlatives, not *multiple* correlatives). I do not treat these cases as genuine violations of the matching requirement, since we can identify *pro* as the correlate.

Leung discusses another situation permitting violation of the matching requirement: when one of the Rel NPs has non-specific reference (e.g., free choice). As (30) shows, Hittite is even more permissive, allowing unmatched Rels that have specific reference (co-varying with the other Rel):

(30)   *'The Kaškean enemy which my father found in the heart of the territory, it became (= divided into) twelve detachments. And the gods went before my father,'*

nu=kan   **uni ^{LÚ}KÚR ^{URU}Gašgan ERIN.MEŠ ŠU-*TI* kuin$_i$ kuwapi**
CONN=PTC that enemy Kaškean   detachment   REL   REL.where
damašket [n]=an$_i$=kan kuwašket
caught   CONN=it=PTC destroyed

'and **whichever$_i$ of those enemy Kaškean detachments** he caught **wherever**, he destroyed it$_i$.'

('For any detachment *d*, location *l* such that he caught *d* in *l*, he destroyed *d*.')

(KBo 14.3 iii 17–19 (NH); Del Monte 2009: 18)

It should be noted that in most of the multiple correlatives in my Hittite sample there is in fact only one correlate. The CC does not even need to incorporate all of the Rels semantically (a parallel with frame relatives, discussed below), much less syntactically:

(31) ^{URU}Ḫat⟨tu⟩ši=ma=kan   kuedani$_i$ **kuiš šaklāiš** šer mān ^{LÚ}SANGA

in.Ḫattuša=CONTR=PTC REL.DAT REL privilege up if priest

^{LÚ}GUDU$_{12}$ ^{LÚ.MEŠ}ḫaliyattalliyēš kui[š=a=aš$_i$]   tarniškezzi n=as$_i$

anointed.one watchmen   REL=CONTR=them admits.IMPF CONN=them

tarniškeddu=pat

admit.3SG.IMP.IMPF=FOC

'But for whomever$_i$ there is **whatever privilege** up in Ḫattuša, whether a priest or an anointed one or the watchmen, the one who regularly admits [them$_i$], let him continue to admit them$_i$.'

(KUB 13.4 iii 21–23 (MH/NS); Miller 2013: 256)

In this example, the bolded Rel NP, referring to a privilege, has no syntactic or semantic role in the subsequent clauses. Thus, we conclude that the matching requirement does not seem to hold in Hittite.

2.5.3 Frame relatives

Hittite allows a multi-clausal RC construction built in the same manner as a correlative, except that there is no coreferent correlate:

(32) *ŠA* ŠEŠ   ^mḪimu-DINGIR-*LIM*=ma kuit$_i$ uttar$_i$ ḫatrāeš   n=an=kan

of brother Ḫimuili=CONTR   REL matter you.wrote CONN=him=PTC

kāša parā neḫḫi

here forth I.send

'(Concerning) the matter$_i$ of Ḫimuili's brother which$_i$ you wrote about, I have dispatched him (from) here[10].'

(HKM 2 10–13 (MH/MS); Hoffner 2009: 99)

28

This construction shares the topic-comment structure of a standard correlative construction, except that the topic referent is not strictly included in the comment clause. Whereas in a standard correlative construction, the topic-comment relation is mediated by the correlate NP itself, in this kind of construction the two clauses are linked by a bridging relation (Clark 1977; Asher and Lascarides 2003: 18). The RC, which I call a *frame relative*, provides a frame of interpretation for (what I will still call) the correlate clause,[11] which is interpreted as having something to do with the referent of the RC.

With many frame relatives, the CC has what we might call a *pseudo-correlate*, a nominal expression that bears some non-identity relation to the referent of the RC:

(33) LÚ.MEŠ ᵁᴿᵁKašga=ya=mu=ššan kuiēš anda iyantat   nu=mu   namma
      men   Kaška=even=me=PTC   REL   in   marched CONN=me anymore

      kattan *UL* **kuiški**   wezzi
      with   not   someone   comes

      'Even the men of Kaška who used to march with me, **no one** comes with me anymore.'

(ABoT 1.60 Vo 5–7 (MH/MS); Hoffner 2009: 178)

---

10. The exact semantics of the Hittite forms *kāša* and *kāšma* are complicated. Hoffner and Melchert (2008: 323–324) claim that the primary effect is temporal immediacy, giving a present perfect reading with past tense verbs and "immediate present" or performative readings with present tense verbs. Rieken (2009) demonstrates that the semantics of *kāša* and *kāšma* have speaker-oriented and addressee-oriented deixis, respectively. There is no simple English equivalent to use for glossing or translation. When one of these forms appears in an example cited in this dissertation, I translate it as something along the lines of 'here' or 'there (by you)'. The Hittite form is not to be taken as a locative or directional adverb; that is simply a vague attempt to reflect the deictic effect in English.

11. As noted below, I believe that frame relatives are justifiably classed as correlatives, despite the lack of a correlate. Thus, I maintain the term "correlate clause" for the sake of expositional simplicity and to emphasize the similar role that clause plays in both frame relative constructions and prototypical correlative constructions.

(34) ^{PÍŠ}gapirtan=a=kan   kuin   *ANA*   DÙ   EME   šipantaš   nu

mouse=CONTR=PTC   REL   to   artificial   tongue   she.sacrificed   CONN

^{UZU}NÍG.GIG ^{UZU}ZAG.UDU   ḫappinit   zanuzi

intestines   shoulders   with.flame   cooks

'The mouse which she had sacrificed to the artificial tongue, she cooks **the intestines and shoulders** with the flame.'

(KBo 15.10 iii 58'–59' (MH/MS); Görke 2013b)

The pseudo-correlate is not identical in reference to the RC, but rather linked to it by a kind of bridging anaphora (Belyaev and Haug 2014: 100–101; Sideltsev 2016: 88–101).[12] This relation may take various forms, such as the set-member relation in (33) or the body-part relation in (34).

In other cases, the clausal link is not manifested by any (pseudo-)correlate element. Rather, a bridging relation between the clauses must be inferred by the hearer using world knowledge, as in (32) and the following example:

(35) kuiš   ŠEŠ.MEŠ-n=a   NIN.MEŠ-n=a   ištarna   idālu   iyazi   nu   LUGAL-waš

REL   brothers=and   sisters=and   among   evil   does   CONN   king's

ḫaraššanā   šuwāyezzi   nu   tuliyan   ḫalzišten

head.ALL   looks   CONN   assembly   summon.2PL.IMP

'Whoever does evil among both (his) brothers and sisters and looks to the king's head (with hostile intent), summon the assembly!'
'If his case goes (against him), he shall pay with his head.'

(KBo 3.1 ii 50–51 (OH/NS); Hoffmann 1984: 34, *CHD* Š: 541 *s.v. šuwaye-* 1b)

Here, the RC introduces a hypothetical person who intends to harm the king. This person plays

---

12. A brief discussion of example (34) appears in Probert 2006: 63–65, although she does not discuss it as part of a broader syntactic pattern.

no syntactic nor any reasonably direct semantic role in the following clause. The hearer must use world knowledge to understand that the assembly is to be summoned so that this person may be prosecuted.

2.5.4 Justifying the classification as correlatives

We have seen three types of peripheral RC: basic correlatives, multiple correlatives, and frame relatives. Here I will argue that these should be treated as three instances of a single type of RC construction: the correlative construction. I will show that all three types have similar properties that justify a unified treatment.

2.5.4.1 Same shape of construction

The first similarity is the shape of the constructions themselves. Correlative constructions involve the juxtaposition of an RC and another clause (the CC) in a topic-comment relationship; this relationship was recognized for Hittite correlatives by Garrett (1994: 45) and as a robust cross-linguistic type by Bittner (2001: 39). This structure, and its associated pragmatic functions vis-à-vis the presenting of information to the interlocutor, are defining characteristics of the correlative construction; indeed, the definition that I gave above highlighted these components. Multiple correlatives and frame relatives share this structure. Notably, frame relative constructions maintain these semantic and pragmatic characteristics even in the absence of a correlate to mediate the clausal link. The topic-comment structure thus transcends the syntactic specifics of the CC.

2.5.4.2 Definite and universal readings

As noted in section 2.3.1, correlatives have maximalizing semantics, and this maximality can result in either definite or universal (indefinite) readings (Belyaev and Haug 2020: 880). Both readings are found with basic correlatives in Hittite:

(36) a. Definite:

'Concerning what you wrote to me thus: "The birds which I have sent there to My
Lord, if My Lord liked those birds, may My Lord write back to me, and I will begin
sending regularly." '

nu=mu	MUŠEN.ḪI.A	kue	uppešta	n=at	arḫa ḫ[ar]ranteš	eš[ir]
CONN=me	birds	which	you.sent	CONN=they	spoiled	were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

b. Universal:

'If a slave$_j$ flees and he$_j$ goes into an enemy land,'

kuiš$_i$=an$_j$	āppa=ma	uwatezzi	n=an$_j$=za	apāš$_i$=pat	dāi
REL=him	back=CONTR	brings	CONN=him=REFL	he=FOC	takes

'whoever$_i$ brings him back, HE$_i$ shall take him$_j$ for himself$_i$.'

(KBo 6.2 i 53 (OH/OS); Hoffner 1997: 32)

Frame relatives also show definite and universal readings, as shown by examples (34) and (35) above, respectively. Both readings are also found with multiple correlatives:

(37) a. Definite:

nu	DINGIR.MEŠ	kuiēš	kēdani	UD-ti	kuedani	arkuwēšni	*IŠTU*
CONN	gods	REL	this.LOC	day.LOC	REL.DAT	plea.DAT	with

EME=*YA*	ḫalziḫḫun	...
tongue=my	I.have.summoned	

'And the gods whom I have summoned with my tongue on this day for which plea,'

'may you, Sungod of Heaven, summon them from heaven and earth and...'

<div align="center">(KUB 6.45 iii 21–22 (NH); Rieken, Lorenz, and Daues 2017d)</div>

b. Universal:

'The Kaškean enemy which my father found in the heart of the territory, it became (= divided into) twelve detachments. And the gods went before my father,'

nu=kan	uni	ᴸᵁKÚR	ᵁᴿᵁGašgan	ERIN.MEŠ	ŠU-*TI*	kuin$_i$	kuwapi
CONN=PTC	that	enemy	Kaškean		detachment	REL	REL.where	caught

damašket	[n]=an$_i$=kan	kuwašket
CONN=it=PTC	destroyed	

'and whichever$_i$ of those enemy Kaškean detachments he caught wherever, he destroyed it$_i$.'

('For any detachment *d*, location *l* such that he caught *d* in *l*, he destroyed *d*.')

<div align="center">(KBo 14.3 iii 17–19 (NH); Del Monte 2009: 18)</div>

Example (37a) comes from a prayer text which seems to be a form prayer: the actual plea is meant to be filled in on the appropriate occasion and takes place at a later point in the ritual. Given that the text in this example forms part of the script of the prayer, we can presume that the plea is definite, as are the gods who have just been invoked (in a giant list) in the immediately preceding portion of the text. In example (37b), universal maximalization is evinced by the fact that the RC describes a single detachment, despite it being known from the context that there

were twelve such detachments.

2.5.4.3 Coordination of different types

As a third example of behavioral similarity between the types, I adduce the following passage showing that a multiple correlative is additively combined[13] with a single correlative such that they share a correlate:

(38) *'Furthermore, concerning the images of you gods which are of silver and gold,'*

nu=ššan	kuedani	DINGIR-*LIM*-ni	kuit	tuēkki=šši	anda	wezz[ap]an
CONN=PTC	REL.DAT	god.DAT	REL.NOM	body=his	on	worn.out

DINGIR.MEŠ-š=a	kue	*UNUTE*.MEŠ	wezzapanta	n=at		anzel	iwar
gods.GEN=also	REL	accoutrements	worn.out	CONN=them		us	like

EGIR-pa	*ŪL*	kuiški	neuwaḫḫa[n ḫart]a
back	not	someone	renewed has

'whatever is worn out on whichever god's body, plus whatever accoutrements of the gods are worn out, no one has renewed them like us.'

(KUB 17.21 i 15'–17' (MH/MS); Rieken, Lorenz, and Daues 2016a)

The fact that the two RCs, embodying two different types of correlatives, can be combined in this fashion signals that there is a basic functional equivalence between the two in terms of deploying them in such a construction. I take this to indicate that they are two instances of the same phenomenon.

---

13. I say "combined" to avoid committing to a specific interpretation of the manner of combination. The morpheme =*a* has two functions in Hittite: constituent coordination (including clauses) and additive focus. While a coordination interpretation is attractive here, the word order of the single correlative would be unusual for a Hittite RC with indefinite interpretation. There are three options available to us: assume that 'gods' (or some larger constituent) is in additive focus, reinterpret the RC as definite, or find an explanation for the atypical word order. I will not pursue the matter further here, because it does not really matter for our purposes whether it is strict coordination or something looser.

2.5.4.4   Upshot: a single type

We have just seen three ways in which basic correlatives, multiple correlatives, and frame relatives have similar syntactic and semantic behavior in Hittite. Moreover, we have seen that they all display multiple hallmark characteristics of correlatives: a topic-comment structure and maximalizing semantics that yields both definite and universal readings. Based on these observations, I conclude that all three types are correlatives, simply varying in the number of Rel NPs or the presence of a correlate.

Earlier, we observed that multiple correlatives in Hittite often violate the matching requirement, which says that there must be a matching correlate for each Rel NP. As I mentioned above, the simple conclusion is that the matching requirement simply is not operative as an obligatory rule in Hittite. The existence (and prevalence) of frame relatives in Hittite can easily be associated with this observation. Just as Rel NPs can go uncorrelated in multiple correlatives, the same can happen in single correlatives: if the Rel NP *is* correlated, the result is a prototypical basic correlative, whereas if the Rel NP is uncorrelated, then a frame relative results.

2.5.5   Additional clauses

So far, we have largely focused on correlative constructions that feature two clauses, namely one RC and one CC. This is the prototypical shape of a correlative construction, but in practice one finds constructions with three or more clauses. We will discuss these types in more depth in chapter 4; for now, I will simply introduce them to fill out the picture of Hittite correlatives.

2.5.5.1   Multiple CCs

For example, rather than one CC, a correlative can be followed by multiple clauses (dependent or independent) that each contain a coreferent NP — essentially, multiple CCs:

(39) ᵐMaraššantaš=ma kuit *ṬUPPU* ḫarzi n=**at** uezzi mān udai n=**at**

Maraššanta=CONTR REL tablet has CONN=it goes if brings CONN=it

lē dattari

PROH is.accepted

'The tablet which Maraššanta has, if he proceeds to bring **it**, let **it** not be accepted.'

(Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

(40) É.MEŠ L[(UGAL É)].MEŠ GU₄ É ᴺᴬ⁴KIŠIB.ḪI.A ᴱtarnuwēš kue karuw[(il)]i

royal.buildings cattle.barns storehouses bathhouses REL old

n=**at** arḫa arirrandu n=**at** dān EGIR-pa nēwi[(t)]

CONN=them scrape.off.3PL.IMP CONN=them a.second.time back new.INS

wilanit ḫaniššandu

plaster.INS plaster.3PL.IMP

'The royal buildings, the cattle barns, the storehouses, and the bathhouses that are old, let them scrape **them** off and replaster **them** a second time with new plaster.'

(KUB 13.2 ii 13–15 (MH/NS); Miller 2013: 224)

In (39) we see a correlative followed by a conditional construction (i.e., a dependent clause and an independent clause), and in (40) the correlative is followed by two independent clauses. In both examples, each of the post-RC clauses has a coreferential pronoun.[14]

2.5.5.2 Multiple RCs

It is also possible for a single construction to feature more than one correlative RC, each associated with its own correlate:

---

14. We may ask which coreferential pronouns above count as correlates. I will return to this question in chapter 4, once we have a better sense of what the correlate is grammatically and of how the clauses in a correlative construction are structurally related to one another.

(41) [RCpurut$_i$=ma   kuit [d]ašket] [RCnu   kuwapi$_j$ KIN-az hūman kittat]
       mud=CONTR REL took   CONN where   work   all   was.placed

      apūnn$_i$=a apiya$_j$ pēdā[(i)]
      that=too   there   brings

      'The mud$_i$ which he had taken, where$_j$ all the work has been placed, he carries that$_i$
      too there$_j$.'

                                                    (KBo 10.45+ i 29–31 (MH/NS); Trameri 2022: 50)

2.5.5.3 Multi-clause RCs

In a basic correlative construction, the topic part of the structure is embodied by a single RC.
However, Hittite permits constructions where the "RC part" of the construction is actually mul-
tiple clauses acting as a single topic:

(42) ["RC"nu   kuiš DUMU-aš$_i$ alpanza našma=šši$_i$=kan garāteš adanteš]
        CONN   REL child   sick   or=him=PTC   innards devoured
      [CCn=an$_i$ tuīkkuš   išgaḫḫi]
        CONN=him bodyparts I.anoint

      'Whatever child is sick, or his innards are devoured, I anoint his bodyparts (lit. I
      anoint him the bodyparts).'

                                                    (KUB 7.1+ i 39–40 (pre-NH/NS); Fuscagni 2017)

Of the three distinct clauses in (42), the first two form the topic (labeled "RC" in scare-quotes).
Only the first of these is truly a relative clause. The second clause is clearly part of the same topic
expression, but is referentially linked to the relative clause by an anaphoric pronoun rather than
by a gap or a second Rel.

37

2.6 Conclusion

I have introduced here the types of correlatives found in Hittite: basic correlatives, multiple correlatives, and frame relatives. The differences between them lie in the number of Rels and the number of correlates. Basic correlatives have one Rel and one correlate. Multiple correlatives have more than one Rel; the number of correlates may be equal to the number of Rels, but it can be less. Frame relatives have one Rel, and do not have a correlate that is exactly coreferent with the RC. There may be a pseudo-correlate which stands in some bridging relation to the RC referent, or there may be no correlate at all. I showed that basic structural and semantic properties are shared between all three construction types, so that we are justified in grouping them together as correlatives and seeking a unified treatment. I also pointed out that, while the prototypical correlative construction involves two clauses, the constructions we find in Hittite are more varied. Both the "RC" and the "CC" can in fact be multi-clausal segments, though the overarching structure of the construction and the basic semantic relation between the two halves remains intact.

CHAPTER 3

The correlate as a discourse anaphor

3.1 Introduction

The correlate in a correlative construction is a nominal expression that corefers with the RC. This coreference relation is a signature characteristic of the construction: the RC activates a referent as a topic for the CC, and the correlate is the vehicle for continued reference to that topic. The nature of this relation, specifically how it is reflected in the grammar, is therefore fundamental to our understanding of correlative constructions.

While it is obvious that there is a semantic connection, we would like to know the precise nature of that semantic relation and what other parts of the grammar are implicated in it. For example, is the relation something like variable binding which requires a particular syntactic connection? Or is it something like anaphora, which does not entail a syntactic relation (but rather a discourse relation)? The answer has ramifications for our understanding of the relation between the RC and the CC as a whole, which I will discuss in chapter 4.

The main approach I will take to answer this question in this chapter is to look at the syntactic behavior of the correlate. The correlate can be any kind of nominal expression available in the language: null pronoun, clitic pronoun, tonic pronoun, or lexical noun phrase. I will investigate whether their distribution shows any influence from the presence of a correlative that would suggest a syntactic relation between the two.

I argue that, in Hittite, the relation between the correlate and the RC is one of discourse anaphora. To justify this claim, I show that there is no syntactic evidence that the presence of a

correlative has an effect on the syntactic form or distribution of the correlate. The distribution of correlate types can be fully explained by principles of Hittite syntax that govern the form of NPs in general. Weak pronoun correlates obey two broad argument structure principles of Hittite: objects are generally overt but can be null under certain circumstances, and the form of subjects is determined by the argument structure of the predicate. The use of strong NP correlates is motivated by information structural principles such as focus or the strength of the referent's activation status. The case for a close syntactic relation like variable binding is further undermined by the existence of frame relatives, which lack a correlate altogether.

The chapter is organized as follows. In section 3.2, I lay out the basic theoretical question for the chapter before proceeding to the empirical facts. After briefly defining the types of NP that can appear as correlates in section 3.3, I discuss weak and strong correlates in sections 3.4 and 3.5 respectively, examining the grammatical principles that govern the distribution of correlate types. In section 3.6 I discuss various correlative constructions with non-prototypical correlates. Pulling together the threads of the discussion, in section 3.7 I make a case that the correlate in Hittite correlative constructions is an anaphoric NP rather than a locally bound variable. Section 3.8 concludes the chapter with a summary of the results.

3.2   What kind of NP is the correlate?

The theoretical question we are pursuing is the following: how does the correlate get interpreted as coreferent with the RC? As far as I can tell, there are two basic alternatives: either it is a variable which must be bound by the RC, or it is an anaphoric NP which receives its interpretation by discourse anaphora.

Dayal (1996) analyzes Hindi correlates as variables and correlatives as generalized quantifiers that bind them:

(43) a. jo laRkii khaRii hai vo lambii hai

         REL girl standing is DEM tall is

    'The girl who is standing, she is tall.'

<div align="right">(Dayal 1996: 188)</div>

b.

$$IP$$
$$\lambda P.P(\sigma x_i(girl(x_i) \wedge stand(x_i)))(\lambda x_i.tall(x_i))$$
$$= \lambda x_i.tall(x_i)(\sigma x_i(girl(x_i) \wedge stand(x_i)))$$
$$= tall(\sigma x_i(girl(x_i) \wedge stand(x_i)))$$

CP$_i$ IP

$\lambda P.P(\sigma x_i(girl(x_i) \wedge stand(x_i)))$ $tall(x_i)$

jo laRkii khaRii hai   NP$_i$ VP

$\lambda P.P(x_i)$ $tall$

vo   lambii hai
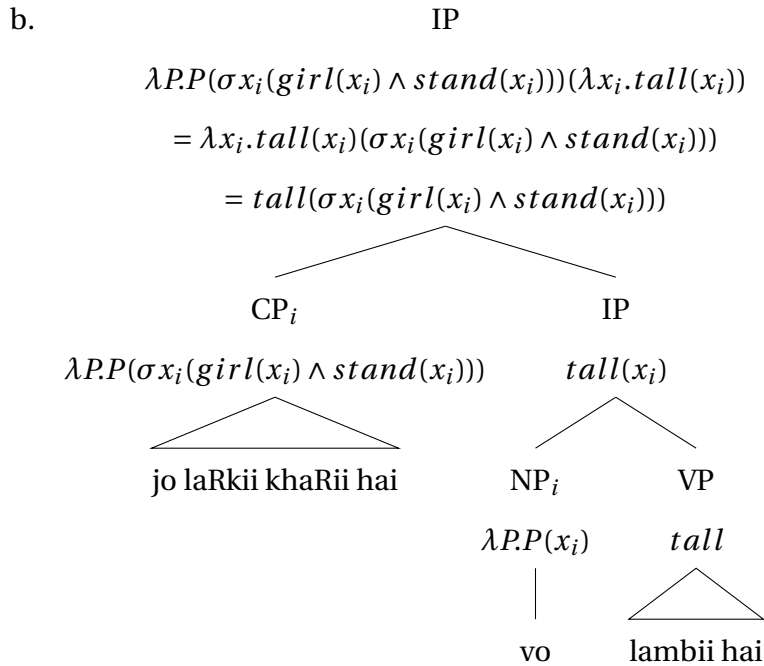
Dayal assumes that the correlate is a variable which is lambda-abstracted in a quantificational syntactic configuration: [CP$_i$ IP] is interpreted as [Quantifier$_i$ λx_i IP] (p. 190). The RC is a quantifier that binds the correlate: the abstracted IP is fed to the RC so that the RC's referent, namely $\sigma x_i(girl(x_i) \wedge stand(x_i))$, is used as the value for the abstracted variable.

The other way to analyze the correlate is as a discourse anaphor. On this analysis, the correlate does not undergo syntactic binding, but is valued by a discourse-oriented process, the same one that applies in cross-sentential anaphora. Which analysis we choose has ramifications for how we analyze the correlative construction as a whole. So which one is the better fit for Hittite correlatives? In the next few sections, I will assess the empirical facts about Hittite correlates, and I will return to this theoretical question in section 3.7.

3.3 Possible types of correlate

In Hittite, the correlate can be any kind of NP that is available in the language as an anaphoric referring expression. I subdivide these into two classes based on prosodic strength: weak and strong. Hittite has two types of weak NP: clitic pronouns and phonetically null pronouns.[1] (I assume the presence of null pronoun *pro* for arguments which are present in the semantic representation but not overt, distinguishing these from frame RC cases where there is genuinely no correlate in the semantic representation.) The following examples show these items as correlates:

(44)   a.   Clitic pronoun

^{GIŠ}TUKUL=ma   kuin apiya ḫarkun n=**an**   ḫali[(ššiyanun)]
weapon=CONTR   REL then I.held CONN=it I.decorated

'The weapon which I held then, I decorated **it**.'

(KUB 1.1 ii 46 (NH); Otten 1981: 12)

b.   Null pronoun

ANA PANI ABBA.ḪI.A=*YA* ABBA [(AB)BA.ḪI.(A) (kuiēš)] kūrur ešer
in.time.of fathers=my   forefathers   REL   hostile were

ammug=ma   ***pro*** takšulāir
with.me=CONTR   they.made.peace

'Those who were hostile in the time of my fathers and forefathers, with ME **(they)** made peace.'

(KUB 1.1 iv 58–59 (NH); Otten 1981: 26)

---

1. Cardinaletti and Starke (1999) identify three classes of pronoun cross-linguistically: in their terms, "strong", "weak", and clitic, with the latter two grouped as "deficient". I am not aware of any evidence in Hittite for their "weak" class. Hittite pronouns appear to be subject to a binary distinction, for which I use the simple strong/weak distinction. My term "weak" corresponds to what Cardinaletti and Starke would call either "clitic" or "deficient".

I group these types together because they alternate with each other in a principled fashion, as will be illustrated in section 3.4.

I classify the following types of NP as strong: the tonic pronoun *apā-*; the demonstratives *kā-*, *apā-*, and *aši+*[2]; or an NP involving a lexical noun (which may or may not include a demonstrative). The following examples show some of the possibilities:

(45) a. Tonic pronoun

nu   kuit [LU]GAL-uš tezzi nu   **apāt** iyami
CONN REL king   says CONN that   I.do

'Whatever the king says, I will do THAT.'

(KBo 17.4 ii 12'–13' (OH/OS); Montuori 2017)

b. Lexical NP with demonstrative

kāša=kan kī   tuppi kuedani UD-ti   parā neḫḫun n=ašta   ÉRI[N].MEŠ
here=PTC this tablet REL.LOC day.LOC forth I.sent   CONN=PTC troops
KUR UGU   **apēdani UD-ti**   arḫa ḫuittiyanun
land upper that.LOC day.LOC I.drew.forth

'The day on which I sent forth this tablet (from) here, I drew forth the troops of the Upper Land **on THAT day**.'

(HKM 71 24–28 (MH/MS); Hoffner 2009: 228)

_____

2. On this notation, see Goedegebuure 2014: 2, fn. 1.

c. Lexical NP without demonstrative

DINGIR-*LIM*=ma=kan kuedani *ANA* $^{\text{DUG}}$GÌR.GÁN$_i$ anda arranzi

deity=CONTR=PTC REL.LOC LOC vessel in they.wash

n=ašta wātar$_j$ kuit *ANA* **$^{\text{DUG}}$GÌR.GÁN**$_i$ anda n=at$_j$ *ANA PANI*

CONN=PTC water REL LOC vessel in CONN=it before

DINGIR-*LIM* apēz=pat *IŠTU* $^{\text{DUG}}$GÌR.GÁN$_i$ dāi

deity that.ABL=FOC ABL vessel puts

'The vessel$_i$ in which they wash the deity, the water$_j$ which is in **the vessel**, he puts it$_j$ before the deity with THAT vessel$_i$.'

Paraphrase: [The water$_j$ which is inside [the vessel$_i$ in which they wash the deity]], he puts the water$_j$ before the deity with THAT vessel$_i$.

(KUB 27.16 i 30–33 (NH); Beckman 2015: 46)

It has often been said that the correlate in a correlative construction must contain a demonstrative, the so-called "demonstrative requirement" (Dayal 1996: 162; Lipták 2009b: 4; Leung 2009: 313–314). As the examples in (44) show, Hittite does not abide by any such requirement. Genuine demonstratives may appear in correlates, but they are uncommon. The stem *apā-* is considerably more common in its use as a tonic pronoun, but even then its use is motivated by information-structural prominence (cf. section 3.5) rather than any rule of the grammar with respect to correlatives. In informationally neutral contexts, the correlate is either a null or clitic pronoun; these are Hittite's basic anaphoric pronouns, not demonstratives.

3.4 Weak pronoun correlates

In this section and the next, I will examine the distributions of the various types of correlate outlined above, showing that the distributions are determined by general principles of Hittite syntax. First I will discuss the distribution of weak correlates: clitic pronouns and null pronouns. These occur as arguments to verbs and appear in mostly complementary distribution based on

the verb's argument structure, disrupted to a limited extent based on semantic and pragmatic factors. I will discuss objects first (as it is the more straightforward case) and subjects second.

3.4.1   Objects

Objects in Hittite tend to be overt. If an object in a given sentence is not embodied by a strong NP (typically in a case of anaphora), then it will appear as a clitic pronoun in most cases:

(46)   [(takku   GU$_4$.MAḪ   kuiški   wemiyezz)]i   t=**an**   parkunuzzi

       if   bull   someone   finds   CONN=it   castrates

       'If someone finds a bull and castrates **it**…'

                       (KBo 6.2 iii 33 (OH/OS); Inglese, Rizzo, and Pflugmacher 2019: 138, ex. 1b)

However, Hittite permits null objects in some contexts. Inglese, Rizzo, and Pflugmacher (2019: 148–163) discuss a variety of factors that contribute to the licensing of null objects in Old Hittite. For example, null objects tend to be inanimate and have low individuation (though this is not a necessary condition — cf. the single loaf of bread in (47) below). Certain text genres have a notable relative affinity for null objects. These include ritual and festival instructions, the Hittite laws, and cult inventories, all genres which involve technical and compressed language; example (47) gives an example from a festival description.

(47) ^{LÚ}SAGI   1 $^{[NINDA]}$ḫaršin *EMṢA* GE$_6$ LUGAL-i pāi   ta   ***pro*** paršiya

cupbearer 1 loaf.of.bread sour   dark to.king gives CONN   breaks

^{LÚ}SAGI   ***pro*** ēpzi ta   LÚ ^{GIŠ}BANŠUR ***pro*** pāi LÚ ^{GIŠ}BANŠUR

cupbearer   takes CONN man table   gives man table

kuttaš peran šiuni   ***pro*** dāi

wall   before for.deity   puts

'The cupbearer gives the king one sour dark loaf of bread. And he breaks **(it)**. The cupbearer takes **(it)**. And he gives **(it)** to the man assigned to the table. The man assigned to the table puts **(it)** in front of the wall for the deity.'

(KBo 17.74+ iii 39'–41' (OH/MS); Inglese, Rizzo, and Pflugmacher 2019: 163)

The situation just described for Hittite in general also holds for correlative constructions. Weak object correlates appear as clitic pronouns the vast majority of the time:

(48) GU$_4$=ya=wa=mu   kuin tet   nu=war**=an**=mu   uppi

cow=also=QUOT=me REL   you.promised CONN=QUOT=it=me send.2SG.IMP

'Also the cow which you promised me, send **it** to me.'

(HKM 22 14–16 (MH/MS); Hoffner 2009: 135)

We also find examples of null object correlates, although these are far fewer in number than clitics.[3] The cases where we do find them also exhibit some of the same licensing factors as outlined by Inglese, Rizzo, and Pflugmacher (2019). Consider the following example:

---

3. It is difficult to be certain about an exact number, because some correlative constructions are potentially open to either a null-object interpretation or an objectless frame-relative interpretation (see section 3.6):

(i) DUB.ḪI.A=k[a]n kue udanzi   nu   [n]eš[u]mnili ḫatreške
     tablets=PTC   REL they.bring CONN in.Hittite   write.2SG.IMP.IMPF

Null object: 'The tablets which they bring here, always write (them) in Hittite.'
Frame: '(Regarding) the tablets which they bring here: always write in Hittite.'

(VBoT 2 24–25 (MH/MS); Hoffner 2009: 272)

This uncertainty arises in cases where the predicate can be used both transitively and intransitively.

(49) kuiš šagaīš kīšari   ta   LUGAL-i MUNUS.LUGAL=ya ***pro*** tarweni
      REL sign occurs   CONN to.king to.queen=and   we.tell

'Whatever sign occurs, we tell **(it)** to the king and queen.'

We can attribute the presence of a null object in (49) to multiple factors. First, the example
comes from a ritual text, which has a higher tendency toward null objects. Second, the referent
'sign' is inanimate (being an abstract concept), increasing the degree to which a null object is
licensed. Low individuation can also motivate the null object in the following example from a
treaty text:

(50) witantuš URU.DIDLI.ḪI.A-uš kuiuš ḫark[un$^?$] nu $^\text{m}$Pilliyaš ***pro*** natta
      fortified cities   REL   I.held   CONN Pilliya   not
      wet[ezzi]
      fortifies

'The fortified cities which [I$^?$] he[ld$^?$], Pilliya will not fortify **(them)**.'

The cities in question here are not differentiated from one another, but are treated as a group.
(The treaty discusses multiple different groups of cities in turn; this is one of them.) Thus, the
referent has low individuation in this context, licensing the null object.

One null object example is motivated in a different way:

(51)   *'Or if some servant$_i$ has committed a sin, but he$_i$ confesses the sin before his lord,'*

n=an$_i$ EN=*ŠU* kuit$_j$ apiya yēzzi n=an$_i$ ***pro*$_j$** yēzzi

CONN=him.ACC lord=his REL.ACC then   does   CONN=him.ACC   does

'what$_j$ his lord does with him$_i$ then, he does **(it)**$_j$ with him$_i$.'

(KUB 14.8 Vo 26–27 (NH); Rieken, Lorenz, and Daues 2017c)

Both clauses in this example feature the same double-accusative predicate. The servant is represented in both by the clitic =*an*. The other accusative object, namely whatever thing the lord does to the servant, cannot be represented in the CC by a clitic pronoun because there already is a clitic object (the servant). A strong NP correlate such as *apāt* would not be viable because the required pragmatic factors are not met (see section 3.5 for details). Therefore there is no other possibility except for the correlate (which represents this second referent) to be a null pronoun.

For correlate objects, then, this is what we find: they almost always take the form of clitic pronouns, but occasionally occur as null pronouns. This is the same distribution that applies to objects in general in the language.

3.4.2   Subjects

Now let us turn to weak subject correlates. In this case, we find clitic pronouns and null pronouns both in abundance. Their distribution is determined by the argument structure of the predicate: null pronouns occur with transitive and unergative predicates, while clitic pronouns occur with unaccusative predicates. This distribution applies to clitic subjects and null subjects in general in Hittite, as shown by Garrett (1990a, 1996).

3.4.2.1   Null subject correlates (part 1): transitive predicates

As Garrett (1990a: 233) showed, transitive predicates do not occur with clitic pronoun subjects. Instead, they take null pronoun subjects:

(52)　[n=]aš　　ᵁᴿᵁ Ḫalpa　pait　nu　　***pro***　ᵁᴿᵁ Ḫalpan　ḫarnikta　nu　　***pro***

CONN=he　Ḫalpa　　　went　CONN　　　　Ḫalpa　　　destroyed　CONN

ᵁᴿᵁ Ḫalpaš　NAM.RA.MEŠ　āššu=ššet　⁽ᵁᴿᵁ⁾ Ḫattuši　udaš　　　EGIR-pa=ma=aš

of.Ḫalpa　　deportees　　　goods=its　to.Ḫattuša　　brought　　later=CONTR=he

ᵁᴿᵁ KÁ.DINGIR.RA　pait　　nu　　***pro***　ᵁᴿᵁ KÁ.DINGIR[(.RA-an)]　ḫarnikta

Babylon　　　　　went　CONN　　　　Babylon　　　　　　　　　destroyed

[ERÍN.MEŠ]　Ḫurlušš=a　　***pro***　ḫullit　***pro***　ᵁᴿᵁ KÁ.DINGIR.RA-aš　NAM.RA.MEŠ

troops　　　Hurrian=also　　　　fought　　　　of.Babylon　　　　　deportees

āssu=sset　⁽ᵁᴿ⁾ᵁ Ḫat[tuši]　[(pē ḫart)]a

good=its　to.Ḫattuša　　　presented

'He went to Ḫalpa, **(he)** destroyed Ḫalpa, and **(he)** brought the deportees of Ḫalpa and its goods to Ḫattuša. Later he went to Babylon, **(he)** destroyed Babylon, and **(he)** also fought the Hurrian [troops]. **(He)** presented the deportees of Babylon and its goods to Ḫattuša.'

(KBo 3.1 i 28–31 (OH/NS); Hoffmann 1984: 18)

The above passage contains several transitive predicates, and the subject of each is a null pronoun. (Contrast this with the subject clitic =*aš* found with the two occurrences of the unaccusative predicate *pait* 'went'; see section 3.4.2.3.)

When the correlate of a correlative construction is the subject of a transitive predicate, it takes the form of a null pronoun:

(53) [nu=mu=kan]   DINGIR-*LUM* kuiš kēdani   pedi   tittanut   nu=mu=kan
     CONN=me=PTC   god   who this.LOC place.LOC installed CONN=me=PTC

     pro *ŪL* kuitki   šiwariya[zi
          not something denies

     'The god who installed me in this place, he does not deny me anything.'

                                        (KUB 21.38 Vo 15–16 (NH); Hoffner 2009: 289)

The following list gives all transitive predicates attested with correlate subjects in my corpus:[4]

(54)   *aku-/eku-*   'drink'   KBo 10.45 iv 16–18

       aniya-   'work'   KUB 31.112+Bo 4007 r. col. 23–26; KUB 56.1 i 26–31

       ad-/ed-   'eat'   KBo 10.45 iv 16–18

       ḫalzai-   'call'   KBo 13.58 iii 13–15

       ḫanti tiya-   'report'   KUB 21.42 iii 11–12

       ḫar(k)-   'hold, keep'   IBoT 1.36 ii 60–61; IBoT 1.36 iii 56–57; KBo 3.4 iii 47–

                                      50; KUB 13.1 i 35

       ḫarnink-   'destroy'   HKM 79 8–10

       ḫuinuwa-   'drive'   KUB 13.1 i 19–21

       idalawaḫḫ-   'harm'   KBo 14.3+40.293 iii 12–14

---

4. There is another very likely example of a transitive predicate with a null pronoun subject correlate:
    (i) nu=mu   kuiš DINGIR=*YA* inan   paiš nu=mu   genzu   [...]
         CONN=me   REL god=my   disease gave CONN=me   love.ACC?
         'My god who gave me the disease, [...].'
                                        (KUB 30.10 Vo 3–4 (pre-NH/MS); Rieken, Lorenz, and Daues 2017b)
    The predicate itself is not preserved in this example, but the CC likely involves the idiom *genzu da-* 'take pity on':
    (ii) nu   DINGIR.MEŠ *ANA* KUR ^URU^Ḫatti genzu namma da[ttin]
         CONN   gods   to   land Ḫatti   pity again take.2PL.IMP
         'Gods, take pity again on the land of Ḫatti!'
                                        (KUB 24.4 Ro 14 (NH); *HED* K: 155)
    The base verb *da-* 'take' is transitive (see (54)). In this idiom, *genzu* (literally 'lap, abdomen') is evidently a direct
    object in a metaphorical meaning; the pitied entity is a dative argument, as seen in (ii). As a transitive construction,
    the null correlate in (i) is firmly in keeping with the observed pattern.

karš-	'cut off'	KBo 3.4 iii 39–41
pai-/pe-	'give'	Bo 86/299 ii 25–27; KBo 5.8 ii 29–31
peda-	'bring'	KBo 19.76+KUB 14.20 i 20–22
šiwar(r)iya-	'deny, withhold'	KUB 21.38 Vo 15–16
da-	'take'	IBoT 1.36 i 22–24; KUB 7.1+ ii 3–4; KUB 29.1 iii 13–17
tar-/te-	'say'	IBoT 1.36 iii 51–54
tarḫ-	'defeat'	KUB 21.19+KBo 52.17 iii 22–23; KUB 21.27+676/v i 18–20; KUB 33.106+KBo 26.65 i 27–29
tarna-	'let, allow, leave'	IBoT 1.36 i 72–73; KBo 13.58 i 5–9; KUB 13.4 iii 21–23
duwarnai-	'break'	VBoT 24 ii 10–12
uiya-	'send'	KBo 5.6 iii 7–9
uwate-	'bring here'	IBoT 1.36 iii 16–19; KBo 4.4 ii 63–66
waš-	'buy'	HKM 57 10–13
wemiya-	'find'	KUB 41.4+60.143 ii 6–7
BAL	'change'	KBo 18.48 Vo 9'–10'

In each of these cases, the correlate is a null pronoun, never a clitic pronoun. Thus, the form of the correlate is entirely consistent with the general pattern for transitive subjects in Hittite.

3.4.2.2   Null subject correlates (part 2): unergative predicates

In Hittite, intransitive predicates can be divided into two classes, unergative and unaccusative, in the way familiar from Romance and Germanic languages (cf. Alexiadou, Anagnostopoulou, and Everaert (2004: 5–8) for various distinguishing properties). Like in those languages, the distinction between the two classes can be observed in auxiliary selection with the periphrastic perfect, unaccusatives selecting *eš-/aš-* 'be' and unergatives selecting *ḫar(k)-* 'have'; see Garrett 1996: 103–106. However, in Hittite the distinction is also syntactically reflected in the distribution of weak pronouns (Garrett 1996: 91–102): unaccusatives routinely[5] take subject clitics (55a)

while unergatives, like transitives (as discussed above), can only take null pronouns (55b).

(55) a. anda=**at**=kan ḫarakdu
within=it=PTC perish.3SG.IMP

'Let **it** perish within.'

(KUB 33.8 iii 14 (OH/NS); Hoffner and Melchert 2008: 378)

b. man=wa=mu ***pro*** menaḫḫanda kururiyaḫta
IRR=QUOT=me against waged.war

'**(He)** would have waged war against me.'

(KBo 5.13 i 5 (NH); *HED* K: 284)

Correlates that are subjects of unergative predicates align with the general distribution just described. That is, they take the form of null pronouns:

(56) *'Furthermore, when I entered the royal household,'*

[DU]MU.MUNUS.MEŠ LUGAL kuiēš ŠÀ É-*TI* wemiyanun
daughters king REL in household I.found
nu=mu=[za=ka]n ***pro*** ŠU-i ḫāšer
CONN=me=REFL=PTC in.hand gave.birth.3PL

'the princesses whom I found in the household, **(they)** gave birth under my care (lit. in my hand).'

(KUB 21.38 Ro 60' (NH); Hoffner 2009: 287)

The following list provides all of the unergative predicates attested with correlate subjects in my

---

5. There are cases where unaccusative predicates appear without any overt subject (Garrett 1990b: 130–134). As noted by Yates (2022), it may be possible to link these with the cases of null objects discussed by Inglese, Rizzo, and Pflugmacher (2019), since unaccusative subjects are often viewed as internal arguments rather than external arguments (cf. Alexiadou, Anagnostopoulou, and Everaert 2004: 14). Further research is required.

corpus:

(57)   *ḫanza(n) ep(p)-*   'support'   ABoT 1.60 Vo 9–11

       ḫaš-*   'give birth'   KUB 21.38 Ro 59'–60'

       kururiyaḫḫ-*   'be hostile, wage war'   Bo 86/299 iii 28–31

       paḫšanu-(?)   'be watchful'   KUB 40.1 Voˑ 32–33

       takšulai-   'make peace'   KUB 1.1 iv 58–59

       uiya-*   'send out'   KUB 26.79 i 16–17 (as *uˑiyaddu*)

       unna-/unniya-/unniš-*   'drive toward (intr.)'   KBo 4.4 ii 68–70; KUB 14.15 ii 11–12

       walḫ-*   'fight'   KUB 1.1 ii 41–42

Several of these (those marked with an asterisk) are discussed by Garrett (1996: 98–99), who assigns them to the unergative class because they do not take clitic subjects. Some of them are derived from a basic transitive predicate, such as *walḫ-* 'fight' from transitive *walḫ-* 'strike', presumably through reduction or existential closure of the internal argument (i.e., filling the internal argument with an indefinite, existentially quantified value).

For the predicates on the list in (57) which are not mentioned by Garrett, we must independently verify unergative status:

- *takšulai-* 'make peace': Unergative behavior is evinced by the following example:

(58)   *'Concerning the matter of the (Kaška leaders) Piḫapzuppi and Kaškanu about which you wrote me:'*

     karū=wa   ***pro***   takšulāir
     already=QUOT   made.peace.3PL

     ' "**(They)** have already made peace (with us)." '

                                         (HKM 10 16 (MH/MS); Hoffner 2009: 113)

- *ḫanza(n) ep(p)-* 'support': Found in the following example:

(59) anni[š??=m]a=mu kāša LÚ U[KU.U]Š?   katta NU.GÁL kuiš[^{m.]d}*SIN*.EN
      that=CONTR=mu   here heavily.armed.soldier with   is.not   REL   Arma-EN

      LÚ.GÉŠPU?   kuiš NU?.GÁL?   nu=za   ***pro*** ḫa[n]zan *ŪL* kuedaniki
      man.of.the.fist REL   is.not.present CONN=REFL   in.front   not   some.LOC

      [uddanī?]   ēpzi
      matter.LOC   seizes

      'As for that heavily armed soldier who is not here with me, Arma-EN, the man-of-
      the-fist who is not present, he gives support in no case.'

      (ABoT 1.60 Vo 8–11 (MH/MS); Goedegebuure 2014: 213)

The expression *ḫanza(n) ep(p)-* is transitive elsewhere (cf. KUB 14.3 iii 1, *HED* H: 92), but here there does not seem to be a direct object, so an intransitive reading seems best. Given the agentive meaning, I regard this as an unergative usage derived from the transitive base.

- *paḫšanu-* 'be watchful': The example in question is the following:

(60) kūš   kuēs kēl   ZAG.MEŠ-aš *BEL*[*U*.ḪI.]A ^mḪašdu-DINGIR-*LIM*
      these   REL   these.GEN   borders.GEN   lords   Ḫašduili

      ^mTarupišniš ^{m.d}AMAR.UTU-^dLAMMA ^{LÚ}āntu-GAL nu   ***pro*** *ANA* TI
      Taruppišni Šanda-Kurunt(iy)a   *antušalli-*   CONN   DAT   life

      ^dUTU-*ŠI*   šer   mekki PAP-an-t[
      Your.Majesty regarding very   ??

      'These men who are lords of these borders, Ḫašduili, Taruppišni, Šanda-Kurunt(iy)a the *antušalli-*, [...] very [...] regarding Your Majesty's life.'

      (KUB 40.1 Vo[!] 32–33 (NH); Hoffner 2009: 361)

The logogram ⟨PAP⟩ is used for two (related) verbs, *paḫš-* 'protect' and *paḫšanu-* 'be watchful'. The last portion of the word is lost here, so its exact meaning, morphological form, and consequently its unergative status are not certain. I believe the best restoration is the participle *paḫšanuwant-* to the verb *paḫšanu-*.[6] This verb attests a detransitive-unergative use (*CHD* P: 9 *s.v. paḫšanu-* 3 b) with the meaning 'keep watch', and the participle is well attested in copular clauses with the meaning '(being) watchful (about)' (cf. example (71)). A null pronoun subject is expected in a construction such as this involving an unergative participle.[7]

The upshot of the discussion in this section is the following. For all of the predicates listed in (57), the correlate is a null pronoun, not a clitic pronoun. These predicates are demonstrably unergative (as noted either by Garrett (1996: 98–99) or in the preceding paragraphs). Therefore, since unergative predicates in Hittite take null pronoun subjects, the fact that the correlate subjects in our examples here are null pronouns is unsurprising, and no additional stipulations or rules are needed to account for this patterning.

3.4.2.3   Clitic subject correlates: unaccusative, passive, and copular predicates

Multiple predicate types require subject clitics and ordinarily do not appear with null subjects. Unaccusative predicates are one such type, as mentioned in the last section:

---

6. Hoffner (2009: 361) restores it as PAP-*ant*[*aru*] 'protect.3PL.IMP'. In context (since there is no accusative object), he translates it as 'may [they] … be very protective', which would be a detransitive use of the ordinarily transitive *paḫš-* 'protect'. It should be noted, however, that the Chicago Hittite Dictionary does not attest any such usage (*CHD* P: 2–7 *s.v. paḫš-*).

7. Participle-plus-auxiliary constructions in Hittite reflect the argument structure of the lexical predicate, as the following example shows:

(i)   **pro** GAM-an kaninanza ēšdu
            under   crouched   be.3SG.IMP

     'Let him be crouched down.'

                   (VBoT 120 ii 17–18 (MH/NS); Inglese and Luraghi 2020: 392)

Copular clauses involving *eš-/aš-* 'be' take subject clitics, so the fact that (i) has none indicates that *kaninanza* is controlling the argument structure.

(61) anda=**at**=kan ḫarakdu

within=it=PTC perish.3SG.IMP

'Let **it** perish within.'

<div align="right">(KUB 33.8 iii 14 (OH/NS); Hoffner and Melchert 2008: 378)</div>

Passives (whether morphological or periphrastic) to transitive predicates also take subject clitics:

(62) *'Let them not take from him the summer pasture.'*

ANA LUGAL KUR ^{URU.d}U-tašša=**at** piyan

to king land Tarḫuntašša=it given

'**It** is given to the king of Tarḫuntašša.'

<div align="right">(Bo 86/299 ii 7 (NH); Otten 1988: 16)</div>

Finally, copular clauses require subject clitics:[8]

(63) *'If he takes (the irrigation ditch at a point) below (the other's branch),'*

n=**aš** apēl
CONN=it his

'**it** (= the ditch) is his (to use).'

<div align="right">(KBo 6.26 i 21 (OH/NS); Hoffner 1997: 129)</div>

When a correlate is the subject of one of these predicates, it appears as a clitic pronoun. This is true for unaccusatives (64), passives (65), and copular clauses (66).

---

8. The copula *eš-/aš-* in Hittite may be omitted in the indicative present; this has no effect on the obligatoriness of subject clitics. (I use "omitted" as a purely descriptive term, without intending any claim about the actual process underlying its absence, which does not affect the point at hand.)

(64)   nu=za   *ANA PANI ABI ABI=YA*   kuiš ^{URU}Kaškaš ^{ḪUR.SAG}Tarikarimun

CONN=REFL in.time.of grandfather=my REL Kaška   Mt. Tarikarimu

GÉŠPU-az ešat   namma=**aš**=za ^{URU}KÙ.BABBAR-ši ḫargaš kišat

by.force   settled   again=it=REFL to.Ḫattuša   threat became

'The Kaška(-tribe) which had settled Mt. Tarikarimu by force in the time of my grandfather, once again **it** became a threat to Hattuša.'

(KBo 3.4 iii 57–59 (NH); Götze 1967: 80)

(65)   nu=ššan   kuit ^fZi   *ANA BELI* [tak]kišket   n=**at**=šan   EGIR-pa

CONN=PTC REL Ziplantawiya on   lord inflicted.IMPF CONN=it=PTC back

apedani takšan   ēštu

her   inflicted be.3SG.IMP

'Whatever Ziplantawiya has been inflicting on the lord, let **it** be inflicted back on her.'

(KBo 15.10 ii 20–21 (MH/MS); Görke 2013b)

(66)   kinun=ma=wa=za=kan   kuiš *ANA* ^{GIŠ}GU.ZA *ABI=ŠU*   ešat

now=CONTR=QUOT=REFL=PTC REL on   throne   father=his sat

nu=war=**aš**   DUMU-laš

CONN=QUOT=he child

'The one who has now sat upon his father's throne, **he** is a child.'

(KBo 3.4 Ro i 14 (NH); Götze 1967: 20)

The following unaccusative predicates are attested with correlate subjects in my corpus; those marked with an asterisk are identified as unaccusative by Garrett (1996: 91–96):

(67)   *ak(k)-* *   'die'   Bo 86/299 iii 21–24; KBo 4.4 ii 45–46; KBo 5.3+ iii 68; KBo 5.6 iv 4–5; KBo 14.12+ iv 17–18; KUB 11.1 iv 19–21; KUB 13.4 i 59; KUB 14.8 Ro 6–7; KUB 14.8 Vo 18–19; KUB 14.8 Vo 38–40; KUB 19.29 iv 11–13; KUB 24.3+KBo 51.18a ii 6'–7'; KUB 24.3 ii 9–10

ak(k)-*	'die'	Bo 86/299 iii 21–24; KBo 4.4 ii 45–46; KBo 5.3+ iii 68; KBo 5.6 iv 4–5; KBo 14.12+ iv 17–18; KUB 11.1 iv 19–21; KUB 13.4 i 59; KUB 14.8 Ro 6–7; KUB 14.8 Vo 18–19; KUB 14.8 Vo 38–40; KUB 19.29 iv 11–13; KUB 24.3+KBo 51.18a ii 6'–7'; KUB 24.3 ii 9–10
aš(š)-	'remain'	Bo 86/299 i 40–42; Bo 86/299 i 44–45
eš-/aš-*[9]	'sit'	KBo 3.7 iv 9–13
ḫark-*	'perish'	KUB 13.4 iii 49–52; KUB 13.35+ iv 48; KUB 14.14+ Vo 26–28
ḫuiš-/ḫueš-*	'live'	KBo 5.3+ iii 45–46
iya-*	'go, walk'	IBoT 1.36 iii 16–19; IBoT 1.36 iii 45–46
iyanna-*	'start walking'	IBoT 1.36 ii 26–27
ki-*	'lie, be placed'	KBo 5.3+ ii 60–62; KUB 26.1 iv 3–6
kiš-*	'become'	KBo 3.4 iii 57–58; KBo 14.3+40.293 iii 15–16; KUB 1.1 iv 50–51; KUB 7.5+ iv 17–18; KUB 14.8 Ro 33–38
kunneš-	'be successful'	KUB 21.19+KBo 52.17 i 6–10
luluwai-*	'flourish'	KUB 14.14 Ro 31–32
naḫ(ḫ)-*	'be afraid'	KUB 1.1 iv 55–56; KUB 1.1 iv 86–89
naḫšariya-*	'be afraid'	KBo 4.4 iv 29–31
pai-/pa-*[10]	'go'	IBoT 1.36 iii 14–16; IBoT 1.36 iii 27–28; IBoT 1.36 iii 51–54; IBoT 1.36 iv 31–32; HKM 47 38–39; HKM 66 20–25; KBo 17.105+ iii 6–7; KUB 13.1 i 23–24
parašeš-*	'disperse'	KBo 5.8 i 18–20
piddai-/pittiya-*	'run'	IBoT 1.36 iii 9–10
šamen-*	'withdraw'	KBo 6.2 ii 51–52; KBo 6.4 iv 38–39

tiya-*	'step'	IBoT 1.36 iii 33–34; KBo 5.8 iii 24–26; KBo 5.11 i 5–6; KUB 1.1 iv 26–28
uwa-*	'come'	HKM 3 5–9; KUB 13.4 ii 55–58; KUB 17.10 iv 16–17; KUB 33.8 iii 8–9
UŠKEN*[11]	'bow'	IBoT 1.36 iv 24

The following predicates are not discussed by Garrett:

- *aš(š)-* 'remain': This predicate takes subject clitics; cf. KUB 13.35 iv 45–46 (*HED* A: 187).

- *kunneš-* 'be successful': Garrett (1996: 94) lists multiple change-of-state verbs with the suffix *-ešš-* as unaccusative, but overlooked *kunneš-*. An unaccusative construal is justified by its non-agentive semantics (see Dowty 1991: 606–608 on the relation between agent-hood/patienthood and unergativity/unaccusativity) and the established unaccusativity of several other members of its morphological class.

The following list gives all of the predicates found as passives taking correlate subjects:

(68)   *ḫamenk-/ḫamank-*   'tie'   KBo 3.8 iii 32–33

---

9. The following example contains a subject clitic correlate, but the predicate is not preserved:

(i) nu   URUUraš kuiš URU-aš [ŠA KUR UR(UĀzzi IGI-ziš)] auriš   ēšta n=**aš**=kan   nakkī
     CONN Uraš   REL city   of   land Azzi   first   outpost was CONN=it=PTC steep.LOC
     pēdi   [aš(anza)]
     place.LOC situated

'The city Uraš which was the first outpost of the land of Azzi, **it** (is) [situat]ed in a steep place.'
                                          (KUB 14.17 iii 21–23 (NH); Götze 1967: 98)
The predicate is missing completely from the main tablet (KUB 14.17), and a copy allows restoration of only the final *-anza*, indicating that it is a participle. We can be confident that the predicate is either an active participle to an intransitive verb or a passive to a transitive verb. Götze (1967: 98) takes the predicate to be from *eš-/aš-* 'sit', with the participle signifying something like 'situated'.

10. Garrett (1996: 96) lists *pai-/pa-* and other motion verbs as unaccusative. It has been claimed (e.g., Luraghi 2010: 142) that motion verbs were partly treated as unergative in Old Hittite, becoming uniformly unaccusative only in later stages. See Yates 2022 for a refutation of this claim and a demonstration that motion verbs were unaccusative at all stages of Hittite.

11. Hittite has two verbs meaning 'bow': *ḫe(n)k-* and *aruwai-*. *aruwai-* does not take subject clitics (Hoffner and Melchert 2008: 282). *ḫe(n)k-*, on the other hand, can appear with or without a subject clitic (p. 281, fn. 14); the logogram *UŠKEN* obscures which stem lies behind it, but given the differing behaviors, I propose that in this case it represents *ḫe(n)k-*.

ḫandai-	'match'	Bo 86/299 iii 61–64
ḫarra-	'ruin, spoil'	AT 125 4–12
ḫurnu(wa)-	'sprinkle'	KUB 13.4 i 18–20
katta arnu-	'bring down'	KUB 23.103 Vo 14–15
gulš-	'record'	KUB 13.2 iii 66–67
šanḫ-	'sweep'	KUB 13.4 i 18–20
da-	'take'	Bo 86/299 ii 2–3
takš-	'inflict'	KBo 15.10 ii 20–21
waššiya-	'clothe'	KUB 33.92+ iii 10–11; KUB 33.98+36.8 iii 17–19[12]
wemiya-	'find'	KUB 14.10 iv 17–19

There are a number of examples of correlate subjects in copular clauses of varying predicate types:

(69)   Nominal predicates

Nominative   ABoT 1.60 Ro 10'–11'; KBo 3.4 i 10; KBo 3.4 i 14; KBo 3.4 ii 41–42; KBo 3.4 iii 19–20; KBo 3.4 iii 32–34; KBo 3.4 iii 52–53; KBo 3.4 iv 40–41; KBo 5.6 i 36–37; KBo 5.6 iii 42–43; KBo 5.11 iv 25; KUB 1.1 iv 81–84; KUB 13.3 ii 16–18; KUB 14.1 Ro 28–29; KUB 21.27 i 13–15; KUB 21.38 Ro 47'–48'; KUB 23.72+ Ro 39–40; KUB 23.72+ Vo 21; KUB 23.82+21.47 i 19–20; KUB 24.3 ii 54–59; KUB 26.1 iii 29–31; KUB 26.1 iv 16–17

Oblique (possessive)   KBo 5.3+ ii 20–21; KUB 13.4 ii 28; KUB 36.108 Ro 3–4

---

12. The meaning in these two examples is something like 'be put over (like a garment)'.

Adjectival predicates	KBo 4.1+58.17 Ro 11–12; KBo 5.3+ iii 19–20; KBo 15.24+KUB 32.137+KBo 24.109(+)39.11 ii 28–29; KUB 13.4 i 14; KUB 13.8 Ro 1–6; KUB 23.101 ii 12–14
Embedded RC predicates	KUB 23.92 Vo 16'–17'
Adverbial or PP predicates	KBo 3.4 iv 42–43; KBo 3.4 iv 46–47; KUB 19.18 i 2–3
Infinitive predicates	KUB 31.100 Vo? 14–15[13]
Existential	KUB 24.4 Ro 9

In all of the examples listed in this section, the correlate subjects occur as clitic pronouns, not as null pronouns. This is the expected behavior of these predicates, per the conclusions of Garrett 1996.

3.4.2.4 Null subject correlates (part 3): non-third person subjects

The overwhelming majority of correlatives have third-person referents. Still, it is possible for a correlative to have a first- or second-person referent, so it is worth commenting briefly on correlates in such cases. Hittite is a pro-drop language and does not require first- or second-person subjects to be overt for any predicate:

---

13. The correlate in question is not solely a clitic, but a clitic paired with the quantifier *ḫūmant-* 'all':

    (i) [namm]a=kan ⟨⟨kan⟩⟩ kuiēš kuiēš ^{GIŠ}KIRI₆.GEŠTIN.ḪI.A ^{GIŠ}tiye[(ššar)] […] šer n=at
         furthermore=PTC REL vineyards orchards up CONN=they

         ḫūmanda waḫnuma[nzi (ēšdu)]
         all enclose.INF be.3SG.IMP

    'Furthermore, whatever vineyards and orchards are up in […], let them all be [for] enclos[ing].'

    (KUB 31.100 Vo? 14–15 (MH/MS); Miller 2013: 192)

    Miller restores the participle *waḫnuma[nda]*, but the form is invalid: the participle would have to be *waḫnuwanda*. The *m*-consonantism is consistent only with an infinitive (see Hoffner and Melchert 2008: 334 for the infinitive as a predicate of 'be'). Given the presence of a non-weak element, one could argue that this example does not truly constitute a weak correlate. However, subject *ḫūmant-* does not always appear with a clitic, as in KUB 9.31 iii 16–18 with the transitive predicate *ḫandai-* 'prepare'. It is worth asking whether the same argument-structure principles apply in deciding whether *ḫūmant-* is joined by a clitic; in my corpus, the aforementioned are the only two examples of sufficient preservation, preventing any firm conclusions, but at the very least they are consistent with the principles described in the main text.

(70)   nu   ***pro*** *INA* KUR ^{URU}Takkuwaḫina andan pāun

          CONN   to   land Takkuwaḫina   in   went.1SG

          '**(I)** went to(wards) the land of Takkuwaḫina.'

                                   (KBo 5.8 i 31 (NH); Hoffner and Melchert 2008: 368)

In fact, Hittite does not have clitic subject pronouns for first- and second-persons, only for third-persons. Thus, the argument structure-based distribution discussed above does not apply to this case: any such subject that is not rendered by a prosodically strong NP will be realized as a null subject, as illustrated in (70) with the unaccusative predicate *pai-/pa-* 'go'.

Correlate subjects with first- and second-person reference also do not need to be overt:

(71)   anda=ma=za   šumaš k[ui]ēš EN.MEŠ TU₇   DINGIR.MEŠ-aš

        moreover=CONTR=REFL you   REL   lords   kitchen gods.GEN

        ḫūmandaš ^{LÚ}SAGI.A LÚ   ^{GIŠ}BANŠUR ^{LÚ}MUHALDIM ^{LÚ}NINDA.DÙ.DÙ

        all.GEN   cupbearer man table   cook   baker

        ^{LÚ}KÚRUN.NA nu=šmaš   ***pro*** DINGIR.MEŠ-aš ZI-ni menaḫḫanda mekki

        beer.brewer   CONN=2PL.DAT   of.gods   will   towards   very

        naḫḫanteš ēšten

        reverent   be.2PL.IMP

        'Moreover, you who are the kitchen personnel of all the gods — cupbearer, waiter, cook, baker, beer brewer — be very reverent towards the will of the gods.'

                               (KUB 13.4 iii 55–57 (MH/NS); Miller 2013: 258)

Here, the correlate is the subject of the second-person plural imperative predicate *naḫḫanteš ēšten* 'be reverent', and takes the form of a null pronoun. The lexical predicate *naḫḫ-* 'be afraid, fear' is listed by Garrett (1996: 95) as an unaccusative predicate. With a third-person subject it would require a subject clitic, but in the second person the subject remains null.

3.4.3 Summary

Let us summarize the discussion so far. We have presented two principles that determine the distribution of clitic and null pronouns as arguments in Hittite. First, objects tend to be overt, taking the form of clitic pronouns; null objects are permitted under various syntactic, semantic, and pragmatic conditions. Second, the distribution of forms for subjects depends on the predicate's argument structure type: transitive and unergative predicates require null pronouns, while unaccusative and passive predicates require clitic pronouns. The important point of this section has been that these exact principles fully account for the distribution of clitic and null pronouns as the correlate in a correlative construction. There is no evidence that there is anything special or different about the distribution of pronoun types that would be attributable to the fact that the pronoun is linked to a correlative.

3.5 Strong correlates

I define the category of strong correlates as those whose prosodic weight is above the level of a clitic, in contrast to the weak correlates which were clitics or null pronouns. Strong correlates include the third-person pronoun *apā-*, as well as NPs with lexical nouns (with or without a demonstrative (*kā-*, *apā-*, *aši*+)), numerals, or quantifiers such as *ḫūmant-* 'all'. In this section, I will explore various factors that license strong correlates.

In the previous section, we saw that the distribution of weak correlates is a matter of the predicate's argument structure. This factor is not at play in licensing strong correlates or in deciding what form they take. Rather, the relevant factors concern the clause's information structure and the structure of the larger discourse. In what follows, I will discuss some observable factors: constituent focus (exclusive, information, and additive), contrastive topic, deixis, referent reactivation into salience, and referent disambiguation. However, this list is not exhaustive. It must be remembered that speakers choose what they want to say; a speaker could simply choose to use a strong correlate even if a weak one would be licit.

The goal of this section is to demonstrate that the aforementioned factors, known indepen-

dently to condition the usage of strong NPs in Hittite (Goedegebuure 2014), are also identifiable in cases of strong correlates. Given that Hittite is a corpus language and we lack judgments from native speakers, proving this will require a concrete methodology and philological analysis of each example, and will constitute the majority of the exposition in the section. I will conclude that these factors are responsible for the strong form of the correlate, rather than any correlative-specific requirements (like a demonstrative requirement), aligning with the similar conclusion in the previous section.

3.5.1 Constituent focus

One major locus for strong NPs in Hittite is *constituent focus*: focus applied to a non-predicate constituent within the clause (this can be either an argument of the predicate or an adjunct). This type of focus is distinguished from *predicate focus*, where the entire predicate is the focus, and *all-new focus*, where the entire sentence is in focus (because every part of it is discourse new).

The role of focus is to provide new information in the context of a presupposed conversational background; in this sense, it is the informative part of the utterance (Roberts 1998: 124). For example, in (72) the focused term *chips* answers the presupposed background question "What is John bringing this time?".

(72)   John is bringing CHIPS this time.[14]

A complete model of focus must reflect two aspects of the phenomenon. One is the background, which can be represented in multiple ways: it can be modeled as an open proposition or as a Question Under Discussion (QUD) (Roberts 2012). The second aspect of focus is its informative contribution; to model this, I adopt the Alternative Semantics framework (Rooth 1992, 2016), in which focus invokes a set of *alternatives* to the focused constituent that yield alternative propositions which could form answers to the background.

---

14. Constituent focus in English is correlated with prosodic prominence (the details are not important here — "pitch accent" will do as a rough characterization). I represent this by putting the relevant word in small caps.

In Hittite, we do not have access to any prosodic correlates of focus that there may have been. We will therefore use these information-structural characteristics of focus to identify focus in Hittite passages. Thus, in the ideal case we should be able to identify the background (framed as a QUD or otherwise) and the alternatives evoked, based on the surrounding context.

In her study of the syntax and semantics of Hittite demonstratives, Goedegebuure (2014: 379–467) demonstrates that constituent focus is involved in many occurrences of *apā-* (as well as other demonstrative NPs, though with less frequency):[15]

(73)   *'I have just sent you my adorned substitute. She is better than me. Pure she is,* THAT *one, radiant is* THAT *one. She is endowed with everything.'*

nu=kan	DINGIR-*LIM*	EN=*YA*	**apūn**	menaḫḫanda	uški	nu
CONN=PTC	god	lord=my	her	toward	look.2SG.IMP	CONN

PANI	DINGIR-*LIM*	EN=*YA*	**kāš**	**MUNUS-aš**	weḫattaru
before	god	lord=my	this	woman	go.back.and.forth.3SG.IMP

'O god, my lord, look at **HER** (instead of me)! Let **THIS woman** (instead of me) go back and forth before (= attend to) the god my lord.'

(KBo 4.6 Ro 14'–15' (NH); Goedegebuure 2014: 401, trans. with Singer 2002: 72)

I distinguish between three types of focus: exclusive focus, (new) information focus, and additive focus. These three types differ in the truth-conditional status of the alternatives: exclusive focus entails that the alternative propositions are false, additive focus entails that at least one alternative proposition is true, and information focus simply has no such entailments. In the following sections, I will show examples of correlates that have strong NP forms by virtue of being in focus.

---

15. The idea that exclusive focus requires strong pronouns has been claimed cross-linguistically, not just for Hittite. Cardinaletti and Starke (1999: 161–163) argue against such a generalization on the grounds that weak pronouns (their term for non-clitic deficient pronouns) *can* be exclusively focused in the right scenarios; I am not aware of any such examples in Hittite.

3.5.1.1 Exclusive focus

Exclusive focus can be identified in many correlates involving *apā-* (either as a pronoun or an adnominal demonstrative). Exclusive focus entails the exclusion of alternatives, so to diagnose it we should be able to justify such an interpretation, in addition to the other focus diagnostics. Take the following English example:

(74) A: Would you like the pretzels or the chips?
     B: PRETZELS, please.

Given the wording of the question, it is reasonable to expect that B is being offered an either-or choice. B's answer of "pretzels" therefore excludes the option of chips.

In some cases, the context is sufficient that we can satisfy all of these components of the analysis. An excellent example is (75). This example comes from a letter by the Hittite king to a viceroy who has punished a (seemingly high-status) religious official with the public obligations *šaḫḫan* and *luzzi* (probably including physical labor). The official has appealed this decision to the king, who instructs his viceroy to reverse the decision:

(75) *'As for the* šaḫḫan, *which in the past he did not have to perform at all, why have you now put him under* šaḫḫan *and* luzzi*?'*
QUD: What obligations should he be performing?

kinun=ma   annaz kuit ēššišta   kinunn=a **a[pāt]** ēššaddu
now=CONTR in.past REL performed now=also that   perform.3SG.IMP

'Now, what he used to perform in the past, he should keep performing (exactly) **THAT** now as well.'
'He should do nothing else, and no one should oppress him.'

(Msk. 73.1097 27–29 (NH); Hoffner 2009: 370)

From the preceding context, we can identify a QUD that concerns what obligations the official is to perform; the referent of the correlate, namely the official's prior obligations, is thus the

66

answer to this question. The alternatives are the newly imposed *šaḫḫan* and *luzzi*, and the king rejects these alternatives. In fact, he rejects them explicitly in the subsequent clause "He should do nothing else". The correlate is thus clearly in exclusive focus, and takes the form *apāt*.

In example (76), there is no explicit rejection of alternatives, but it is pragmatically implicit.

(76)   *'But now, my son, send it (i.e., grain) and let them unload it either in Ura or Lašti-x.'*
       QUD: Where should they unload it?

   kuedani URU-ri *ANA* DUMU=*YA* ZAG-na [n=a]n **apiya** katta iš[ḫūwāndu]
   REL.LOC city.LOC to   son=my   fitting CONN=it there unload.3PL.IMP

   'In whichever city is fitting to (you) my son, [let them] unl[oad] it THERE.'

(Bo 2810 16–17 (NH); Hoffner 2009: 363)

The alternative set contains cities; it is not clear whether the set is to be restricted to Ura and Lašti-x or whether there are also some that are not mentioned by name. Nevertheless, even though there is no explicit rejection of alternatives, it can be readily understood that the addressee is to send the grain exactly to the city (or cities?) that he deems in need of grain. The alternatives are cities that are not the best candidate, and it is natural to assume that the writer implicitly excludes these. Thus, the correlate is in exclusive focus, motivating the strong form *apiya*. Note that because the correlate is an adjunct, it could have been omitted (cf. section 3.6.2); the fact that it is overt and represented by a strong pronoun is best attributed to the fact that it is in exclusive focus.

Sometimes, the QUD must be inferred on the basis of the clause's discourse contribution, rather than being explicitly signaled by some preceding clause. Such an example is found in the following example from a scapegoat ritual:

(77) *'Behold, the evil of this army camp . . . , now these rams and the woman have taken it*
      away from the camp.'

nu=war=at=za   [(kuiš)] wemiyazzi nu=wa=za   kī   idālu
CONN=QUOT=them=REFL   REL   meets   CONN=QUOT=REFL   this evil

ÚŠ-an   **apāš**   **KUR-eanza** dāu
plague that   country   take.3SG.IMP

'Whoever meets them, let THAT COUNTRY take this evil plague for itself.'

(KUB 9.31 iii 52–54 (NH); Chrzanowska 2016)

A QUD is not immediately apparent from the preceding context, but from the meaning of the
clause in question, together with world knowledge concerning the goals of a scapegoat ritual,
we can infer a QUD along the lines of "Who shall take the plague?". The important[16] members of
the alternative set are the receiving country and the country of the ritual performers; the whole
point of the ritual is to set up an opposition between the two countries such that the plague
is transferred *off* of the one and *onto* the other. Thus, exclusion of the alternative (the coun-
try of the performers) is guaranteed by the ritual's very purpose. Therefore, we can reasonably
conclude that the correlate is in exclusive focus (as already observed by Goedegebuure (2013:
31)), motivating its strong NP form (since a null subject pronoun, the required weak form for a
transitive predicate, would not be suitable for focus).

The alternative set is not always explicit, as in (78).

(78) *'The king sits down.'*

šuwāru kue G[(AL.ḪI.A akkuš)]kezzi ta   **apē=pat**   ekuzi
full   REL cups   drinks.IMPF   CONN them=FOC   drinks

'The full cups which he is accustomed to drink, he drinks **only THEM**.'

(KBo 17.74 iv 33'–34' (OH/MS); Barsacchi 2017: 39)

---

16. One might also add other countries, but these would be excluded anyway, so the difference is negligible.

There is no mention of other cups in the immediate context. The adjective *šuwāru* 'full' implies other cups that are not full, so an alternative set can be accommodated.[17] Even though the alternatives are implicit, =*pat* overtly indicates the exclusion of alternatives (Hoffner and Melchert 2008: 387), so we can conclude that correlate is in exclusive focus and accordingly takes the form *apē*.

Exclusion of alternatives does not have to be explicit, either. The following example from the Bronze Tablet is itself a complete quotation from an earlier treaty, and thus is entirely self-contained with no surrounding context:

(79)   *'Concerning what was put on my father's treaty tablet as follows:'*

MUNUS.LUGAL=wa=tta kuin MUNUS-*TUM* DAM-anni   pāi   nu=wa
queen=QUOT=you   REL   woman   for.marriage gives CONN=QUOT

INA KUR ^dU-tašša   LUGAL-eznani **apel** DUMU=*ŠU* dāi
in   land Tarḫuntašša in.kingship   her   son=her   put.2SG.IMP

' "The woman that the queen gives you for marriage, put **HER** son in the kingship in the land of Tarḫuntašša." '

'When they made the treaty tablet, Kurunta had not yet taken that woman in my father's time. But now, whether Kurunta takes that woman or does not take her, that ruling does not hold. Whichever son Kurunta prefers, … let him install HIM *in the kingship in the land of Tarḫuntašša.'*

(Bo 86/299 ii 85–86 (NH); Otten 1988: 20)

The implicit alternative set consists of those women with whom Kurunta has sons, one of whom is the wife that the queen was to choose for him. The point of the earlier treaty tablet seems to

---

17. Indeed, we can see elsewhere that sometimes the king performs a libation and then drinks from the same, partially empty cup:

(i)   LUGAL-uš GAL-az   ^dĀšgašepan ^dMUNUS.LUGAL ^dPirwan ḫuppari šipanti ta   ekuzi
       king   with.cup Aškašepa   queen   Pirwa   in.bowl libates CONN drinks
       'The king libates to Aškašepa, the Queen, and Pirwa with a cup into a bowl, and drinks.'
                                                                               (KUB 2.13 iv 12–14 (NH); *HED* H: 389)

have been that Kurunta was only allowed to choose as heir a son from his queen-appointed wife, not from any other woman. We surmise this from the fact that the succeeding context of the new treaty (not part of the quoted treaty) walks back this restriction. This would only make sense if the earlier treaty tablet itself implicitly excludes the alternatives (i.e., the other women). Thus, the correlate is in exclusive focus, even if we must rely on real-world knowledge to infer it, and takes the strong form *apel* as a result. (If not for focus, a dative clitic would presumably have been viable; cf. Hoffner and Melchert 2008: 258).

3.5.1.2   Information focus

Unlike exclusive focus, information focus does not entail the exclusion of alternatives:

(80)   A: So what did you see while you were in Paris?

B: I saw NOTRE DAME.

Here, B informs A that he saw Notre Dame while in Paris, providing an answer to A's question. However, it is by no means entailed that B *only* saw Notre Dame; it is one of the alternatives, and it is the one he presents, but it is not necessarily the only one that he saw.

Clear cases of information focus will be those in which a QUD and relevant alternatives are identifiable, but there is reason to believe that the alternatives are not inherently excluded. The example in (81) is just such a case. The context of this passage is king Ḫattušili III explaining how he rescinded property from Armatarḫunta, a relative who had opposed his accession to the throne, and gave it to his patron goddess Ishtar. He explains what he did with the property:

(81)   *'I gave Ishtar My Lady the property of Armatarḫunta: I withdrew it (from him) and*
        gave it over.'

        QUD: "What did I give over to Ishtar?"

        [an]nallan   kuit   ēšta   **apāt**=ši   parā   peḫḫun
        previously   REL   was   that=her   over   I.gave

        'What had been (there) previously, I gave **THAT** over to her.'
        'And also what I had kept, that too I gave over.'

                                                        (KUB 1.1 iv 68 (NH); Otten 1981: 28)

After saying that he withdrew Armatarḫunta's property and gave it to Ishtar, he elaborates on
this giving. The property is divided into two groups: what had already been on the property,
and what Ḫattušili had kept for himself. These are the members of the alternative set. Each of
these is given over, so we can glean that neither alternative is excluded. The first statement,
the construction presented in (81), thus involves information focus, while the second involves
additive focus (since by that point we have been informed that another alternative is true; see
below). Since the correlate in (81) is in information focus, it takes the strong form *apāt*.

As is inevitable with natural language corpora, especially those of dead languages, there are
some examples where it is difficult to tell whether a constituent is in exclusive or information
focus, because it is not clear whether exclusion of the alternatives is intended. Still, as long as
we can identify that a strong correlate is under focus, then we can explain the correlate's form,
even if we cannot be precise about the subtype of focus.

3.5.1.3 Additive focus

Additive focus entails the truth of at least one of the alternative propositions, as in the follow-
ing:[18]

---

18. In Hittite, the same clitic *=ya* is used for both additive ('also') and scalar ('even') readings. In a corpus language,
it is not always easy to distinguish these; we rely on context, which may not always be available or clear.

(82)   John brought some salsa. He also brought CHIPS.

Here, *chips* is in additive focus (signaled by *also*), and the alternative propositions have the form *John brought x*. Because it is additive focus, it is entailed that one of these alternatives is true. In this case, the preceding context directly gives us that information: we have already been informed the alternative proposition *John brought salsa* is true.

A common feature of additive focus is that it is signaled by an additive particle, such as *also* in English or *auch* in German. In Hittite, the additive particle is the clitic *=ya* 'and, too, also, even', which has an allomorph *=a* that causes gemination of a preceding consonant (as in (83) and (84) below).

Just as in (82), the/a true alternative proposition is typically expressed in the context preceding an occurrence of additive focus:

(83)   *'When the enemy lands heard that Arnuwanda, my brother, was sick, the enemy lands began to be hostile.'*

maḫḫan=ma=za   ᵐArnuandaš ŠEŠ=*YA*   DINGIR-*LIM*-iš kišat   nu
when=CONTR=REFL   Arnuwanda brother=my god   became CONN

KUR.KUR   LÚ.KÚR   *ŪL*=ya   kuiēš   kūruriyaḫḫešker   nu   **apūšš=a**
lands   enemy   not=even REL were.hostile   CONN   those=too

KUR.KUR.MEŠ LÚ.KÚR kūruriyaḫḫer
lands   enemy   became.hostile

'When Arnuwanda, my brother, became a god (= died), even the enemy lands which were not hostile, THOSE **enemy lands too** became hostile.'

(KBo 3.4 i 8–9 (NH); Götze 1967: 16)

In this example, king Muršili II describes the uprising of various neighboring enemies during the political turmoil surrounding the early death of his brother and immediate predecessor Arnuwanda II. The preceding context informs us that some enemies had already started rising up

before Arnuwanda's death. The subsequent correlative construction tells us that the rest of the enemies rose up following Arnuwanda's death. The focus background can be expressed as an open proposition of the sort *Enemy land x rose up*. In the correlative, the set of enemy lands is partitioned into two alternatives: those that were already hostile, and those which had not yet become hostile. One of these alternatives was already discussed, and so the correlative shifts the discourse topic to the other one, and its CC fits that other alternative into the focus slot of the pre-established open proposition. Therefore, since the truth of the alternative proposition is already part of the Common Ground, the correlate is in additive focus.

Although the true alternative is frequently in the preceding context, this is not always the case. It can happen that the truth of an alternative must be accommodated or inferred:

(84) *'Concerning what you yourselves have now written to me: "Pizzumaki told us: 'The enemy is on his way to Marešta. And I (= Pizzumaki?) have sent Pipitaḫi out to do reconnaissance.'" '*

TÙR.ḪI.A=ya=wa	kui[ēš ᵁᴿᵁ]Mare[št]a	manninkuwā[nteš]	**apūšš=a**
sheepfolds=also=QUOT	REL Marešta	in.vicinity	those=also
walḫūwani			
we.attack			

' "Also the sheepfolds that are in the vicinity of Marešta, we will attack THOSE too." '
'Fine. (Y'all) do thus.'

(HKM 17 18–20 (MH/MS); Hoffner 2009: 124)

The correlate *apūš* is marked with the additive particle *=ya*, which suggests that we should read it as being in additive focus. The open proposition would be something like *We will attack x*; the question then is whether we can infer some alternative that would also satisfy this proposition, i.e., something else that the writer would plan to attack. Such an inference can indeed be made: the reconnaissance mission is presumably a prelude to an intended attack on the enemy. Therefore it is easily accommodated that an alternative proposition *We will attack the enemy* is

true, providing the necessary background for a felicitous use of additive focus.

There are some passages where an additive focus interpretation seems the most natural in context, even though the correlate is not accompanied by the additive particle =*ya*:

(85)   *'May they keep giving you life, health, vigor, longevity, the gods' love, the gods' kindness, and joy of spirit.'*

nu	*ANA*	DINGIR.MEŠ	kuit	wē[kti]	nu=tta	**apāt**	peškandu
CONN	to	gods	REL	you.ask	CONN=you	that	give.3PL.IMP.IMPF

'And whatever you ask of the gods, may they keep giving you **THAT** (too).'

(HKM 81 14–15 (MH/MS); Hoffner 2009: 241)

The preceding context lists many other things that the writer wishes upon the addressee. The statements in the context and in the CC have in common the open proposition *May they keep giving you x*. Thus, this proposition is the background for the CC, with the correlate in focus. The things mentioned in the context (life, health, etc.) are members of an alternative set (of things that the gods should keep giving), and their corresponding alternative propositions obviously hold. Since the truth of at least one other alternative is entailed, the focus on the correlate is additive focus, despite the lack of =*ya*.

3.5.2   Contrastive topic

Hittite also uses strong NPs to represent sentential topics that are in contrast with other contextually salient referents (Goedegebuure 2014: 486–502). I put these under the general rubric of *contrastive topic*. I follow Büring 2003 in viewing contrastive topic as a discourse-structuring strategy in which one referent is contrasted with another to highlight parallel or contrasting discourse contributions. The prototypical contrastive topic structure can be modeled as the juxtaposition of different parallel QUDs that are sub-questions to an overarching QUD (CT = contrastive topic, F = focus):

(86) I'm having some friends over for a potluck dinner tonight.

[Q: Who is bringing what?]

a. [sub-Q$_1$: What is John bringing?]

[JOHN]$_{CT}$ is bringing [SOME ROAST CHICKEN]$_F$.

b. [sub-Q$_2$: What is Mary bringing?]

[MARY]$_{CT}$ is bringing [A POTATO SALAD]$_F$.

The following example shows this structure at work with a Hittite correlative construction:

(87) *'The troops of Arzawa went against Madduwatta and overwhelmed absolutely all of Madduwatta's troops.'*

n=aš[ta	^{m}Mad]duwattaš	1[-aš]	p[arašta	KA]RAŠ-za=kan	kūieš	tepaweš
CONN=PTC	Madduwatta	alone	fled	from.army=PTC	REL	few

i[špar]ter	**apāt**=ma=kan	**ḫūman**	a[rḫa	ḫ]ašper=pat
escaped	them=CONTR=PTC	all	completely	they.overwhelmed=FOC

'Madduwatta alone fled. The few who escaped from the army, **all of** THEM they completely overwhelmed.'

(KUB 14.1 Ro 47–48 (MH/MS); Beckman, Bryce, and Cline 2011: 76)

First we are told that the Arzawans overwhelmed Madduwatta's forces. The discourse then shifts to address the QUD "What happened to the defeated forces (i.e., did anyone escape)?". The answer to this question is given in two parts in contrast: one about Madduwatta himself, the only survivor, and the other about his few (initially) surviving troops, who are overrun. The discourse structure can be represented as follows:

(88) [Q: What happened to the defeated forces?]

a. [sub-Q$_1$: What happened to Madduwatta?]

[MADDUWATTA]$_{CT}$ alone escaped.

b. [sub-Q$_2$: What happened to the other troops?]

[All of THEM]$_{CT}$ they completely overwhelmed.

The correlate *apāt ḫūman* is a contrastive topic (signaled by the contrastive topic marker =*ma*), in opposition to Madduwatta as the other contrastive topic. This discourse role licenses its form with a strong pronoun.

As mentioned, this kind of discourse involving multiple juxtaposed QUDs displays the canonical structure for contrastive topics. However, in practice there are many instances of topical referents that stand in contrast to other contextually salient referents, but which do not occur with the prototypical QUD-hierarchy discourse skeleton. I will treat these as contrastive topics as well, recognizing that the QUD model demonstrated above is one idealized embodiment of the phenomenon rather than a rigid definitional paradigm. The QUD model works well for sequences of assertion, where all sentences have similar discourse contributions, but it does not work if some of the contrasted referents are introduced in dependent clauses whose primary discourse role is not to answer a QUD.

In the following example from a treaty, two parallel hypothetical situations are contrasted, each involving the deposing of a ruler from his kingship:

(89) kuiš=ma=kan   *ANA* NUMUN   ^{m.d}LAMMA *ŠA* KUR ^{URU.d}U-tašša
      REL=CONTR=PTC   DAT descendant Kurunta   of land Tarḫuntašša

      LUGAL-eznatar arḫa dāi   našma=at tepnuzi   ... našma=kan kēl
      kingship   away takes or=it   diminishes   or=PTC   this.GEN

      tuppiaš   1-ann=a memiyan waḫnuzi   **apēdani**=ma=kan ^dUTU
      tablet.GEN 1=even word   transgresses him=CONTR=PTC   Sungoddess

      ^{URU}Arinna ^dU   ^{URU}Ḫatti=ya *ŠA* KUR ^{URU}Ḫatti LUGAL-eznatar arḫa
      Arinna   Stormgod Ḫatti=and of land Ḫatti   kingship   away

      dandu
      take.3PL.IMP

‘Whoever takes the kingship of Tarḫuntašša away from a descendant of Kurunta, or diminishes it, …, or transgresses even one word of this tablet, from **HIM** may the Sungoddess of Arinna and the Stormgod of Ḫatti take away the kingship of Ḫatti.’

(Bo 86/299 iii 71–77 (NH); Otten 1988: 24)

The element that we are concerned with is the correlate *apēdani* referring to a king of Ḫatti (presumably a descendant of king Tudḫaliya IV, the treaty's speaker). This referent is contrasted with a descendant of Kurunta (the treaty's recipient), who is king of Tarḫuntašša. The first parallel situation, namely the deposing of Kurunta's descendant from the throne of Tarḫuntašša, is set up in the first disjunct of the RC. In the CC, this is contrasted with the second situation, namely the deposing of the offending king of Ḫatti. While the RC does not have assertive force and thus does not contribute an answer to a QUD, it is clear that the two kings are being treated as contrastive referents structuring the current discourse segment into two parallel situations: the taking-away of a kingship from the descendant of Kurunta on the one hand, and from the offending king of Ḫatti on the other. These two people are alternative topics, and the parallel taking-away predicates are the focus. While the asymmetry of the construction makes a QUD framing difficult, these predicate foci would be the answers to whatever QUDs we might imagine. The correlate should therefore be interpreted as a contrastive topic, an interpretation which

is further signaled by the use of contrastive =*ma.*

In example (90) a particular festival (the festival of the house of Ḫalkiya) is contrasted with other festivals (half-implicitly — they are mentioned as a group):

(90) ^dUTU-*ŠI*=za   kuwapi EZEN*_i* KI.LAM iyazi   ⟨⟨GAL⟩⟩ LÚ.MEŠ
      His.Majesty=REFL when   festival KI.LAM performs   men

      ^{GIŠ}BANŠUR=ya *ŠA* LUGAL kuin EZEN*_j* É   ^dḪalkiyaš ēššūwanzi tiyanzi
      table=also   of king   REL festival house of.Ḫalkiya to.perform begin

      nu=za   ^dUTU-*ŠI*   EZEN.MEŠ*_k* mašiyanki MU.KAM-ti   iyazi
      CONN=REFL His.Majesty festivals   as.often   during.the.year performs

      apūn=ma   **EZEN***_j* šakuwaššaran=pat ēššanzi
      that=CONTR festival in.full=FOC   they.perform

      'Whenever His Majesty performs the KI.LAM festival*_i*, the festival*_j* of the house of Ḫalkiya which the king's table-men also undertake to perform (then), as often as His Majesty performs festivals*_k* during the year, **THAT** **festival***_j* they shall perform in full.'
      Paraphrase: "The Ḫalkiya festival*_j* that the table-men perform whenever the king performs the KI.LAM festival*_i*, they shall perform **THAT** **festival***_j* in full as often as the king performs festivals*_k* during the year."

      (ABoT 1.14 iii 8–15 (NH); Lebrun 1994: 49)

The other festivals are not mentioned in order to answer any QUD on their own, but are instead mentioned in a temporal clause that indicates the frequency intended for the CC. The contrast indicates a contrasting situation of sorts: whenever the king performs some (unspecified) festival at a given point in the year, the table-men will themselves perform the Ḫalkiya festival. The correlate is thus a contrastive topic, signaled by =*ma.*

3.5.3 Deixis

Deictic referents in Hittite are often expressed by NPs containing one of the demonstratives *kā-*, *apā-*, and *aši+*, which have first-, second-, and third-person deixis respectively (Goedegebuure 2014). This is also true of correlates embodying deictic referents. The RC in example (91) refers to a tablet that a messenger has just brought:

(91) kāšma ^mḪašwaraš kuit *ŠA* ^{ḪUR.SAG}Ḫaluna tuppi udaš nu=ššan **apēdani**
there Ḫaswara REL of Mt. Ḫaluna tablet brought CONN=PTC that.LOC

tuppiya maḫḫan kittari nu *QATAMMA* iyatten
tablet.LOC how lies CONN that.way do.2PL.IMP

'The tablet concerning Mt. Ḫaluna which Ḫašwara has brought there (by you), how it lies on **that tablet**, do that.'

(Or 90/1400 4–9 (MH/MS); Hoffner 2009: 253)

Hoffner (2009: 253) believes that the letter containing this passage is merely a cover letter accompanying the aforementioned tablet (aside from a customary introduction identifying sender and recipient, this passage constitutes the entirety of the letter). If this is true, then the tablet being referred to was presumably present in the relevant discourse situation, justifying the use of a deictic NP. This understanding is further corroborated by the use of *kāšma*, which per Rieken (2009) has addressee-oriented deixis (cf. the translation above). Because the tablet is in the addressee's domain from the speaker's point of view at the time of receipt, the second-person demonstrative *apā-* is used.

3.5.4 Referent reactivation after a digression

A strong NP correlate may also be required to bring the referent back to prominence following a digression that separates the RC from its CC. Over the course of the digression, as the structure of information shifts, the referent can lose its high activation status and must therefore be reactivated.

Example (92) comes from a letter, and the intervening material is a quotation from the previous letter in the correspondence.

(92)   nu=mu   zik   kue   ᵐH̱imu-DINGIR-*LIM*-iš   NUMUN.H̱I.A   mematta
           CONN=me   you   REL   H̱imuili   seeds   spoke.2SG

           kē=wa   ᵁᴿᵁDāpikka   aniyanda   kē=ma=wa   ᵁᴿᵁAnziliya
           these=QUOT   Tapikka   sown   these=CONTR=QUOT   Anziliya

           kē=ma=wa   ᵁᴿᵁ[H̱]āriya   kē=ma=wa   ᵁᴿᵁH̱ānikkawa   nu
           these=CONTR=QUOT   H̱ariya   these=CONTR=QUOT   H̱anikkawa   CONN

           apē   **NUMUN.H̱I.A**   kuwapi   pait
           those   seeds   where   went

           'The seeds which you, H̱imuili, spoke to me (about): "These are sown in Tapikka, these in Anziliya, these in H̱ariya, these in H̱anikkawa" — where did **those seeds (of yours)** go?'

(HKM 55 10–17 (MH/MS); Hoffner 2009: 200–201)

The quotation here is a substantial aside and creates a distinct discourse segment. The group of seeds referred to by the RC is divided into four groups which are treated (as a series of contrastive topics *kē=ma*) in parallel. Once we have emerged on the other side of this aside, the saliency of the seeds as a referent — at least as a single group, rather than four distinct subsets — may have diminished and required a boost by means of an overt lexical expression. Additional motivation for the demonstrative *apā-* may come from the fact that these seeds are a concern of the letter's addressee; the demonstrative thus adds a second-person orientation to the referential expression.

In example (93) from the historical Apology of H̱attušili, the digression is a parenthetical aside within the narrative:

(93) nu=mu=kan ŠEŠ=*YA* kue kī KUR.KUR.MEŠ ‹dannatta ŠU-i
CONN=me=PTC brother=my REL these lands empty in.hand

dāiš nu=mu ᵈ*IŠTAR* GAŠAN=*YA* kuit ŠU-za ḫarta nu=za
put CONN=me Ishtar lady=my because by.the.hand held CONN=REFL

LÚ.KÚR.MEŠ kuiēš taruḫḫun kuiēš=ma=mu takšulāir nu=mu ᵈ*IŠTAR*
enemies some I.defeated some=CONTR=me made.peace CONN=me Ishtar

GAŠAN=*YA* GAM-an tiyat nu=za **kē** **KUR.KUR.MEŠ ‹dannatta**
lady=my beside stood CONN=REFL these lands empty

IŠTU NÍ.TE=*YA* EGIR-pa ašešanunun
on.my.own back settled

'These empty lands which my brother put in my hand—because Ishtar my Lady
held me by the hand, I defeated some enemies and some made peace with me —
Ishtar my Lady stood beside me and I resettled **these empty lands** on my own.'

(KUB 1.1 ii 63–67 (NH); Otten 1981: 14)

In the paragraph that ends with this passage, Ḫattušili describes how his brother, King Muwatalli II, made him the (subordinate) king of Ḫakpiš and how Ḫattušili managed his new responsibilities. He pauses the account of his administrative actions (resettling territory) in order to add a comment on how he dealt with hostile groups in the area. Then he resumes the main narration and uses a demonstrative NP to bring the unsettled territories back to referential prominence.

3.5.5 Referent disambiguation

If the discourse has multiple salient referents, a given NP may need to have lexical content in order to avoid ambiguity. In the context preceding example (94), given at length below, king Muršili II describes a series of military affairs:

(94) *'I went to Kalašma against Aparru. … Further, I went to Lakku, and Lakku was a*
      fortified city. He brought troops out of the city and there was a battle at the gates. And
      because Aparru had violated the oathgods, the oathgods took him. … § When I got
      back to Hattuša, because the fortified cities of the land of Kalašma escaped from me
      to the enemy, Tarḫini went with infantry and cavalry,'

nu=kan	ᵐAparrun	kuedani	[IN]A	ᵁᴿᵁLakku	kuenner	nu	ᵐTarḫiniš
CONN=PTC	Aparru	REL.LOC	LOC	Lakku	they.killed	CONN	Tarḫini

[ᵁᴿᵁ]**Lakkun** ēpta
Lakku   seized

'and Lakku in which they had killed Aparru, Tarḫini seized **Lakku**.'

(KBo 2.5 iv 7–9 (NH); Götze 1967: 190–192)

Suppose that the speaker had used a pronoun as the correlate, whether weak (=*an*) or strong
(*apūn*). The CC would read 'Tarḫini seized it', with 'it' intended to refer to Lakku. However, the
same clause would permit another interpretation where 'it' would refer to the enemy,[19] with
Lakku understood as an implicit locative adjunct (cf. section 3.6.2): 'Tarḫini seized it (=the en-
emy) (there)'. Thus, to clarify which referent is intended and avoid ambiguity, a non-pronominal
NP is necessary; in this case, the speaker just used the city's name again, even if such immediate
repetition (without a demonstrative) might seem a little awkward.

3.5.6 Other factors

There may be other reasons for why a strong NP correlate is used. As a suggestive example, I
offer the following passage from a letter to the Hittite queen from a person named Tudḫaliya
concerning the king's dissatisfaction with him. (It is not wholly clear, though often assumed,
that this is the future Tudḫaliya IV writing to his mother Queen Puduḫepa.)

---

19. The word 'enemy' in the preceding context is written logographically (⟨ᴸᳫKÚR⟩), so the underlying Hittite
word or expression is not clear. For this alternative possible interpretation to work, the Hittite would have to be
animate gender, as that is the gender of *Lakkun* and the hypothetical =*an*/*apūn*. The nominative form ᴸᳫKÚR-*aš*,
which has to be animate (neuter nominatives do not end in -*š*), is attested in the Deeds of Šuppiluliuma (KBo 5.6 i
4), written by the same author as (94).

(95) EN=*YA*=kan   kuin ⟨ zamuranun nu=mu=za   **[EN=*Y*]*A*** kue[dani INIM-ni]

lord=my=PTC REL I.offended   CONN=me=REFL lord=my REL.DAT matter.DAT

[p]arā wišket man=**an** ZI-an kuwapi *UL* wa[ršiyanun] *ANA* **EN=*YA***

forth   sent   IRR=him spirit if   not I.appeased   to   lord=my

LÚ.MEŠ SIG₅-*TIM* *UL* ešer

officers   not were

'My Lord whom I offended, [the matter for] which **M[y Lord]** sent me forth, if [I] had not assuaged his anger (lit. ap[peased] **him** (his) spirit), did **My Lord** not have officers?'

(KUB 19.23 3–5 (NH); Hoffner 2009: 347)

Given the tone of the passage (Tudḫaliya aims to ingratiate himself with the queen and defuse the king's anger against him), I think the repetitions of EN=*YA* 'my lord' are best viewed as reverential uses of a formal type of address. Thus, in this particular case the form is motivated not by information structure but by pragmatic factors.

3.5.7 Interim summary

Let us summarize the results of this chapter so far. We have seen that correlates can be realized as various kinds of NP, both prosodically strong and weak. The distribution of weak correlates, meaning clitic pronouns and null pronouns, is sensitive to argument structure and other semantic factors. More specifically, weak subject correlates are realized as clitic pronouns if the predicate is unaccusative, passive, or copular, and they are realized as null pronouns if the predicate is transitive or unergative. Weak object correlates are not sensitive to argument structure, and have a large tendency to be overt, but null object correlates can occur under particular semantic conditions, such as if the referent is inanimate or has low individuation. Null objects also seem to be affected by pragmatic factors like text type, appearing more often in text types that employ technical language or compressed diction, such as legal texts and ritual instructions.

Strong correlates, meaning correlates that are realized as tonic pronouns or as lexical nouns

or quantifiers (with or without accompanying demonstratives), are distributed according to pragmatic factors that primarily (though not solely) involve information structure. A correlate that is in constituent focus or is treated as a contrastive topic will have a strong NP form. Strong correlates, particularly those with lexical material, can also be required if lexical information is necessary for referent identification, such as when a digression has lowered the referent's salience, or when multiple referents are salient and disambiguation is required; in cases like these, the lexical material is needed to supply enough information content to permit the hearer to successfully access the intended referent.

The critical observation is that these conditions on distribution are not unique to correlates. Rather, they are general principles of Hittite grammar that determine the form of NPs; cf. Garrett 1990a, 1996 on the argument-structure sensitivity of weak subject pronouns, Inglese, Rizzo, and Pflugmacher 2019 on the factors conditioning null objects, and Goedegebuure 2014 on the various factors governing the use of Hittite demonstratives and the tonic pronoun *apā-*. This non-special status of correlates will be important for us in section 3.7 when we consider what kind of syntactic object the correlate is and what its relation to the RC is.

3.6 Frame relatives

So far we have discussed the principles that govern the particular form of the correlate. But what about when there is no correlate, as in example (96)?

(96) *ŠA* ŠEŠ ᵐH̬imu-DINGIR-*LIM*=ma kuit uttar h̬atrāeš   n=an=kan
of brother H̬imuili=CONTR   REL matter you.wrote CONN=him=PTC
kāša parā neh̬h̬i
here forth I.send

'(Concerning) the matter of H̬imuili's brother which you wrote about, I have dispatched him (from) here.'

(HKM 2 10–13 (MH/MS); Hoffner 2009: 99)

84

Here, the CC makes reference to Ḫimuili's brother, but the referent of the RC is the *matter* of the brother, not the brother himself. The CC does not refer to the matter, so there is no correlate, strictly speaking. In this section, I explore what frame relatives can tell us about the nature of the correlate in more standard cases. I conclude that the correlative-correlate relation should not be viewed as a tightly controlled relation, because if a correlate does not need to be present, then a tight relation between it and the RC is not what defines the correlative construction.

3.6.1 Frame relatives and bridging relations

The interpretive relation between a basic correlative and its CC is clear, because the correlate in the CC continues the reference. For example, in (97) the correlate =*at* refers to the birds activated by the RC, and so we know how the CC is relevant.

(97)   nu=mu   MUŠEN.ḪI.A   kue   uppešta   n=**at**   arḫa ḫ[ar]ranteš eš[er]
      CONN=me   birds   which   you.sent   CONN=they   spoiled   were

      'The birds which you sent to me, **they** were spoiled.'

<div align="right">

(AT 125 11–12 (NH); Hoffner 2009: 373)

</div>

In a frame relative, since there is no NP to create a direct referential connection, the interpretive relation between the clauses must be inferred: we assume that there is some *bridging relation* (Clark 1977) between the referent of the RC and some part of the CC (be it a referent in that clause or the eventuality that it expresses). In example (96) above, the referent of the RC is some matter to do with Ḫimuili's brother, and the CC explains what the speaker is doing to resolve the matter, namely dispatching him, without strictly needing to mention the matter again. We can thus infer the relation between the two clauses by using various types of reasoning (such as world-knowledge) to understand how the two parts are connected.

The bridging relation between the two clauses can take different forms. In some cases, the CC contains an NP which bears some relation to the referent of the RC, serving as a pseudo-correlate. This was the case for (96), repeated here as (98):

(98) *ŠA* ŠEŠ   ᵐ Ḫimu-DINGIR-*LIM*=ma kuit uttar   ḫatrāeš   n=an=kan
      of brother Ḫimuili=CONTR   REL matter you.wrote CONN=him=PTC

      kāša parā neḫḫi
      here forth I.send

      '(Concerning) the matter of Ḫimuili's brother which you wrote about, I have dis-
      patched him (from) here.'

                                    (HKM 2 10–13 (MH/MS); Hoffner 2009: 99)

The pseudo-correlate in this example is the pronoun =*an* referring to Ḫimuili's brother, who was
mentioned in the RC though he was not strictly its referent. The relation between the RC and the
pseudo-correlate is that between an abstract "matter" and the subject of that matter. Inversely,
in (99) the RC refers to some fields, and there is the implication of some situation involving
them; the pseudo-correlate *apēdani uddanī* remarks about this situation directly without fur-
ther reference to the fields themselves.

(99) *ŠA* ᵁᴿᵁ Kašipūra GU₄.ḪI.A kue ᴬ·ˢᴬ̌ terippi   ᴬ·ˢ̌[Ꞓ] terippiyat nu=tta
      of Kašipura   cattle   REL plowed.fields you.plowed CONN=you

      uwanzi   apēd[an]i uddanī   *IŠT*[*U*] É.[GA]L?-*LIM* *ŪL* punu[šš]a[n]zi
      they.come that.DAT matter.DAT from   palace   not they.question

      'Concerning the plowed fields which you plowed with the cattle of Kasipura, will
      they not proceed to question you on that matter from the palace?'

                                    (HKM 54 18–24 (MH/MS); Hoffner 2009: 199)

In (100) and (101), the RC's referent and the pseudo-correlate have some physical association:

(100) ^{PÍŠ}gapirtan=a=kan kuin *ANA* DÙ[?] EME šipantaš nu
       mouse=CONTR=PTC REL to artificial tongue she.sacrificed CONN

       ^{UZU}NÍG.GIG ^{UZU}ZAG.UDU ḫappinit zanuzi
       intestines shoulder with.flame she.cooks

       'The mouse which she had sacrificed to the artificial[?] tongue, she cooks the in-
       testines and shoulders with the flame.'

                                                    (KBo 15.10 iii 58–59 (OH?/MS); Görke 2013b)

(101) *'Then he places the* uliḫi *into the* tallai-*vessel of refined oil. ...'*

       nu karuwiliyaš *IŠTU* É DINGIR-*LIM* kuiš uliḫi[š] [ud]anza n=ašta
       CONN old ABL temple REL *uliḫi* brought CONN=PTC

       apāt ^{GIŠ}tallai kinuanzi
       that *tallai*-vessel they.open

       'The *uliḫi* which was brought from the old temple, they open that *tallai*-vessel.'

                                                    (KUB 29.4 iv 22–23 (MH/MS); Miller 2004: 295)

In (100), the pseudo-correlate is the intestines and the shoulders, which stand in a part-whole relation with the mouse. In (101), as the preceding context makes clear, the *tallai*-vessel physically contains the *uliḫi* at this point in the ritual, and the RC helps to identify the vessel to be opened.

In other cases, there is nothing that can be identified as a pseudo-correlate. The relation between the two clauses must simply be inferred. In example (102), which comes from a letter from the king to an official Ḫulla, the RC is used to introduce a quotation from the previous letter (this is a common practice in Hittite correspondence):

(102) kiššan=[m]u   kuit ḫatrātten ... § n=ašta   tuk ᵐḪullan kuwapi gimmanti
       as.follows=me   REL you.wrote   CONN=PTC you Ḫulla   when   in.winter

       parā neḫḫun nu=tta   apiya *ŪL* ištamaššer nu=tta   kinun=pat
       out I.sent   CONN=you then   not   they.heard CONN=you now=FOC

       ištamaššer
       they.heard

       'Regarding what you wrote me as follows: *"While we were in Ḫattuša, the Kaškaean*
       men heard, and they drove away cattle. They even began to take control of the
       roads." When I sent you, Ḫulla, out (last) winter, they didn't hear about you then.
       (How is it that) they have heard about you only now?'

                                              (HKM 17 4–12 (MH/MS); Hoffner 2009: 123–124)

The RC and the associated quotation set up the topic of discussion: Ḫulla's report that the en-
emy Kaškaeans were able to monitor his movements and make incursions while he was away
in Ḫattuša. The rest of the discussion does not explicitly refer to the quotation or any of its con-
tents. Rather, it reacts to the message of the quotation. It is easy to infer the discourse relation
binding the RC and the appositional quotation on the one hand to the following material on the
other, but this inference is wholly pragmatic in nature. It is not tied to any correlated linguistic
material in any of the post-quotation clauses.

In example (103), the relation is based on world-knowledge about Hittite legal proceedings:

(103) kuiš ŠEŠ.MEŠ-n=a NIN.MEŠ-n=a ištarna idālu iyazi nu   LUGAL-waš

REL brothers=and sisters=and   among evil does CONN king's

ḫaraššanā šuwāyezzi nu   tuliyan   ḫalzišten

head.ALL   looks   CONN assembly summon.2PL.IMP

'Whoever does evil among both (his) brothers and sisters and looks to the king's
head (with hostile intent), summon the assembly!'

'If his case goes (against him), he shall pay with his head.'

(KBo 3.1 ii 50–51 (OH/NS); Hoffmann 1984: 34)

The referent of the RC is a hypothetical offender against the king, but this referent does not occur in the following clause, and there is no NP that could even be a pseudo-correlate. To infer the connection between the two clauses, we must understand that the crime described warrants prosecution, and that such prosecution means calling an assembly to judge the offender's case. The relation is one of condition and result. It is worth noting here that universal indefinite correlatives such as in (103) are semantically similar to conditionals (see, e.g., Bittner 2001; Arsenijević 2009). The corresponding conditional would read as "If anyone does evil among both brothers and sisters and looks to the king's head (with hostile intent), summon the assembly!" The relation between the two clauses here is easily inferred even without an anaphoric element.

3.6.2   Adjunct "correlates"

Some correlatives are interpretively related to their CC in the manner of an adjunct to the predicate. This adjunct can be made explicit with an overt correlate, or it can be left implicit without a correlate. In those that appear without correlates, the relation between the clauses must be inferred, just like with frame relatives. In keeping with the fact that predicate adjuncts can serve various functions, these correlatives can be related to the CC in various ways. One is by defining the temporal circumstances of the CC (whether as a point in time or as an interval); the temporal Rel NP in such cases can either be the adverbial form *kuwapi* 'when' (104a) or a (temporal)

89

locative NP (104b).[20]

(104)   a.   nu=za   *ABU=YA*   kuwapi   DINGIR-*LIM*-iš DÙ-at

CONN=REFL father=my   REL.when   god   became

ᵐArnuandaš=ma=za=kan   ŠEŠ=*YA*   *ANA* ᴳᴵˢGU.ZA *ABI=ŠU*   ešat

Arnuwanda=CONTR=REFL=PTC brother=my on   throne   father=his sat

'When my father died (lit. became a god), Arnuwanda, my brother, sat upon
on his father's throne.'

(KBo 3.4 i 4 (NH); Götze 1967: 14)

b.   *'But your ride did not come back promptly, and my messenger did not come
either. Thereupon I [sent] Zuzu, charioteer and eunuch, [but he] was delayed.'*

ᵐPiḫašduš=ma   kuedani mēḫuni   āraš   nu   karū   ŠE₁₂   [kišat]

Piḫašdu=CONTR REL.LOC time.LOC arrived CONN already winter became

'The moment at which Piḫašdu did arrive, it [was] already winter.'

(KUB 21.38 Ro 23' (NH); Hoffner 2009: 284)

The correlative can also have a locatival significance:

(105)   nu   SÍSKUR   kuedani parni   iššaḫḫi nu   ᴳᴵˢBANŠUR GIBIL kittari

CONN offerings REL.LOC house.LOC I.make CONN table   new   is.placed

'The house in which I make offerings, a new table is placed.'

(KUB 7.5 ii 5–6 (pre-NH/NS); Mouton 2012)

---

20. Craig Melchert (p.c.) argues that temporal *kuwapi* has been fully grammaticalized as a temporal marker and
is no longer to be considered a Rel, noting that it can occasionally be used in the meaning 'if' (Rieken and Sasseville
2012: 127). This claim potentially contrasts with the claim of Hall and Caponigro (2010) that English *when* is a *wh*-
type Rel and that *when*-clauses are free relatives. Note that *kuwapi* is built to the same stem as the rest of the Hittite
Rel system, and that the form *kuwapi* has a (spatial) locative use which can be nothing other than a Rel. The matter
deserves further investigation, but I leave it aside here as it does not significantly affect my argument.

Other kinds of adjunct relations are possible; (106) shows a correlative that supplies the instrument of the predicate in the CC.

(106) *'Then they pour a little fine oil into two vessels. They put one vessel upon flatbread, while they hold one vessel in the aforementioned way.'*

nu=kan   *ANA* NINDA.SIG kuiš kittari   nu   DINGIR-*LUM* iškanzi
CONN=PTC on   flatbread   REL is.placed CONN god   they.anoint

'The one which is placed upon the flatbread, they anoint the god.'

(KUB 12.12 vi 33–34 (pre-NH/NS); Dinçol 1989: 31)

The specific nature of the relation in these cases must be inferred pragmatically. For example, there is nothing about a vessel that requires an instrumental association as in (106); in principle, one could use just the same correlative in the context of putting something *inside* the vessel. (Some referents, such as expressions of time, do inherently favor a particular interpretation, but this is a pragmatic effect, not a grammatical principle.)

Although adjunct relations such as these can be inferred without the need for any correlate, that is not to say that a correlate cannot occur in such a construction. Indeed, certain factors may specifically warrant the use of a correlate, such as exclusive focus, as shown in the following examples; (107a) shows an overt temporal adjunct correlate and (107b) shows an overt locative correlate.

(107) a. n=ašta   tuk ᵐḪullan kuwapi   gimmanti parā neḫḫun nu=tta
           CONN=PTC you Ḫulla   REL.when in.winter out   I.sent   CONN=you
           apiya *ŪL* ištamaššer nu=tta   kinun=pat ištamaššer
           then   not they.heard CONN=you now=FOC   they.heard

'When I sent you, Hulla, out (last) winter, they (=enemies) didn't hear of you THEN. Only NOW have they heard of you.'

(HKM 17 9–12 (MH/MS); Hoffner 2009: 124)

b. nu=šši   kuin   URU-an   ^{LÚ}*BEL MADGALTI*   maniyaḫzi   nu=za

     CONN=him   REL   city   governor   assigns   CONN=REFL

     ḫappar **apiya** i[ezzi]

     sale   there   makes

'Whatever city the governor assigns to him, he shall make himself a sale **THERE**.'

'[In anot]her city he may not make a sale on his own account.'

(KUB 13.27+23.77 87'–88' (MH/MS); Goedegebuure 2014: 416)

I believe that the variation between the presence and absence of a correlate in these cases is easily explained by ordinary grammatical principles. Adjuncts, by their nature, are peripheral to the event indicated by the predicate, and as such, they are not syntactically required. It is common in discourse for these sorts of relations to be inferred rather than explicitly spelled out. Consider the following English example:

(108)   Bill flew into LA on Monday. He got a taxi to his hotel.

An assumption of discourse coherence compels us to infer that the taxi-getting happened on Monday (and even more specifically, right after he left the airport), even though there is no adjunct in the second sentence that outright states this. The same principle applies in the case of these correlatives: the hearer infers a relation that preserves natural discourse coherence in accordance with their world knowledge. No overt correlate is necessary to mediate such an inference. However, other (independent) factors, such as the structural prominence required by exclusive focus, can create a need for an overt correlate.

3.6.3   Set-member correlates

So far, we have seen standard correlatives with a correlate that refers to exactly to the same referent, and frame relatives that do not have a correlate referring to the same referent. There are some correlatives that fall in between these two poles: correlatives whose referent is a set of individuals paired with a correlate that refers to a member of that set. Thus, the reference

relation between the correlative and the correlate is not exact coreference, but a set-member relation.

Many such correlatives have an indefinite NP containing *kuiški* 'some(one), some(thing)' as the correlate:

(109)   *MAMETE*.MEŠ=mu kue peran linqan ḫarta   nu=kan   *ŪL* **kuitki** waḫnut
           oaths=me   REL before sworn he.had CONN=PTC not some he.broke

           'The oaths which he had sworn before me, he did not break **any**.'

                                                (Bo 86/299 ii 49–50 (NH); Otten 1988: 18)

The RC here refers to the whole set of oaths, but the correlate has only singular reference; universal coverage is effected by the truth-conditional equivalence of the negative existential to a universal negative, but this does not mean that the correlate refers to the set itself. A similar quantificational result is achieved in (110), where the correlate is the distributive pronoun *kuišša* 'each (one)':

(110)   *ŠA* NA₄.ḪI.A=ya kuiēš GUNNI.MEŠ [(nu)] **kuišša** 1 GÍN
           of   stones=and REL   hearths   CONN each   1 shekel

           'And the hearths which are of stones, **each** is one shekel.'

                                             (KBo 4.1 Vo 21–22 (pre-NH/NS); Görke 2012)

Because *kuišša* is a distributive pronoun, it covers every member of the set, but it does not do so by itself referring to the set.

Though the above examples illustrate set-member correlates that end up covering every member of the set, this is by no means a necessary element of these correlative constructions. In example (111), the correlate is 1 MÁŠ.GAL 'one goat', referring to a single member of the set of goats:

93

(111) MÁŠ.GAL.HI.A=ya=wa=šši kuiēš tūriyanteš nu=kan   *ANA* **1 MÁŠ.GAL** KUN
       goats=also=QUOT=him   REL harnessed CONN=PTC on 1 goat   tail

       arḫa mauššanza
       off fallen

       'Also the goats which are harnessed for him, the tail on **one goat** has fallen off.'

<div align="right">(KUB 5.7 Vo 27–28 (pre-NH/NS); García Trabazo 2002: 620–622)</div>

There is no reason to suspect that the fallen-tail property mentioned in the CC applies to more than the one goat mentioned, much less to the whole set.

Because the correlate can refer to a member of the set indicated by the RC, it is also possible for there to be *multiple* correlates, each referring to a member of the set:

(112) našma=za kuiēš EN.MEŠ DUMU.MEŠ LUGAL=ya nu=za   *ŠA MAMETI*
       or=REFL REL lords princes=and   CONN=REFL of allegiance

       lē **kuiški** **kuedanikk[i]** kišari
       PROH someone to.someone becomes

       'Or you who are lords and princes, let **no one** become of allegiance to **anyone**.'

<div align="right">(KUB 21.42 iii 3–5 (NH); Miller 2013: 288)</div>

In this passage, king Tudḫaliya IV hopes to maintain the allegiance of his vassals through this oath. The RC refers to the set of vassals (lords and princes), and the CC forbids them to swear fealty to each other instead of him. To express this, Tudḫaliya gives a pairwise prohibition and uses two indefinite pronouns to refer to the members of the pair (which, being in the scope of negation, varies across the set as in examples (109) and (110)).

An interesting inversion of the set-member correspondence occurs in the following example:

(113)   *'Behold, the evil of this army camp . . . , now these rams and the woman have taken*
        it away from the camp.'

nu=war=at=za   [(kuiš)] wemiyazzi nu=wa=za   kī   idālu
CONN=QUOT=them=REFL REL   meets   CONN=QUOT=REFL this evil

ÚŠ-an **apāš KUR-eanza** dāu
plague that   country   take.3SG.IMP

'Whoever meets them, let **THAT country** take this evil plague for itself.'

(KUB 9.31 iii 52–54 (NH); Chrzanowska 2016)

The correlate refers to a country, which can be viewed (metonymically) as a set of individual
inhabitants. The RC evidently refers to one of those inhabitants, namely the one who first en-
counters the scapegoat group. In this case, then, the correlate refers to a set identified by its
member, rather than a member of a predefined set as in the other examples.[21]

3.6.4   Frame or null object?

Some correlative constructions are ambiguous between a frame interpretation and a null object
interpretation. This is the case when the predicate of the CC could be taken either as transitive
with a null object or as an unergative intransitive:

(114)   a.   DUB.ḪI.A=k[a]n kue udanzi   nu   [n]eš[u]mnili ḫatreške
             tablets=PTC   REL they.bring CONN in.Hittite   write.2SG.IMP.IMPF

             'The tablets which they bring (here), always write (them?) in Hittite.'

(VBoT 2 24–25 (MH/MS); Hoffner 2009: 272)

---

21. We can think of this as dividing the set of all people into equivalence classes based on their country, and
choosing one of those equivalence classes based on a representative member.

b. nu=mu   kuin [memian] uda[n]zi   nu   *ANA* EN=*YA*   ḫatrāmi

    CONN=me   REL word   they.bring CONN to   lord=my I.write

'Whatever [word] they bring to me, I will write (it?) to My Lord.'

(KUB 57.1 18–19 (NH); Hoffner 2009: 358)

In both of these examples, the verb is *ḫatrai-* 'write', which can be either transitive or intransitive. It is not clear what the speaker intended. As discussed in section 3.4.1, null object correlates are possible in Hittite, so a transitive reading is possible in these contexts. However, it is also possible to read these examples intransitively, with example (114b) taking on something of an unconditional flavor ("No matter what word..."). I do not think it is possible for us to decide between these options; we must simply acknowledge the ambiguity.

3.6.5   Set-member correlates: more evidence against the matching requirement

In the last chapter, we saw that the matching requirement can be violated in Hittite. In multiple correlatives, often one of the Rels is not matched by a correlate. In a number of frame relatives, we see that the single Rel is not matched. The following example with two set-member correlates provides evidence against the matching requirement, but from the *opposite* direction: there are more correlates than Rels.

(115) našma=za kuiēš EN.MEŠ DUMU.MEŠ LUGAL=ya nu=za   *ŠA MAMETI*

       or=REFL REL   lords   princes=and   CONN=REFL of allegiance

       lē   **kuiški**   **kuedanikk[i]** kišari
       PROH someone to.someone   becomes

'Or you who are lords and princes, let **no one** become of allegiance to **anyone**.'

(KUB 21.42 iii 3–5 (NH); Miller 2013: 288)

Here, the RC has a single Rel and refers to a set of vassals, but there are two correlates, each selecting a member of that set. A similar, though non-set-member, example is the following:

(116)　[tu]el　kuit　[*NA*]*PŠATU*　apiya　nu=ššan　　***NAPŠATU***　　*ANA*　***NAPŠATI***

　　　your　REL　labor.group　there　CONN=PTC　labor.group　to　　labor.group

　　　anda ēp　　　　　n=at=mu　　　　　uppi

　　　combine.2SG.IMP　CONN=them=me　send.2SG.IMP

'Regarding your labor group which is over there: combine **(one) labor group** with **(another) labor group**, and send them[22] to me.'

(HKM 19 29–30, l.e. 1–3 (MH/MS); Hoffner 2009: 131)

The RC refers to a singular labor group (its number is shown by the singular Rel *kuit*), but in the CC two separate labor groups are mentioned, each evidently a (pseudo-)correlate in some fashion.

Thus, we see that the matching requirement may be violated in Hittite correlatives in both directions: there can be fewer correlates than Rels or there can be more correlates than Rels. This further corroborates the conclusion from section 2.5.2.1 that the matching requirement does not operate in Hittite. This conclusion suggests that we should reexamine other languages where the matching requirement is said to hold, to check whether it holds up to scrutiny. We can then also investigate what factors influence whether a language has a matching requirement or not.

3.6.6　Summary

In this section we have discussed some non-prototypical types of correlative construction. Chief among these is the frame relative, in which the correlative is related to the CC chiefly by means of an inferred bridging relation; there may be a pseudo-correlate acting as a sort of anchor for the bridging relation (e.g., a referent standing in a metonymic relation with the correlative's referent), but this is certainly not necessary for the construction to work. A very similar type of correlative is associated to the predicate of the correlate clause as something like an adjunct,

---

22. The pronoun =*at* could be either singular or plural in Middle Hittite, and it is not clear from context which number we should assume here. I translate it as "them" to make the English sound a bit more natural.

though mediated through an inferred relation rather than by syntactic means (given the syntactic optionality of adjuncts). A third type of non-prototypical correlative construction involves a relative clause that refers to a set and a correlate that refers to one of its members. Some of these set-member frame relatives provide additional evidence that Hittite does not observe the matching requirement for correlatives.

3.7 The correlate is an anaphor

Let us now synthesize the observations made in the preceding discussion and return to the question with which we opened the chapter: what is the nature of the relation between the correlative and its correlate? We have seen that the form of the correlate is decided by general principles of Hittite syntax, information structure, and referential marking. We have seen that correlates do not need to match the RC with exact coreference, but can instead be related by set-member relations or even more distant bridging associations. We have seen that a single correlative can have multiple distinct correlates even in one CC. And we have seen that a correlate is not even required at all. I argue that the best explanation for these properties is that the correlate is an anaphoric NP whose interpretation is determined at the discourse level. Arsenijević (2009: 148–153) makes a similar claim for correlates in Serbo-Croatian, though he justifies it on different grounds.

3.7.1 Natural properties for anaphoric NPs

The correlate being an anaphor is the simplest way to explain the principles governing the forms it can take. Anaphoric NPs in Hittite can take any form (ranging from null subjects and objects to lexical NPs) in principle but are subject to particular conditions, the same ones outlined earlier in this chapter. If the correlate is an anaphor too, then it is no surprise that the same principles determine the form of the correlate. In other words, if we can fully account for the form of the correlate on the basis of the rules already established for anaphoric NPs in general, by Occam's razor the simplest way to explain that is that the correlate is just another one of those anaphoric NPs. The only difference is that it happens to be anaphoric to a preceding correlative, whereas

other anaphors are anaphoric to some non-correlative NP in a preceding sentence.

Treating the correlative-correlate relationship as one of discourse anaphora also furnishes straightforward explanations for the non-standard types of correlative constructions. First, regarding frame relatives, we need only observe that sentences in discourse can be interpretively linked to one another without having any anaphoric elements between them, such as the causal relationship between the following sentences:

(117)   There was another wildfire this weekend. Everyone stayed indoors.

It is readily understood that the reason for staying indoors is the danger posed by the wildfire, even without any explicit mention of the fire in the second sentence. We can thus understand frame relatives and their lack of a correlate in the same way that we understand that sentences can be linked without an anaphoric tie. Anaphors are optional as long as the bridging inference can successfully be made, and by that token correlates are optional under the same condition. It is also easy to explain why correlatives can have multiple correlates: there is no inherent restriction on how many anaphors a sentence can have. Thus, the reason that Hittite correlatives do not observe the matching requirement is simple: there is no such restriction on anaphora.

Moreover, anaphora avoids unattractive assumptions in the case of complex constructions where a correlative is linked to multiple NPs in subsequent clauses, such as in the following example:

(118)   ᵐMaraššantaš=ma   kuit   *ṬUPPU* ḫarzi n=**at**   uezzi mān udai   n=**at**
        Maraššanta=CONTR REL tablet   has   CONN=it goes if   brings CONN=it
        le   dattari
        PROH is.accepted

        'The tablet which Maraššanta has, if he proceeds to bring **it**, let **it** not be accepted.'

        (Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

Here, the RC precedes a conditional construction, and there seems to be a correlate in each

99

clause of the conditional. Under the assumption that correlates are anaphors, this situation is unproblematic: each clause just happens to have an anaphor linking back to that referent. A further benefit of this hypothesis is that, since both of these correlates are simple anaphors, they have the same status. It would be unattractive to have to say that the first one is the "true" correlate and treat the second differently. Indeed, we would still probably need to treat the second pronoun as an anaphor, forcing a distinction between the two pronouns for which there is no other indication.

3.7.2 Against a variable binding approach

Let us return to Dayal's (1996) analysis of the correlate, in which it is a variable bound by the RC:

(119)

$$IP$$
$$\lambda P.P(\sigma x_i(girl(x_i) \wedge stand(x_i)))(\lambda x_i.tall(x_i))$$
$$= \lambda x_i.tall(x_i)(\sigma x_i(girl(x_i) \wedge stand(x_i)))$$
$$= tall(\sigma x_i(girl(x_i) \wedge stand(x_i)))$$

CP_i

$\lambda P.P(\sigma x_i(girl(x_i) \wedge stand(x_i)))$

jo laRkii khaRii hai

IP

$tall(x_i)$

NP_i

$\lambda P.P(x_i)$

vo

VP

$tall$

lambii hai
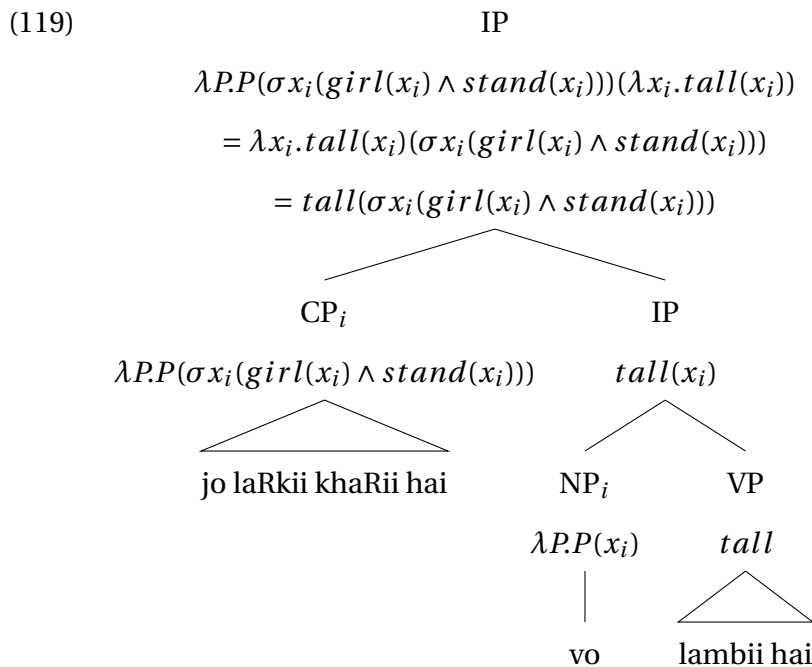
In this section, I will remark on several ways that this model of correlate valuation does not fit the kinds of correlative constructions we find in Hittite.

3.7.2.1 Frame relatives

One key assumption distinguishes the binding approach from the anaphor approach which I have proposed: the treatment of the RC as a generalized quantifier. The quantifier values a vari-

able in the CC predicate. Crucially, this requires having a variable in the CC predicate to bind. This means that the variable-binding approach only works for correlatives that are paired with a correlate. Frame relatives, where the CC does not include a correlate to act as a bindable variable, are incompatible with this approach. Dayal (1996: 182) notes that her account mandates a correlate, since otherwise there would be vacuous quantification. For her, this is a virtue of her account for Hindi, because Hindi evidently does not permit frame relatives (p. 182, fn. 24). Since Hittite does, this is instead a critical problem for applying this approach to Hittite correlatives.

Note that pseudo-correlates such as in (120) are not viable variables.

(120) *ŠA* ŠEŠ   ^mḪimu-DINGIR-*LIM*=ma kuit uttar   ḫatrāeš   n=an=kan
       of brother Ḫimuili=CONTR   REL matter you.wrote CONN=him=PTC
       kāša parā neḫḫi
       here forth I.send

       '(Concerning) the matter of Ḫimuili's brother which you wrote about, I have dispatched him (from) here.

(HKM 2 10–13 (MH/MS); Hoffner 2009: 99)

Pseudo-correlates are referential either to an entity or to an eventuality (depending on the kind of bridging involved), and so are independently valued. A binding-approach derivation would proceed (and crash) as follows:

(121)

$$\text{IP}$$

$$\lambda P.P(\sigma x_i(matter(x_i) \wedge write(w_{you}, x_i)))(dispatch(y_I, z_{him}))$$

$$= \boldsymbol{dispatch(y_I, z_{him})(\sigma x_i(matter(x_i) \wedge write(w_{you}, x_i)))}$$

CP	IP
$\lambda P.P(\sigma x_i(matter(x_i) \wedge write(w_{you}, x_i)))$	$dispatch(y_I, z_{him})$
ŠA ŠEŠ ^mḪimu-DINGIR-*LIM*=ma kuit uttar ḫatrāeš	n=an=kan kāša parā neḫḫi
the matter of Ḫ.'s brother which you wrote about	I have dispatched him (from) here
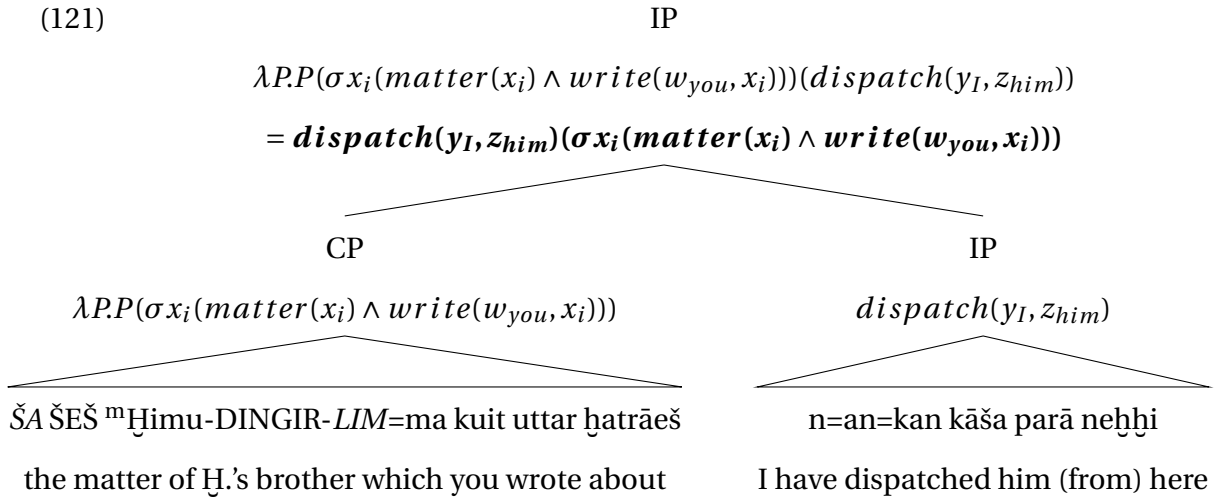
When the CP and IP are combined, the types are mismatched: the CP quantifier is looking for a property argument, but the IP is a proposition, not a property. An attempt to combine the two will result in the ill-formed formula in bold, where the sigma expression is offered as an argument to the proposition $dispatch(y_I, z_{him})$, which cannot take an argument.

3.7.2.2 Set-member correlates

In the variable-binding model, where the correlate is assigned the exact value of the RC, it is not possible to account for set-member correlates because such correlates do not have the exact value of the RC, which is a set of individuals.[23] The correlate does not refer to this set, but to one of its members:

(122) MÁŠ.GAL.HI.A=ya=wa=šši kuiēš tūriyanteš nu=kan *ANA* **1 MÁŠ.GAL** KUN
goats=and=QUOT=him REL harnessed CONN=PTC on 1 goat tail

arḫa mauššanza
off fallen

'And the goats which are harnessed for him, the tail on **one goat** has fallen off.'

(KUB 5.7 Vo 27–28 (pre-NH/NS); García Trabazo 2002: 620–622)

---

23. Here I am speaking in referential terms, not in model-theoretic terms (where a property is modeled as a set of individuals).

In (122), the RC refers to a set of goats, but the correlate refers to only one of the goats. If the correlate were a variable bound by the RC, it should take on the value of the RC. That is exactly what Dayal's (1996) analysis in (282b) predicts (using a simplified representation for datives):

(123)

$$\lambda P.P(\sigma x_i(goats(x_i) \wedge harnessed(x_i, y_{him})))(\lambda x_i.fallen(z_{tail}, x_i))$$

$$= \lambda x_i.fallen(z_{tail}, x_i)(\sigma x_i(goats(x_i) \wedge harnessed(x_i, y_{him})))$$

$$\boldsymbol{= fallen(z_{tail}, \sigma x_i(goats(x_i) \wedge harnessed(x_i, y_{him})))}$$

IP

      CP   IP

$\lambda P.P(\sigma x_i(goats(x_i) \wedge harnessed(x_i, y_{him})))$ $fallen(z_{tail}, x_i)$

MÁŠ.GAL.HI.A=ya=wa=šši kuiēš tūriyanteš   nu=kan *ANA* 1 MÁŠ.GAL

And the goats which are harnessed for him   KUN arḫa mauššanza

                                       the tail on one goat has fallen off
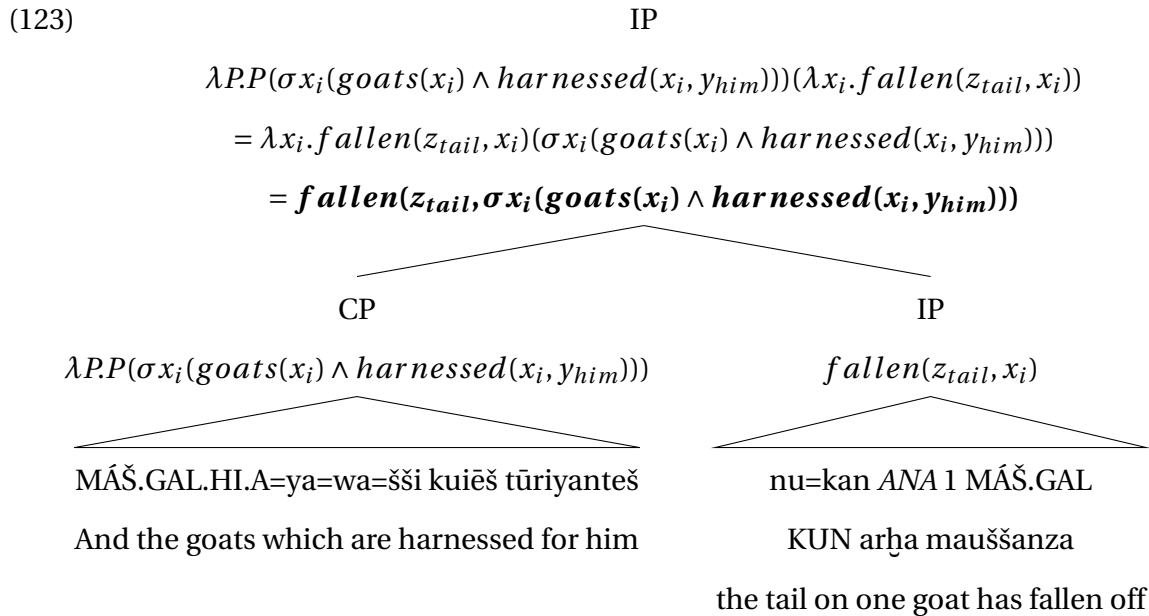
From the bolded formula, we can see that the binding approach would apply the CC predicate to the entire sigma term, which represents the RC referent as a maximal entity (x_i = **goat₁**+**goat₂**+**goat₃**+…). The bolded formula thus says that the tail of every goat fell off, which is not what the text says. Thus, the variable account makes the wrong predictions.

Note that the sample derivation I just ran through assumes that the correlate is a variable. For (122), where the correlate is a lexical, quantified noun phrase 1 MÁŠ.GAL 'one goat', this assumption would require discarding the semantic contribution of all the lexical material, a move which is in my view untenable.

It also is not possible to achieve the inverse relationship, where the RC refers to an individual and the correlate to a set containing that individual, as exemplified in (113), repeated below as (124).

(124)   *'Behold, the evil of this army camp …, now these rams and the woman have taken*
         it away from the camp.'

nu=war=at=za	[(kuiš)]	wemiyazzi	nu=wa=za	kī	idālu
CONN=QUOT=them=REFL	REL	meets	CONN=QUOT=REFL	this	evil

ÚŠ-an	**apāš**	**KUR-eanza**	dāu
plague	that	country	take.3SG.IMP

'Whoever meets them, let **THAT country** take this evil plague for itself.'

(KUB 9.31 iii 52–54 (NH); Chrzanowska 2016)

Under the variable-binding approach, we would predict that the correlate *apāš* KUR-*eanza* 'that country' would take on the exact value of the RC, namely a single individual. It seems very unlikely to me that the speaker would intend for just one person[24] to take the plague, so I think this prediction is not borne out. The most natural interpretation of 'that country' is that it refers either to the individual territorial entity or to the personal entities that are its inhabitants. Thus, the variable-binding approach fails to predict the most pragmatically natural interpretation of this passage.

3.7.2.3   Number mismatch between correlative and correlate

In example (125), the correlate fails to agree in number with the RC:

---

24. One might alternatively assume that the RC has a universal reading here, referring to a set of people who meet the scapegoats. However, unless we assume that all inhabitants of the country encounter the scapegoats — pragmatically unlikely, in my opinion — or assume some bizarre understanding of 'country', we still do not have equivalence of sets.

(125) nu   kuiš   *ANA* ^dUTU-*ŠI*   kūrur   *ANA* LÚ.MEŠ ^{URU}Paḫḫuwa=ya=**at**
       CONN   REL.SG to   His.Majesty   enemy   to   people   Paḫḫuwa=also=they

       kūrur   ašandu
       enemy be.3PL.IMP

       'Whoever is an enemy to His Majesty, let **them** also be an enemy to the people of
       Paḫḫuwa.'

<div align="right">

(KUB 23.72 Vo 21 (MH/MS); Reichmuth 2011: 118)

</div>

The referent of the RC is grammatically singular while the correlate is plural, as shown by the form =*at* (instead of singular =*aš*) and by the plural agreement on the verb in the CC. This is a straightforward case of *constructio ad sensum*, because the RC is indefinite and has universal reference, covering all individuals who are enemies of His Majesty. The plurality of the correlate reflects this universality as a pragmatic effect, overriding the singular agreement we would expect by grammatical rule. If the correlate received its value from the RC by syntactic binding, we would expect it to be singular. It is much easier to explain the number mismatch in the anaphoric approach, since *constructio ad sensum* is a not-uncommon phenomenon in anaphoric contexts (cf. Melchert 2013: 176; Brosch 2016: 68).

3.7.2.4   Coordination with noun phrases

Correlatives in Hittite can be coordinated with noun phrases:

(126) *'Because the land of Tummanna remained on my father's side,'*

nu	URUTūmmannan	URU-an	namma=ya	kuiēš	URU.DIDLI.ḪI.A
CONN	Tummanna.ACC	city.ACC	further=and	REL	cities

BÀD	wedanteš	ešer	n=aš	LÚ.KÚR	URUGašgaš	ḫarnikta
fortified	built.up	were	CONN=them.ACC	enemy	Kaška	destroyed

namma=aš=za	ešantat=pat
furthermore=them=REFL	possessed=FOC

'the city of Tummanna and the further fortified cities which had been built.up, the Kaškaean enemy destroyed them and, furthermore, possessed them, too.'

(KBo 5.8 ii 15–18 (NH); Götze 1967: 152)

In (126) the RC is coordinated (via the additive particle *=ya*) with an NP referring to the city of Tummanna, and the correlate *=aš* refers to the combination of both. That the city is also part of the correlate's antecedent is indicated by its anticipatory accusative marking. Treating the RC as a generalized quantifier would require treating the NP the same way by type-raising it, or else we would have coordination of type-mismatched elements. In my opinion, the treatment of the dislocated NP as anything other than a plain entity (type *e*) is misguided. The quantifier model of correlatives makes the semantics of the NP more complicated than is warranted, given that it is referential and definite (in fact, the RC is as well). I see no obvious theory-external reason to assume quantificational behavior here. The anaphor model of correlatives avoids such complications: both NP and RC can be type *e*, and the correlate is simply anaphoric to their union.

3.8 Conclusion

In this chapter, we have seen that the distribution of correlate forms in Hittite is exactly in line with the distribution of anaphoric NPs, subject to the same structural principles. The distribution of weak correlates is sensitive to the predicate's argument structure: clitic pronouns occur as objects and as subjects to unaccusative and passive predicates, while null pronouns occur

as subjects to transitive and unergative predicates and infrequently as objects (under certain semantic and pragmatic conditions). Correlates occur as strong NPs (tonic pronouns or lexical NPs) if they bear information-structural prominence in the clause, as the focus of the clause or as a contrastive topic. Lexical NPs are also favored in cases where identification of the referent requires explicit information content, either because the referent has lost salience due to intervening discourse or because there are multiple salient referents that must be distinguished.

Frame relatives do not pair with an exact correlate. These associate with the CC by means of a bridging relation that is inferred at the pragmatic level. The degree of bridging required lies on a spectrum. In some cases, there is a pseudo-correlate which bears some close association (e.g., body part) with the referent of the RC. In others, there is no NP in the CC that functions as a nexus for such an association. Instead, the link between the two clauses must be inferred on the basis of world knowledge. Similar bridging relations are necessary with correlatives that function as adjuncts for the CC predicate, and for set-referring correlatives that are paired with correlates selecting a member of that set. These non-prototypical correlate types show that strict coreference with a nominal element is not a requirement for correlative constructions in Hittite.

The best way to understand this behavior is to regard the correlate as an ordinary anaphoric NP in the clause. The correlate is simply a vehicle for continued reference following a correlative, and is omissible under suitable discourse conditions. As an ordinary anaphor, it conforms to the distributional patterns that all anaphoric NPs follow in the language. For the purposes of deciding the form of the correlate, the grammar does not seem to pay any attention to the fact that it is linked with a correlative. Moreover, after the introduction of a correlative, if the speaker chooses not to mention that referent again overtly, there is no violation as long as the discourse is coherent.

CHAPTER 4

A paratactic approach to correlatives

4.1 Introduction

In the previous chapter, we began our investigation of the syntax of Hittite correlative construc-tions by focusing narrowly on the correlate. Now we turn our attention to the construction as a whole. In this chapter, I address two related questions concerning the syntactic relation be-tween the two clauses:

(127) i. How does the RC come to be in its position on the left side of the CC?

     ii. What exactly is that position's relation to the CC?

Previous research on correlatives in various languages has offered several different answers to these questions. Answers to question (i) differ primarily in whether the correlative's left-edge position is derived through movement (Mahajan 2000 and Bhatt 2003 on Hindi) or is taken to be its base position (e.g., Srivastav 1991/Dayal 1996 on Hindi). Answers to question (ii) are more varied, but both subordinating approaches (e.g., Bhatt 2003 and Srivastav 1991/Dayal 1996) and (quasi-)paratactic approaches (e.g., Lipták 2009a) appear in the literature. I advo-cate a base-generation approach for Hittite correlatives, though one different from Srivastav's (1991)/Dayal's (1996) in one key aspect: I will argue that the correlative is not a syntactic sub-constituent of the main clause. Rather, the two clauses stand in a paratactic relation and form a constituent at the level of discourse instead of narrow syntax.

The chapter is organized as follows. In section 4.2, I evaluate two major approaches to cor-relative formation, namely those that derive correlatives via movement and those that treat

them as base-generated in their observed position, and demonstrate that the evidence decisively supports base-generation for Hittite. In section 4.3, I argue for a paratactic analysis of Hittie correlative syntax by identifying correlatives as clausal hanging topics. I then introduce a discourse-oriented model of the proposed paratactic structure in section 4.4. With these core analytic pieces of my proposal in place, in section 4.5 I examine alternative approaches that assume syntactic integration between the RC and CC. In section 4.6 I justify extending this paratactic approach to all left-peripheral dependent clauses in Hittite. Section 4.7 closes the chapter with a summary of the results.

4.2 Hittite correlatives are base-generated in place

4.2.1 Two approaches: base-generation or movement

Analyses of correlative formation in the literature broadly fall into two classes: those arguing that correlatives undergo movement from a clause-internal position to the clause's edge, and those arguing that the correlative enters the structure exactly where it appears on the surface.

4.2.1.1 Movement from inside the CC

Mahajan (2000) and Bhatt (2003) argue that Hindi correlatives are derived by moving the RC from a position internal to the CC. The key difference between them is how the RC is first merged. For Bhatt, the correlative starts as an adjunct to the demonstrative phrase (DemP) and moves to become an adjunct to IP:

(128) [$_{RC}$[jo   CD]$_i$ sale-par hai]$_i$ Maya [us   CD-ko]$_i$ khariid-egii
           REL CD   sale-on is   Maya   that CD-ACC buy-FUT

   'Which CD is on sale, Maya will buy that CD.'

(Bhatt 2003: 486, ex. 1a)

(129)

```
                              IP
                    ┌─────────┴─────────┐
                  RC_{i,j}              IP
               ┌────┴────┐      ┌───────┴───────┐
        [jo CD] sale-par hai   Maya          ┌────┴────┐
                                            DemP    khariid-egii
                                          ┌───┴───┐
                                         t_j    DemP_i
                                                  △
                                                us CD
```
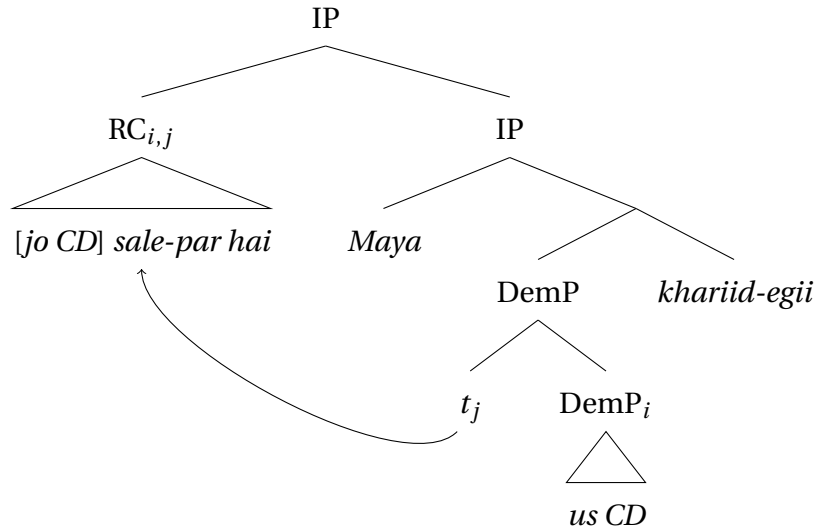
In support of a movement-based analysis, Bhatt shows that correlative constructions in Hindi exhibit a number of locality effects. To give just one example, a correlative and its demonstrative correlate cannot be related across an island boundary:

(130)   *[jo   vahaaN rah-taa   hai]$_i$ mujh-ko [vo   kahaanii [$_{RC}$ jo   Arundhati-ne
          REL there   stay-HAB is   I-DAT   that story   REL Arundhati-ERG

        us-ke$_i$ baare meN likh-ii]] pasand hai
        that-OBL about   wrote   like   is

        '[Who lives there]$_i$, I like the story that Arundhati wrote about that boy$_i$.'

(Bhatt 2003: 500)

The low base position of the correlative is supported by the fact that the correlative plus its correlate can actually appear as a constituent in Hindi:

(131) Ram-ne [[RC1jo laRkaa tumhaare piichhe hai] [DemP1us laRke-ko]]

Ram-ERG REL boy your behind is that boy-DAT

[[RC2jo kitaab Shantiniketan-ne chhaapii thii] [DemP2vo kitaab]] dii

REL book Shantiniketan-ERG printed was that book gave

'Ram gave the book that Shantiniketan had published to the boy who is standing behind you.'

(Lit. 'Ram gave [[which book Shantiniketan had published] that book] to [[which boy is behind you] that boy].')

(Bhatt 2003: 507)

This low position is *not* clause-peripheral (instead, it is correlate-peripheral, so to speak); Bhatt argues that this is best understood as the base position in all single correlatives, simply surfacing in this example without the typical movement.

Mahajan (2000) also proposes a movement-based approach, but with different motivation: he aims to derive all RCs in Hindi from headed relatives, uniting all surface types in the language into a uniform base structure. The left-edge position of correlatives is produced via movement of the RC from within this headed structure. In (132) I present one version[1] of Mahajan's approach, adapted from Mahajan (2000: 214–215) to fit example (128) above.

---

1. As Mahajan (2000: 208) notes, Hindi correlatives permit the head noun to be realized in the RC, in the CC, or both. Additionally, the RC itself may appear with a demonstrative. Mahajan's account exploits the copy theory of movement to generate all of these possible configurations through different (sometimes discontinuous) deletions.

(132)
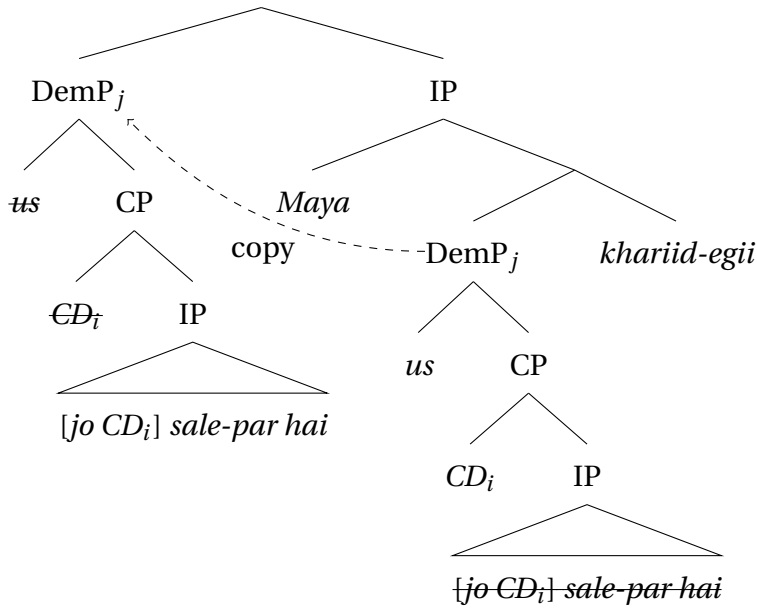
Mahajan is not explicit about the landing site of movement, except to say that it is an instance of scrambling. What matters for our present purposes is that it is a movement account. (As I will argue, the Hittite facts do not motivate a movement account, so we will not need to worry about these more minor differences.)

4.2.1.2 Base generation as a clausal adjunct

In contrast to these movement-based accounts, others treat the correlative as base-generated in its observed position at the left edge of the CC. Some regard this as an adjoined position. Srivastav (1991)/Dayal (1996) and Bhatt (2003) assume that Hindi correlatives adjoin to IP:

(133)

112
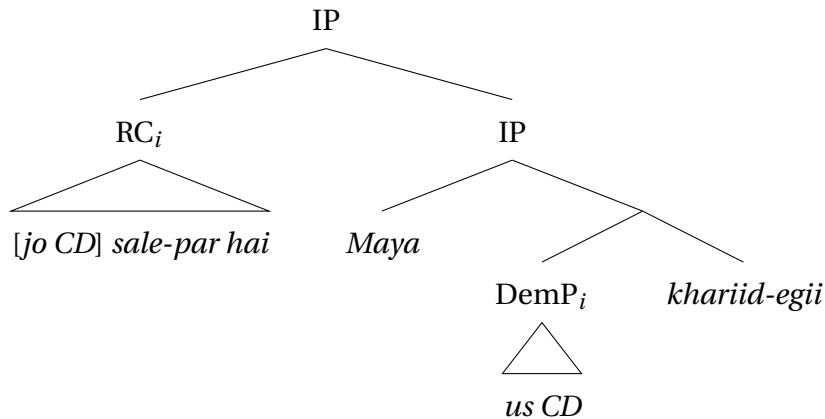
Izvorski (1996) also assumes a base-generated adjunction approach to correlatives in the Slavic languages and Modern Greek, although for her it is adjunction to CP because the correlate occurs in Spec-CP as the result of wh-movement:

(134)   a.   Russian:

        [$_{RC}$Kogo ty   predložiš'] togo$_i$ my vyberem t_i

          REL   you suggest   that.one we will.appoint

        'We will appoint who you suggest.'

        (Izvorski 1996: 146)

b.
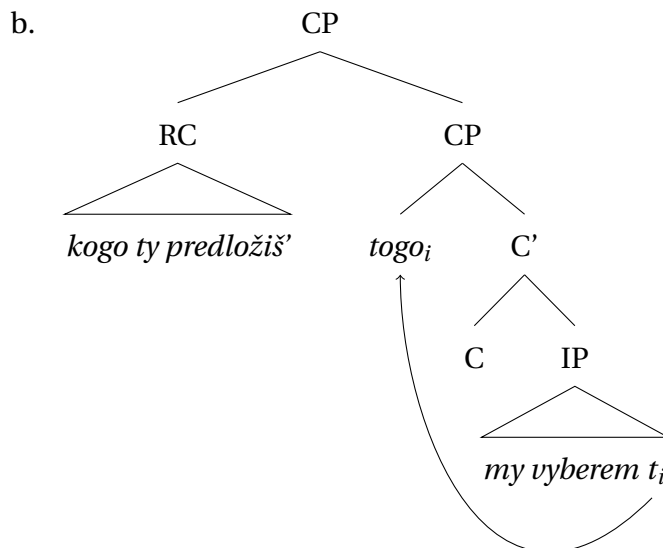
Under these analyses, the correlate is a variable bound by the RC. Dayal (1996: 184–185) explains the presence of locality effects by arguing that this variable behaves like variables created by movement in requiring local binding. It is essentially a pronounced trace. Izvorski (1996: 144) agrees with this analysis, noting that the correlate moves overtly in the Slavic languages. Thus, both scholars use movement (or a movement-like relation, in Dayal's case) to derive the locality effects observed in Hindi and Slavic.

A variant of the base-generation approach is proposed for Hungarian by Lipták ([2009a](#)). She observes that correlatives in Hungarian share a number of distinctive properties with hanging topics in other languages, such as a lack of locality effects. On this basis, she argues that Hungarian correlatives may be seen as a kind of hanging topic, only weakly integrated into the CC. I will return to the differences in structural position between this and other accounts in the next section. For the moment, it is sufficient to recognize this as another base-generation account.

Now let us turn back to the Hittite evidence. Over the next few sections, I will show that a movement account is incompatible with the observable properties of Hittite correlatives, and that base generation is empirically more adequate.

4.2.2 Correlatives underivable by movement

4.2.2.1 Multiple correlatives

Multiple correlatives like ([135](#)) are straightforwardly accommodated by a base-generation approach.

(135)   nu   kuiš$_i$ kuedani$_j$ arzananza   ēšta nu=šši$_j$ *pro$_i$* NUMUN.ḪI.A
         CONN   REL.NOM   REL.DAT   tenant.farmer   was   CONN=him   seed

         kuit   [(an)]iyat   ...
         REL   sowed

         'And whoever$_i$ has been made a tenant farmer to whomever$_j$, the seed that (he$_i$) has sown for him$_j$, ...'

(KUB 56.1 i 28–30 (NH); Otten and Souček [1965](#): 30)

The RC is peripheral to the CC from the beginning and establishes relations with the individual correlates in a parallel fashion, in the same manner as with single correlatives.

By contrast, multiple correlatives are incompatible with movement approaches like those of Mahajan ([2000](#)) and Bhatt ([2003](#)). These approaches start with the RC forming a constituent with the correlate. However, this is impossible to achieve if the RC matches to two separate

correlates: the clause cannot merge to both correlates at the same time. Bhatt acknowledges this, and assumes that multiple correlatives are base-generated in place rather than moved. This differs from his treatment of single correlatives, but he justifies the difference by showing that multiple correlatives do not show locality effects in Hindi, unlike single correlatives. Mahajan does not discuss multiple correlatives, but it is readily apparent that they cannot be reconciled with the headed-relative origin that he proposes for single correlatives, given the presence of multiple relative NPs.

4.2.2.2 Frame relatives

In much the same way that movement approaches cannot generate multiple correlatives, they also cannot accommodate frame relatives like (136).

(136) kuiš ŠEŠ.MEŠ-n=a NIN.MEŠ-n=a ištarna idālu iyazi nu LUGAL-waš
       REL brothers=and sisters=and among evil does CONN king's

       ḫaraššanā šuwāyezzi nu tuliyan ḫalzišten
       head.ALL looks CONN assembly summon.2PL.IMP

       'Anyone who does evil among both (his) brothers and sisters and looks to the king's head (with hostile intent), summon the assembly!'
       'If his case goes (against him), he shall pay with his head.'

                                                    (KBo 3.1 ii 50–51 (OH/NS); Hoffmann 1984: 34)

The referent of the RC plays no syntactic or semantic role in the CC. Thus, there is nowhere that the RC could have been generated inside the CC. A movement-based account is ruled out because there is no viable starting point. The only option for such a construction is base generation.

  If the construction has a pseudo-correlate, the situation is not as straightforward. A related NP inside the CC could be seen as a potential starting point for movement (illustrated in (138)).

(137)   *'The weight of the base does not matter.'*

GU₄.ḪI.A=ya	kuēz	GIŠŠ[(ÙDU)]N-it	tūriyanteš	nu	gankūwar
cows=also	REL.ABL	yoke.ABL	yoked	CONN	weight

apatt=a=ya	ŪL	[(duq)]qāri
that=also=also	not	matters

'And also the yoke with which the cows are yoked, that weight too does not matter.'

(KBo 4.1+58.17 Vo 11–13 (?/NS); Görke 2012)

(138)

RC_i — CP

RC_i: GU₄.ḪI.A=ya kuēz GIŠŠ[(ÙDU)]N-it tūriyanteš

CP: nu — IP

IP: NP — VP

NP: *t* — NP

NP: gankūwar apatt=a=ya

VP: ŪL [(duq)]qāri

?? (arrow from *t* to RC_i)
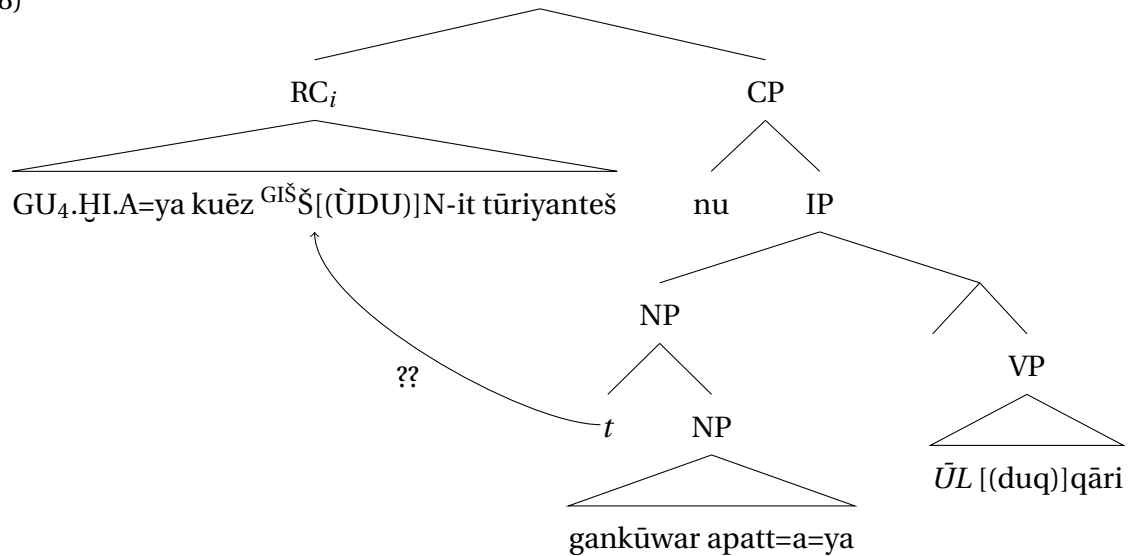
However, this is not the best analysis. We would need to assume that the syntactic constituency involved (whether Bhatt's (2003) adjunction or Mahajan's (2000) underlying headed relative) would be compatible with a variety of referential relationships, ranging from identity to more indirect relationships such as physical property (137), set-member (139), and part-whole (140).

(139)　LÚ.MEŠ ^{URU}Kašga=ya=mu=ššan kuiēš anda iyantat　　nu=mu　　namma

　　　　men　　Kaška=even=me=PTC　REL　in　　marched　CONN=me　anymore

　　　　kattan　*UL*　kuiški　　wezzi

　　　　with　　not　someone　comes

　　　　'Even the men of Kaška who used to march with me, no one comes with me any-
　　　　more.'

(ABoT 1.60 Vo 5–7 (MH/MS); Hoffner 2009: 178)

(140)　^{PÍŠ}gapirtan=a=kan　　kuin　*ANA*　DÙ　　　　EME　šipantaš　　　nu

　　　　mouse=CONTR=PTC　REL　to　　artificial　tongue　she.sacrificed　CONN

　　　　^{UZU}NÍG.GIG　^{UZU}ZAG.UDU　ḫappinit　　zanuzi

　　　　intestines　　shoulders　　　with.flame　cooks

　　　　'The mouse which she had sacrificed to the artificial tongue, she cooks the in-
　　　　testines and shoulders with the flame.'

(KBo 15.10 iii 58'–59' (MH/MS); Görke 2013b)

In my view, the costs of this assumption outweigh the meager potential benefit (one which does not rescue the movement approach wholesale, only for a subset of data). As discussed in chapter 3, these kinds of semantic association are straightforwardly handled as cases of bridging anaphora of the type familiar from inter-sentential anaphora (Clark 1977; Asher and Lascarides 2003), which does not involve syntactic constituency.

4.2.2.3　Combined single and multiple correlatives

Base generation of single correlatives also significantly simplifies the account needed to explain example (141), in which a multiple correlative and a single correlative are combined and jointly matched to a single correlate:

(141) *'Furthermore, concerning the images of you gods which are of silver and gold,'*

nu=ššan	kuedani	DINGIR-*LIM*-ni	kuit	tuēkki=šši	anda	wezz[ap]an
CONN=PTC	REL.DAT	god.DAT	REL.NOM	body=his	on	worn.out

DINGIR.MEŠ-š=a	kue	*UNUTE*.MEŠ	wezzapanta	n=at	anzel	iwar
gods.GEN=also	REL	accoutrements	worn.out	CONN=them	us	like

EGIR-pa	*ŪL*	kuiški	neuwaḫḫa[n ḫart]a
back	not	someone	renewed	has

'whatever is worn out on whichever god's body, plus whatever accoutrements of the gods are worn out, no one has renewed them like us.'

(KUB 17.21 i 15'–17' (MH/MS); Rieken, Lorenz, and Daues 2016a)

Based on what we have already seen, it is impossible to derive this construction by movement. Given that the correlate corresponds to the union of the two RCs and that the multiple correlative must be base-generated, the single correlative must also be taken as base-generated. Otherwise, we would have a bizarre scenario where half of the correlate's antecedent was associated to it by underlying constituency and the other half by an anaphoric relation, which seems entirely implausible. Importantly, this forces us to derive the single correlative by base generation.

4.2.2.4 The implication for single correlatives

We have now seen that multiple correlatives and frame relatives can only be naturally explained using a non-movement approach to correlative formation. Does the base generation of these types necessitate the same treatment in *all* correlatives? Bhatt (2003) rejects a unified treatment for Hindi, treating multiple correlatives as base-generated but single correlatives as movement-derived. However, in chapter 2 we saw that there is good reason to treat all three types as the same phenomenon — at least in Hittite — and therefore that we should pursue a single derivation for all three. Example (141) justifies this kind of associative reasoning. Thus, if multiple correlatives and frame relatives are base-generated, then we must also assume base generation

for the third type, namely basic single correlatives.

4.2.3 Lack of locality effects

One of the standard methods for diagnosing the presence or absence of movement is to test for locality effects such as island violations or reconstruction effects, or lack thereof. In our case, this methodology comes with a caveat. For a corpus language like Hittite, attested only in written records, we do not always have access to the kinds of diagnostics that are available for living languages. Since we cannot solicit judgments from native speakers, we are at the mercy of what happens to have been recorded and to have survived.

I am not aware of any attested Hittite constructions that would serve as a test for island effects. This is not conclusive evidence in either direction: maybe there are no examples because they would cause island violations (under a movement account), or maybe it would not cause an island violation and the absence is simply due to sample bias or to an accidental lack of attestation. However, there are examples that argue against the presence of reconstruction effects; this fact, first discussed by Lyutikova and Sideltsev (2020: 59–60), supports a base-generation approach. The grammaticality of examples like (142) shows that correlatives do not reconstruct into the CC.

(142) [RC kuin=za   DUMU-an m.dLAMMA-aš$_i$ malaizzi]$_j$ nu   *pro$_i$* *INA* KUR
           REL=REFL son   Kurunta   prefers   CONN   in   land
       URU.dU-tašša LUGAL-eznani apūn$_j$ tittanuddu
       Tarḫuntašša kingship.LOC   him   install.3SG.IMP

'Whichever son$_j$ Kurunta$_i$ prefers, let (him$_i$) install HIM$_j$ in the kingship in the land of Tarḫuntašša.'

(Bo 86/299 ii 92–93 (NH); Otten 1988: 20)

If reconstruction into the object position (i.e., where *apūn$_j$* is) were to happen in (142), we would predict a Condition C violation, since the null-pronoun subject would c-command the

correlative and bind the name Kurunta (written ⟨$^{\text{m.d}}$LAMMA-*aš*⟩). I assume from the fact that this sentence is attested that this construction is grammatical, so we conclude that the correlative does not reconstruct. This poses no problem for a base-generation account, since the name itself would never be in the c-command domain of the pronoun at any point. To square this with a movement approach, one would need to assume that the lower copy is not interpreted.

4.2.4   Anaphoric correlate supports base generation

The nature and behavior of the correlate itself also gives us reason to prefer a base-generation approach for correlative formation in Hittite. In the last chapter, we saw that the correlate is a normal discourse anaphor. It follows that there is no reason to assume that the two form a constituent within the CC at any point. This is a welcome conclusion, because clitic and null pronouns are only anaphoric and do not generally form constituents with other elements. That is, we do not find clitic pronouns co-occurring with non-predicative modifiers like adjectives ($^{\text{x}}$=*aš šalliš*[2] 'he big/big he') or nouns ($^{\text{x}}$=*at* KUR-*e* 'it land').[3] Suppose we were to assume that correlatives originated in a constituent with the correlate, as proposed by Bhatt (2003: 497) (cf. example (129)):

---

2. The symbol $^{\text{x}}$ indicates a hypothetical form that is not attested.

3. The only exception known to me is quantifiers like *ḫumant-* 'all', which can accompany a clitic pronoun:

    (i) $^{\text{d}}$UTU-az utnē [kuit k]uit=pat araiš   n=**uš**   **ḫūmanduš**=p[at ḫ]u[llanu]n

            sun.ABL land whichever=FOC rose.up CONN=them.ACC all.ACC=FOC   I.defeated

        'Whatever land rose up from the east, I defeated **them ALL**.'

                                                 (KBo 3.22 Ro 11–12 (OH/OS); Neu 1974: 10)

This strikes me as a special case, and I do not think it reasonable to assume on this basis that clitic and null pronouns are more broadly modifiable, e.g., by a RC as we would require here. The special status of 'all' can also be seen in modern languages: compare *I defeated them all* with **I defeated them most* and **I defeated them inferior*.

(143)

```
                    CP
                   /  \
                 /      \
              RCᵢ         CP
              /\         /  \
             /  \      /      \
            ...     C         ...
                    nu        /  \
                           /      \
                          NP       ...
                         /  \
                       /      \
            ??       tᵢ        NP
                              correlate
```
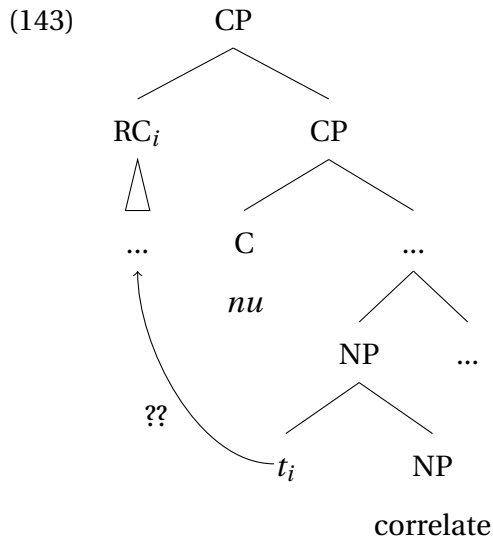
In such a scenario, we would not expect to find weak anaphoric pronouns as correlate, since they do not take modifiers. But the exact opposite is true: clitic and null-pronoun correlates are common. Indeed, clitic correlates are especially well represented, more than any other type.

These considerations favor a non-movement approach to correlative formation. A movement approach such as those of Mahajan (2000) or Bhatt (2003) requires the correlative to form a constituent with the correlate at the beginning of the derivation; as we have seen, this is not consistent with the typical behavior of clitic and null pronouns. Moreover, anaphora is in general a non-local relation. If the correlative-correlate relation is simply one of anaphora, then no movement is required to establish the connection between them. Thus, we should conclude that Hittite correlatives are simply base-generated in their left-edge position.

4.2.5 Summary

In this section, we have compared two theoretical approaches to correlative formation: the base-generation approach, in which the RC is base-generated in its surface position, and the movement approach, in which the RC gets to that surface position by moving from an original position forming a constituent with the correlate. I provided evidence that correlatives in Hittite are not moved. Two subtypes of correlative, namely multiple correlatives and frame relatives, cannot be derived by movement because a proper starting position does not exist, and

121

the goal of a unified treatment of all correlatives requires a base-generation analysis for basic correlatives as well. The absence of a Condition C violation in example (142) also weighs against a movement analysis. Finally, I showed in the last chapter that the correlate is a garden-variety anaphoric NP, fitting the distributional and interpretive profile of inter-sentential anaphors. The lack of any special properties (such as a demonstrative requirement) and the nature of the correlate as an anaphor favors a base-generation approach.

4.3 Hittite correlatives are paratactic

Now that we have seen evidence that Hittite correlatives are base-generated at the left edge of the CC rather than undergoing movement from within the clause, there is a natural follow-up question: where exactly are they base-generated? I argue for a paratactic approach, in which correlatives in Hittite are not syntactically subordinate to the CC. The correlate is separate and is not syntactically integrated into the CC. The connection between the two clauses lies at the discourse level instead of the syntactic level. In this section, I present evidence that favors this approach over those that make the correlative subordinate to the CC.

It is worth remarking here on a matter of terminology. I am claiming that correlatives are independent of the CC from a constituency perspective, i.e., syntactic independence. This is what is meant by calling them non-integrated. However, there is another sense of the word "independent" which denotes a clause that can stand on its own as a complete informational contribution to the discourse, i.e., semantic independence. With regard to this sense, I regard correlatives as *dependent* clauses, not independent, because their discourse utility (as a topic element) is not complete without the CC (the comment). Part of my goal in this paper is to demonstrate that Hittite correlatives are syntactically independent *despite* being dependent in the semantic sense. To avoid confusion between these two senses, I will use "independent" only in the semantic sense — assuming no entailments about syntactic structure. For syntactic independence, I will instead speak in terms of "parataxis" and "integration".

4.3.1 Syntactic similarity to independent clauses

Correlatives in Hittite, and indeed preposed dependent clauses in general, are very similar to independent clauses in their internal syntax (cf. Inglese 2016: 11 with references). They show the same syntactic behaviors at all levels of the clause: both types have basic SOV word order, both can begin with sentence connectives, both feature clitic chains, both display configurational sensitivity to information structure, and there are no discernable differences in morphological encoding. It is also possible for correlatives to iterate such that the second acts as the CC for the first:

(144)   DINGIR-*LIM*=ma=kan kuedani *ANA* ^{DUG}GÌR.GÁN$_i$ anda arranzi
        god=CONTR=PTC   REL.LOC LOC vessel   in   they.wash

        n=ašta   wātar$_j$ kuit *ANA* ^{DUG}GÌR.GÁN$_i$ anda
        CONN=PTC   water   REL LOC vessel   in

        n=at$_j$ *ANA PANI* DINGIR-*LIM* apēz=pat   *IŠTU* ^{DUG}GÌR.GÁN$_i$ dāi
        CONN=it before   god   that.ABL=FOC ABL   vessel   puts

        'The vessel$_i$ in which they wash the deity, the water$_j$ which is in the vessel$_i$, he puts it$_j$ before the god with THAT vessel$_i$.'
        Paraphrase: [The water$_j$ which is inside [the vessel$_i$ in which they wash the deity]], he puts the water$_j$ before the god with THAT vessel$_i$.

        (KUB 27.16 i 30–33 (NH); Beckman 2015: 46)

The only element that truly distinguishes a preposed dependent clause from an independent clause in Hittite is the presence of a subordinating morpheme: in the case of correlatives, the Rel *kuiš*.

The fact that dependent and independent clauses are barely different, syntactically speaking, significantly erodes the distinction between them at the syntactic level. Kiparsky (1995: 141) argued (for various ancient Indo-European languages) that the presence of such *main*

clause phenomena in dependent clauses meant that they were adjoined rather than embedded. I think this does not go far enough. Discussing adverbial clauses in English and German, Haegeman (2012: 155–172) distinguishes two types, *peripheral* and *central*, based on the presence or absence, respectively, of main clause phenomena. She explains the difference in terms of how integrated the adverbial is to the main clause: for her, peripheral adverbials are less integrated into the structure. She even suggests (referencing earlier work such as Haegeman 1991) that they may be completely separate from the main clause: a paratactic approach.

The presence of main clause phenomena in peripheral adverbials mirrors the Hittite situation. This suggests that the same approach should be taken for Hittite correlatives (and dependent clauses in general). This means that Hittite correlatives should have the same syntactic status as independent clauses, which I believe is best framed in a paratactic model.

4.3.2   Correlatives as clausal hanging topics

The correlative construction is similar to another construction type in Hittite: Hanging Topic Left Dislocation (HTLD), exemplified in (145).

(145)   ᵐḪuidudduwalliš   n=an   ᵁᴿᵁŠallašna   ašašer
        Ḫuidudduwalli   CONN=him   in.Šallašna.   they.settled

        '(As for) Ḫuidudduwalli, they settled him in the city of Šallašna.'

                                    (HKM 113 Vo 14–15 (MH/MS); Hoffner and Melchert 2008: 408)

The following properties are shared by hanging topics (HT) and correlatives:

(146)   (i)   Same functional role: activate a discourse referent as the discourse topic in a subsequent clause.

        (ii)   Associated with a coreferent correlate that is governed by the same argument-structural, semantic, and pragmatic factors that apply to Hittite anaphora in general (see below).

124

(iii)   A discourse connective (e.g., *nu*) often separates the dislocate from the CC.

Comparing Hungarian correlative constructions to cross-linguistic properties of HTLD, Lipták (2009a: 424–425) argues that Hungarian correlatives may be seen as a kind of HT. This is also true for Hittite: the similarities between correlative constructions and HTLD demonstrate that they are two versions of the same phenomenon. That is, correlatives are just HTs that take the form of a free RC. Canonical HTs occur when just a simple noun phrase (such as a name) is sufficient to identify the referent, and correlatives occur when a full RC is necessary to adequately identify the referent.[4]

What can the similarity with HTs tell us about the syntax of correlatives? HTs have a number of properties that suggest detachment from the CC. I will examine these in the next few sections.

4.3.2.1   Any type of NP as the correlate

The first notable property is that an HT's correlate can be any type of NP. I discussed this property for correlatives in chapter 3; the same distributional properties seem to hold for HTs. The following table lists the correlate types observed in my sample:[5]

(147)   Null pronoun

Subject

Transitive: *ḫark-* 'hold'   KBo 20.61+34.185 i 6–8

Transitive: *dai-* 'put'   KBo 8.35 ii 30–31; KBo 8.35 ii 32–33; KBo 8.35 iii 1–5

Dative   KBo 3.34 ii 24–25

Clitic pronoun

---

4. This may help explain why correlatives seem to be far more numerous in the attested Hittite record than pure HTs. It seems reasonable to suspect that proper identification of the referent would often require more information than an NP by itself can provide. One might speculate that this would be especially true of written documents in certain genres (e.g., laws and histories) where the speaker could not necessarily assume the addressee to have the required shared knowledge. It is not clear to me whether we would expect a similar frequency distribution between correlatives and pure HTs in spoken Hittite.

5. See the appendix for the sample.

Subject		
	Copular clause	KUB 1.1 iv 74
	Unaccusative: *pai*- 'go'	KUB 41.8 + 251/w ii 45–46
	Object	HKM 113 Vo 14–15; KBo 3.34 i 2–4; KBo 3.34 ii 27–28; KBo 5.8 ii 14–18; KBo 15.10 i 13–14; KUB 17.10 iii 1; KUB 26.77 i 10–11
	Dative	KBo 3.1 ii 13
Tonic pronoun		KBo 17.3+ iv 29; KUB 23.11 ii 36'–38'; KUB 31.127+ i 43–44
Demonstrative		KBo 8.35 ii 25–28
Lexical NP		
	With demonstrative	KBo 5.8 ii 18–22; KUB 12.66 iv 18'–23'
	Without demonstrative	KUB 21.29 ii 6–8
No correlate		KBo 3.34 ii 29

With respect to correlatives, we noted in particular that the distribution of clitic and null pronouns as correlate subjects depends on the argument structure of the predicate. We also saw that "strong" correlates are motivated by information-structural considerations such as focus or referent activation. Though the data is considerably more limited for HTs in my sample, the observed distribution is consistent with what we saw for correlatives.

Leaning on our previous conclusions about correlates to RCs, we can say that the correlate to an HT is a discourse anaphor, and its distribution follows from the general rules governing anaphors in Hittite. This implies that HTLD in Hittite is a discourse-level construction; Cinque (1997: 98–99) makes the same claim for HTLD in Italian. There do not seem to be any HTLD-specific syntactic constraints on the form of the correlate. This distinguishes HTLD from other types of left dislocation, such as Clitic Left Dislocation in the Romance languages, which can only involve certain types of correlates (e.g., clitic pronouns); such restrictions suggest the in-

volvement of a syntactic constraint in those types and an awareness by the CC that the correlate is tied to a dislocate. Such an awareness is evidently absent in HTLD, which (I argue) tells us that the HT is invisible to the syntax when it is building the CC. This suggests that the two pieces are syntactically detached from one another.

4.3.2.2 Case mismatch

A second noteworthy property is that HTs need not match the case of the correlate, but can instead take default nominative case (cf. Schütze 2001: 223 on default case with HTLD in German):

(148) a. ^mḪuidudduwalliš   n=an   ^{URU}Šallašna ašašer
Ḫuidudduwalli.**NOM** CONN=him.**ACC** in.Šallašna they.settled

'(As for) Ḫuidudduwalli, they settled him in the city of Šallašna.'

(HKM 113 Vo 14–15 (MH/MS); Hoffner and Melchert 2008: 408)

b. *'Telipinu came angry. He thunders with lightning. Below, he attacks the dark earth. Kammarušepa saw him. She stirred the eagle's wing [...] and stopped him.'*

karpiš   n=an   araet
anger.**NOM** CONN=it.**ACC** she.stopped

'(His) anger, she stopped it.'

(KUB 17.10 iii 1 (OH/MS); Rieken et al. 2012)

Default case is not observed with ordinary fronted topics in Hittite, which routinely reflect the case assigned within the clause:

(149) a. DINGIR-*LIM*-ni=wa=tta ammuk tarnaḫḫi

deity.**DAT**=QUOT=you   I   hand.over

‘I will hand you over to a deity.’

(KUB 1.1 i 37–38 (NH); Otten 1981: 6)

b. ^{URU}Kuzuruwi kakkapuš   marakta   ^{URU}Ankuwa kakkapiš

Kuzuru.**LOC**   *kakkapa*-animals he.butchered Ankuwa.**LOC** *kakkapa*-animals
maklanteš
emaciated

‘In Kuzuru he butchered *kakkapa*-animals; in Ankuwa the *kakkapa*-animals
are emaciated.’

(KBo 3.34 ii 12–14 (OH/NS); Hoffner and Melchert 2008: 407)

The fact that HTs can exhibit case mismatch relative to the correlate shows that the HT is exempt
from case agreement within the CC. A non-integration view of HTLD easily accounts for this:
the HT is not a syntactic part of the CC, so it cannot be targeted by syntactic case assignment or
agreement mechanisms.

It must be noted that there are HTs in Hittite that *do* show case matching with the correlate
in non-nominative cases:

(150) a. *'When I destroyed Aššuwa, I [came] back to Ḫattuša and I brought to Ḫattuša*
           10,000 (newly) allegiant troops, 600 chariot-fighters and chariot-drivers.'

ᵐSUM.ᵈLAMMA	ᵐ[K]uggullin	[*Ù*	ᵐMala?]zitin	*ŠA*	ᵐSUM.ᵈLAMMA
Piyamakurunta	Kuggulli.**ACC**	and	Malaziti.**ACC**	of	Piyamakurunta

ᴸᵁ́kaenan	nu	apūšš=a	[ᵁᴿᵁKÙ.BABBAR-ši	uw]atenun
in-law	CONN	them.**ACC**=too	to.Ḫattuša	I.brought

'(As for) Piyamakurunta, Kuggulli, [and Mala]ziti, in-law of Piyamakurunta,
them too I brought [to Ḫattuša].'

(KUB 23.11 ii 36'–38' (MH/NS); Carruba 1977: 160)

b.

kuid=a	ᴸᵁ́·ᴹᴱŠKUŠ₇	āmmiyantuš=šmuš	n=uš
as.for=CONTR	charioteers	young.**ACC**=their.**ACC**	CONN=them.**ACC**

ᵐIšputašinaraš	maniyaḫḫeškezzi
Išputaš-Inara	manages

'As for their young charioteers, Išputaš-Inara manages them.'

(KBo 3.34 ii 27–28 (OH/NS); Goedegebuure, forthcoming: 13–14)

Correlatives do not usually show case matching of this sort, but there is one example in my
sample:

(151) *INA* ^{URU}Gašipūra kuiuš 2 LÚ.MEŠ ^{URU}Malazziya [^mP]išišši[ḫ]lin

in Kašepura REL.**ACC** 2 men Malazziya Pišiššiḫli.**ACC**

[^mN]aištūwarrinn=a appanteš n=aš=šan ŠU.ḪI.A=ŠU

Naištuwarri.**ACC**=and captured.PTCP CONN=them.**ACC**=PTC hands=their

GÌR.MEŠ=ŠU=ya SIG₅-atten

feet=their=and secure.2PL.IMP

'The two men of Malazziya, Pišiššiḫli and Naištuwarri, who are held captive in Kašepura, secure them hand and foot.'

<div align="right">(HKM 65 4–8 (MH/MS); Hoffner 2009: 217)</div>

Here, the men's names and the Rel are accusative despite being the subject of the RC, anticipating the accusative of the CC.

I just argued that case mismatch supports a non-integration analysis of HTs. Do the examples in (150) and (151) pose a problem for that analysis? I do not believe so. It is clear that case mismatch must entail exemption from syntactic case assignment, at the very least. But case matching does not necessarily entail that syntactic case assignment has taken place (Schütze 2001: 209). There are at least two explanations (not necessarily mutually exclusive) for case matching. The first is simple anticipation: the speaker anticipates that the HT's referent will play a particular syntactic role in the CC, and marks the HT with the relevant case even though no syntactic process has taken place. The second explanation, applicable in instances such as (152), is that the HT may be an emergent result of restarting a sentence.

(152)　ᵐH̬ūtupianzan=ma　　　DUMU.LUGAL　DUMU　ᵐZidā　GAL　ᴸᵁ́*MEŠEDI*

　　　H̬utupianza.**ACC**=CONTR　prince　　　　son　　Zida　chief　bodyguard

　　　ᵐZidāš　kuiš　*ANA ABI=YA*　ŠEŠ=*ŠU*　ēšta　nu　　*ABU=YA*　uni

　　　Zida　　who　to　father=my　brother=his　was　CONN　father=my　that.**ACC**

　　　ᵐH̬utupiyanzan　DUMU　ᵐZidā　GAL　*MEŠEDI*　　*INA* KUR ᵁᴿᵁPalā　watarnah̬ta

　　　H̬utupianza.**ACC**　son　　Zida　chief　bodyguard　in　land　Pala　　ordered

'(As for) H̬utupianza, prince, son of Zida, chief of the bodyguard, the Zida who was brother to my father, my father ordered that H̬utupianza, son of Zida, chief of the bodyguard, into the land of Pala.'

(KBo 5.8 ii 18–22 (NH); Götze 1967: 152)

Here, H̬utupianza is identified as the son of Zida, and Zida himself is identified by two appositive modifiers, one of which is a relative clause. The shift in attention to Zida, as well as the length of the digression, may have motivated the speaker to start the sentence over.[6] The HTLD construction would thus not have been planned *per se*, but rather an emergent result of restarting, once the speaker (king Muršili II) realized he was trying to pack too much information in. The case on the HT would be an artifact of the aborted first attempt.

4.3.2.3　Other typological properties

Other properties of HTs noted in the literature (e.g., Cinque 1997: 96; Lipták 2009a: 425) include lack of island violations or reconstruction effects. As it happens, none of the ordinary HTs in my Hittite sample are probative for these properties, so we cannot evaluate them for Hittite HTs. (That said, I noted in section 4.2.3 above that correlatives do not show reconstruction-based Condition C violations.)

Additionally, it is well known that HTs have a notable prosodic separation from the CC. Direct prosodic information is not available to us for Hittite, but we can find evidence of prosodic

---

6. Indeed, the correlate is a heavy demonstrative NP, suggesting that the speaker felt that, after the digression, the referent had slipped down the activation scale enough to warrant full identification again.

separation in examples where the HT lies outside the clitic chain's domain:

(153)   ^d*IŠTAR* DINGIR-*LIM*=aš=mu

         Ishtar   goddess=she=me

         '(As for) Ishtar, she is my goddess.'

(KUB 1.1 iv 74 (NH); Otten 1981: 28)

The clitic chain attaches to the first prosodic word of its clause. Since the host in (153) is DINGIR-*LIM*, we must conclude that the HT ^d*IŠTAR* lies outside the prosodic domain of the clause. It seems reasonable to conclude from this that Hittite fits the typological pattern of having a prosodic break.

4.3.2.4   Upshot: hanging topics are not syntactically integrated

The properties just surveyed are observed in HTs cross-linguistically and are generally recognized as evidence that HTs are separate from the CC in some notable way. I interpret the detached character of HTs as syntactic non-integration: the HT is not a subconstituent of the CC. It is simply a separate noun phrase that precedes the CC. The HT is therefore something akin to Haegeman's (1991) "orphans". The connection between the HT and the CC operates at the discourse level instead of at the syntactic level. This is why the HT is not governed by syntactic processes like case assignment and locality. Similar proposals have been advanced for other languages, such as Italian (Cinque 1997), German, and English (Shaer 2009).[7]

Since we are leveraging a similarity with HTs to gain insight into the nature of correlatives, a non-integrative treatment of HTs implies the same analysis for correlatives. This is the approach taken by Lipták (2009a: 424–426), who argues that Hungarian correlatives are not fully integrated with the CC.[8]

---

7. The exceptional status of HTs is recognized even by scholars who treat them as integrated, e.g., Giorgi (2015).

8. Lipták does not go so far as to propose full non-integration, on the grounds that the RC cannot be removed without seriously affecting the semantics and therefore there remains *some* manner of integration. I am committing more fully to the separation, because I think the interpretive issue is better regarded as a matter of discourse coherence and referent activation, rather than syntactic connectedness.

4.3.3 Intervening "setup" clauses

Additional evidence in support of a paratactic analysis comes from examples such as the following, where a full independent clause intervenes between the correlative and the clause containing the correlate. The intervening clause acts to set up the CC, but it has no relation to the correlative itself.

(154) nu   ᴳᴵ�Š IG kuiš ḫašzi **nu**   **šuḫḫa**   **parkiyanzi** n=an=kan   šarā

CONN door REL   opens CONN to.roof they.go.up   CONN=him=PTC up

SUD-anzi

they.draw

'The one who opens the door, **they go up to the roof**[9] and draw him up.'

(IBoT 3.148 iii 13–14 (MH/NS); *CHD* P: 156 *s.v. park-* 2a)

---

9. This translation follows the Chicago Hittite Dictionary. The predicate *park(iya)-* can mean both 'rise' and 'raise, lift'. Craig Melchert (p.c.) suggests a reading 'lift up the roof'. I do not have access to a full edition of the text, so I cannot use the context to decide between the readings.

(155) nu   DINGIR.MEŠ kuit waštul uškatteni **nu**   **naššu DINGIR.MEŠ-niyanza**

CONN gods   REL sin   you.see CONN either man.of.the.gods

weddu   n=at   [(mema)]u našma=at $^{\text{MUNUS.MEŠ}}$ŠU.GI $^{\text{LÚ.MEŠ}}$AZU

come.3SG.IMP CONN=it tell.3SG.IMP or=it   old.women   diviners

$^{\text{LÚ.MEŠ}}$[MUŠEN.DÙ] memiya[ndu] na[š]ma=at zašḫiyaz DUMU.LÚ.U$_{19}$.LU

augurs   tell.3PL.IMP or=it   by.dream person

aušdu

see.3SG.IMP

'The sin which you gods see, **either let a man of the gods come** and let him tell it, or let the old women, diviners, and augurs tell it, or let an (ordinary) person see it through a dream.'

(KUB 24.3+KBo 51.18b ii 19'–22' (NH); Rieken, Lorenz, and Daues 2016b)

The intervening clause disrupts the adjacency between RC and CC that is typical of correlative constructions. A paratactic model has no difficulty with this kind of example: since the RC and CC are syntactically separate, there is nothing that says a clause cannot come between them. These examples create a thorny problem for integration approaches, however. If the RC is syntactically subordinate to the CC, how can the intervening clause be squeezed into the structure? We would either have to make bizarre modifications to our assumptions about clause structure, or we would have to let the RC *syntactically* attach to a multi-sentence segment, which muddies the whole notion of *clausal* subordination. Neither option seems plausible to me.[10]

---

10. One might wonder if the intervening clause in (154) could be taken as parenthetical: *The one who opens the door — they go up to the roof — they draw him up*. If the middle clause were parenthetical, then it would not be probative for the syntactic relation between the RC and the CC, due to the increased freedom that parentheticals have to interrupt syntactic structures. While some examples could perhaps submit to a parenthetical reading, I believe that (154) and (155) cannot involve parenthesis. In (154), the events of going to the roof and drawing the person up clearly occur in narrative sequence and are closely connected: they have to go up to the roof in order to draw him up. The clauses are linked by a *Narration* discourse relation (see section 4.4.1 and example (160)) which reflects their direct semantic relationship. This *Narration* is reflected syntactically by the *nu* joining the two clauses. A parenthetical structure would fail to reflect the close narrative connection between the clauses. The same argument applies to (155). As a side note, my impression is that parenthetical clauses in Hittite do not begin with a connective like *nu*, which signals discourse continuity. The phenomenon needs to more investigation, but if it is true, then it would be further evidence against a parenthetical reading of (154) and (155).

4.3.4 Summary

In this section, I have argued that Hittite correlatives and their CCs are paratactically juxtaposed, not syntactically integrated. To defend this claim, I drew comparisons between correlatives and independent clauses, and between correlatives and HTs. Correlatives and independent clauses are only minimally different in terms of their internal syntax and syntactic interactions with other clauses, which suggests treating them largely the same, syntactically speaking. I argued that correlatives are a subtype of HT. I used some well-known properties of HTs (case mismatch, prosodic separateness) to demonstrate that HTs are detached from the CC, and I argued that this conclusion should carry over to correlatives. I also showed a non-prototypical kind of correlative construction involving an independent clause separating the RC from its CC, and showed how parataxis is the only analysis that accommodates this structure without problematic assumptions. In the next section, I will explain how I interpret this in structural terms.

4.4   The syntactic and discourse structure of parataxis

I have just proposed a paratactic structure for Hittite correlatives. The syntactic dimension of this proposal is very straightforward, almost trivial: the RC and the CC are not syntactically integrated. The connection between them occurs at the discourse level. Note that this does not entail semantic independence; I maintain that correlatives are dependent clauses (in the semantic sense). In the following representation, I distinguish the discourse level by using dashed lines, to make clear that it is a different form of connection from syntactic constituency (in solid lines). The entire correlative construction forms the discourse constituent π_{corr}, which is joined into the larger discourse.

(156)

$$\pi_{corr}$$

... π_{corr} ...

CP$_{RC}$ CP$_{CC}$

nu=mu MUŠEN.ḪI.A$_i$ kue uppešta   n=at$_i$ arḫa ḫ[ar]ranteš eš[er]

'The birds$_i$ which you sent to me'   'they$_i$ were spoiled'

anaphora
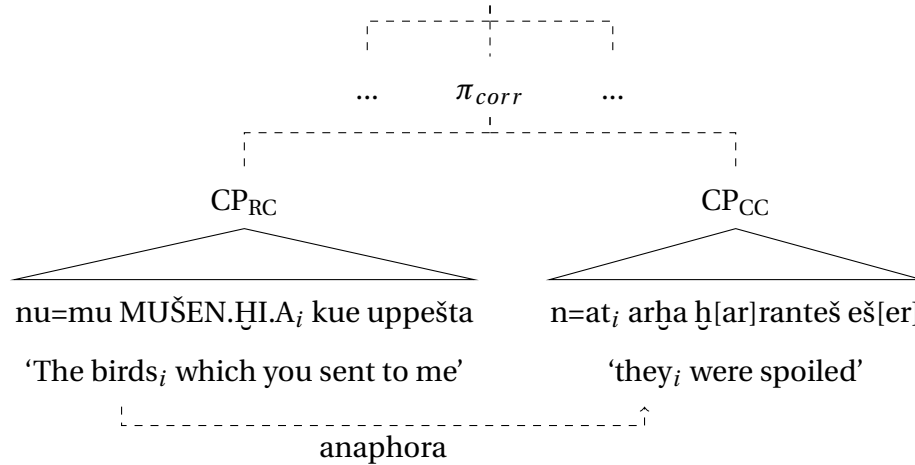
As mentioned above, correlatives are semantically dependent despite being syntactically independent (non-integrated). This can be straightforwardly framed in a discourse perspective. The RC — a complete syntactic unit — is entered into the discourse as an individual-referring expression. Declaring a new discourse topic leaves the discourse unfinished as long as nothing else has been said about the topic to justify bringing it up. This, in my view, is the essence of semantic dependence: its informational contribution alone cannot yield a well-formed discourse. This is a purely semantic property and does not entail any syntactic relationships. It does, however, entail a discourse relationship, because clauses in discourse are united by semantic (rhetorical) relations.

Given that the RC-correlate relation is one of discourse anaphora, the formation of Hittite correlative constructions is aptly handled in dynamic semantics. In this dissertation, I use the framework of Segmented Discourse Representation Theory (SDRT) (Asher and Lascarides 2003), which models the hierarchical structure of discourse and the rhetorical, semantic, and anaphoric relations between discourse constituents. My inspiration for this approach comes from Shaer (2009: 391–393), who briefly sketched an SDRT analysis of HTs. My proposal in this section and in chapter 5 extends his preliminary sketch into a full-fledged model of the discourse structure and interpretation of HTs and correlatives.

The constituents considered by Asher and Lascarides (2003) are event-referring clauses (and multi-clause segments). I have aligned correlatives with HTs, and I take the view that they are

136

fundamentally individual-referring. This requires an extension of SDRT, which I will define formally and discuss in the next chapter; for now, I will discuss just the hierarchical discourse structure of correlative constructions, making the assumption that discourse constituents can be individual-referring.

To represent the hierarchical structure of discourse constituents, I use the box-style representations commonly used in Discourse Representation Theory and SDRT. The structure for (156) would be the following:

(157)

$$\pi_{corr} : \boxed{\begin{array}{l} \epsilon_{RC}, \pi_{CC} \\ \hline \\ \epsilon_{RC} : \text{The birds}_i \text{ which you sent to me} \\ \pi_{CC} : \text{they}_i \text{ were spoiled} \\ \\ HT(\epsilon_{RC}, \pi_{CC}) \end{array}}$$

Each discourse constituent receives a label: the RC is labelled ϵ_{RC}, the CC is labelled π_{CC}, and the whole construction is labelled π_{corr}. The label ϵ is intended to evoke "type e" and distinguish individual-referring constituents from event-referring ones. The RC and CC are linked together in the construction-constituent π_{corr} by the action of the discourse relation HT (defined formally in the next chapter), which signifies that its two arguments stand in an HT-style topic-comment relation.

4.4.1 Multi-clause CCs

The basic, prototypical correlative construction involves two clauses: one RC and one CC. However, correlative constructions in Hittite are more varied, as mentioned in chapter 2. The comment portion of the construction — the "CC", if we use that label a bit loosely — can contain multiple clauses. Consider the following examples:

(158)   É.MEŠ L[(UGAL É)].MEŠ GU₄ É ᴺᴬ⁴KIŠIB.ḪI.A ᴱtarnuwēš kue karuw[(il)]i

royal.buildings   cattle.barns   storehouses   bathhouses ʀᴇʟ old

n=**at**   arḫa arrirrandu   n=**at**   dān   EGIR-pa nēwi[(t)]

ᴄᴏɴɴ=them scrape.off.3ᴘʟ.ɪᴍᴘ ᴄᴏɴɴ=them a.second.time back   new.ɪɴs

wilanit   ḫaniššandu

plaster.ɪɴs plaster.3ᴘʟ.ɪᴍᴘ

'The royal buildings, the cattle barns, the storehouses, and the bathhouses that are old, let them scrape **them** off and replaster **them** a second time with new plaster.'

(KUB 13.2 ii 13–15 (MH/NS); Miller 2013: 224)

In (158), the RC is followed by two independent clauses that are clearly closely linked, and which both contain a pronoun we could identify as a correlate. While we could say that just the first clause is the true CC and its pronoun is the true correlate, this misses the fact that both clauses together make up the comment for which the RC is the topic. It is truer to the rhetorical structure to call both pronouns correlates and both clauses CCs. (This raises the question of how far the comment portion of the topic-comment structure can extend. How do we decide where the correlative construction stops, if the CC portion can have more than one clause? I will address this question in the next chapter.)

The SDRT model I have described allows us to give concrete structural definitions to "CC" and "correlate" that accommodate these cases. The correlative construction is defined in terms of the *HT* relation; the CC is the discourse constituent (which I have been labelling π_{CC}) that is the second argument to *HT*. This constituent can contain multiple clauses and have internal structure. Consider the discourse structure for (158):

(159)

$$\boxed{\begin{array}{l} \epsilon_{RC}, \pi_{CC} \\[4pt] \hline \\[-6pt] \epsilon_{RC} : \text{The royal buildings, cattle barns, storehouses, and bathhouses}_i \text{ that are old} \\[8pt] \pi_{corr}: \quad \pi_{CC}: \boxed{\begin{array}{l} \pi_{CC1}, \pi_{CC2} \\[4pt] \hline \\[-6pt] \pi_{CC1} : \text{let them scrape them}_i \text{ off} \\ \pi_{CC2} : \text{and replaster them}_i \text{ a second time with new plaster} \\[8pt] Narration(\pi_{CC1}, \pi_{CC2}) \end{array}} \\[8pt] HT(\epsilon_{RC}, \pi_{CC}) \end{array}}$$

The two clauses I have identified as (sub-)CCs are closely linked by a *Narration* relation. It is this relation which defines the discourse constituent containing the two clauses. In principle, the CC can be of any size, as long as the sub-constituents are bound together by discourse relations. Any anaphoric NP in one of the clauses making up π_{CC} can justifiably be called a correlate; since they are all discourse anaphors, they all have the same status.[11]

Defined in this manner, the CC is a discourse constituent that may have internal structure. That internal structure is not specified by the definition, and indeed the data show a variety of possibilities. The CC in (158) contains two independent clauses in a *Narration* relation. The same is true for (154), with the following discourse structure:

---

11. Of course, if the "comment" part of the construction is long and complex, it may seem intuitively weird to call later clauses in the sequence "CCs" and their anaphors "correlates". This is not a theoretical issue, but a problem of our intuitions about terminology. Since the prototypical correlative construction is biclausal and has only one correlate, it is intuitive to associate "CC" and "correlate" with the nearest clause and nearest coreferent NP. At least in Hittite — I do not claim that this is true for all languages with correlatives — the first clause/correlate in a complex CC is not privileged over any other, so this prototype association is out of step with the structural definitions I have provided.

(160)

$$\pi_{corr}: \begin{array}{|l|}
\hline
\epsilon_{RC}, \pi_{CC} \\
\hline
\epsilon_{RC}: \text{The one}_i \text{ who opens the door} \\
\\
\pi_{CC}: \begin{array}{|l|}
\hline
\pi_{CC1}, \pi_{CC2} \\
\hline
\pi_{CC1}: \text{they go up to the roof} \\
\pi_{CC2}: \text{and draw him}_i \text{ up} \\
\\
Narration(\pi_{CC1}, \pi_{CC2}) \\
\hline
\end{array} \\
\\
HT(\epsilon_{RC}, \pi_{CC}) \\
\hline
\end{array}$$
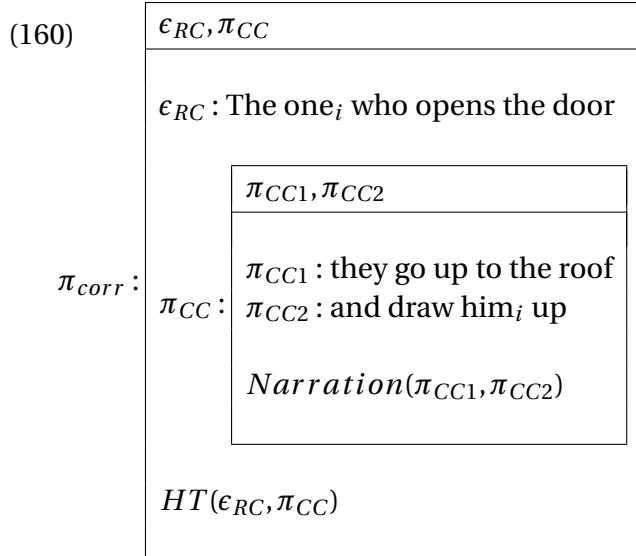
From a discourse structure perspective, (159) and (160) do not differ. In section 4.3.3, I adduced (154) as a problem for integrative syntactic models because of the intervening independent clause. This is only aberrant under a view of correlative formation that treats the CC as a single syntactic clause and requires the RC to be integrated into it. In the present discourse model, the structure of (154) is completely unexceptional. The first post-RC clause sets up the second one — the one with the correlate — by means of the *Narration* relation. The only difference between (159) and (160) is that CC1 in (159) has a pronoun anaphoric to the RC, while CC1 in (160) does not. Variation of this sort is by no means unusual for discourse anaphora.

The CC can have more than one hierarchical level. The following is the discourse structure of example (155):

140

(161)

ϵ_{RC}, π_{CC}

ϵ_{RC} : The sin$_i$ which you gods see

π_{corr} :

π_{CC} :

$\pi_{CC1}, \pi_{CC2}, \pi_{CC3}$

π_{CC1} :

π_{CC1a}, π_{CC1b}

π_{CC1a} : either let a man of the gods come
π_{CC1b} : and let him tell it$_i$

$Narration(\pi_{CC1a}, \pi_{CC1b})$

π_{CC2} : or let the old women, diviners, and augurs tell it$_i$
π_{CC3} : or let an (ordinary) person see it$_i$ through a dream

$Alternation(\pi_{CC1}, \pi_{CC2}, \pi_{CC3})$

$HT(\epsilon_{RC}, \pi_{CC})$
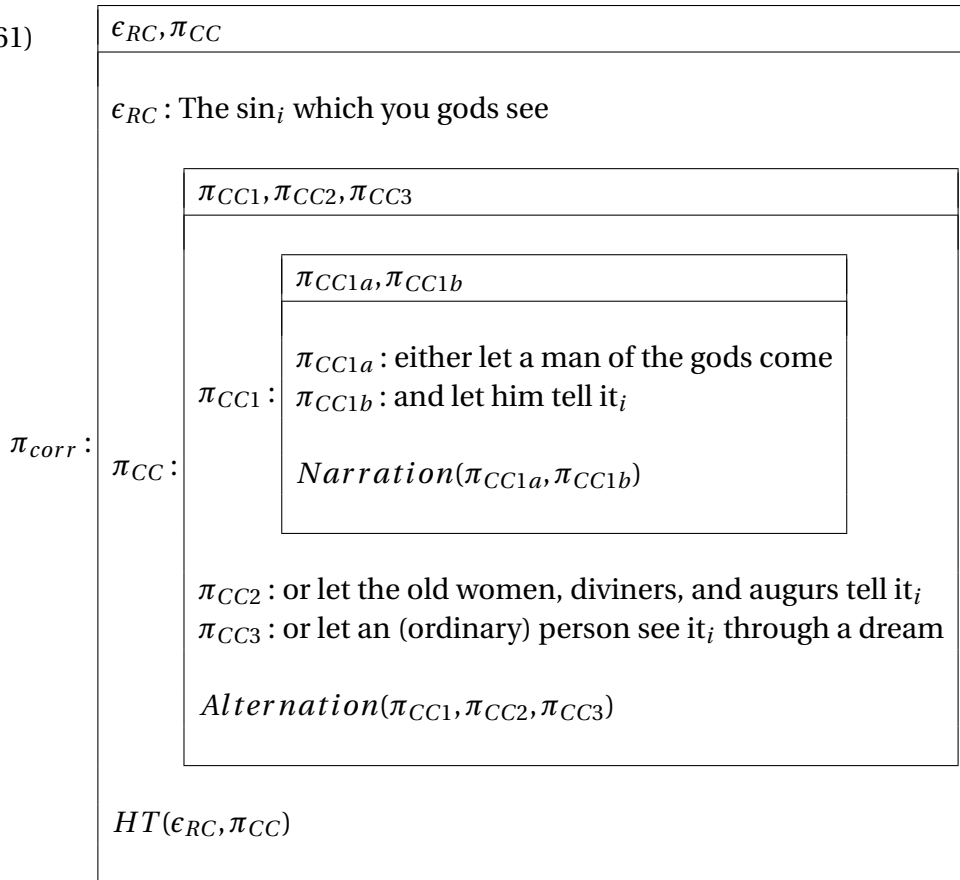
Here, the CC consists of three potential situations in $Alternation$ (the discourse relation corresponding to disjunction), but the first disjunct is itself complex, consisting of two clauses in narrative sequence.

So far, we have seen multi-clause CCs that involve all independent clauses. But a complex CC can also involve dependent clauses:

(162)   *'My father made Maraššanta a tablet, and Maraššanta has it.'* [10 more clauses]

ᵐMaraššantaš=ma	kuit	*ṬUPPU*	ḫarzi	n=at	uezzi	mān	udai	n=at
Maraššanta=CONTR	REL	tablet	has	CONN=it	goes	if	brings	CONN=it

le	dattari
PROH	is.accepted

'The tablet which Maraššanta has, if he proceeds to bring it, let it not be accepted.'

(Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

(163)

$\pi_{corr}:$

$$\boxed{\begin{array}{l} \epsilon_{RC}, \pi_{CC} \\ \hline \epsilon_{RC}: \text{The tablet}_i \text{ which Maraššanta has} \\ \\ \pi_{CC}: \boxed{\begin{array}{l} \pi_{CC1}, \pi_{CC2} \\ \hline \pi_{CC1}: \text{if he proceeds to bring it}_i \\ \pi_{CC2}: \text{let it}_i \text{ not be accepted.} \\ \\ Consequence(\pi_{CC1}, \pi_{CC2}) \end{array}} \\ \\ HT(\epsilon_{RC}, \pi_{CC}) \end{array}}$$
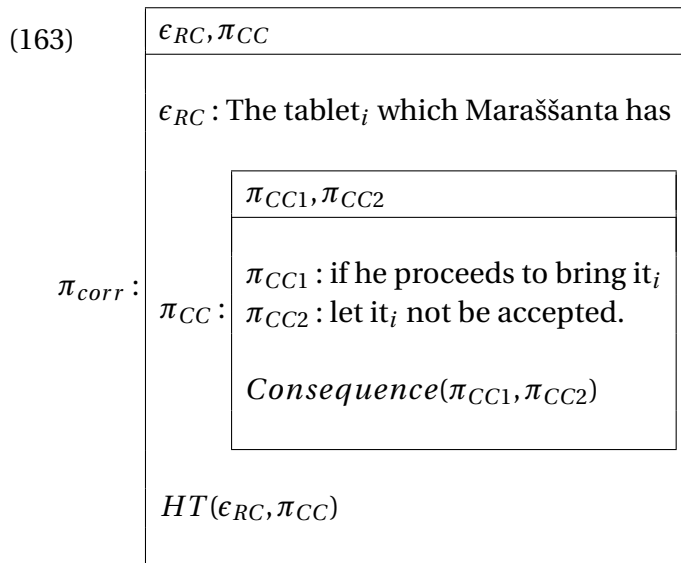
In this example, the CC is a conditional construction (discourse relation *Consequence*). In terms of the completed discourse structure, there is nothing different about this example. In my view, as I explained above, the protasis's status as a dependent clause is a discourse-oriented semantic matter: when the protasis enters the discourse (before its apodosis), the discourse is not semantically complete, because we are awaiting the apodosis — in SDRT terms, the protasis brings with it a pending *Consequence*$(\pi_{CC1}, ?)$ relation that is missing a second argument. Once the apodosis has been added and the discourse is complete, (163) is structurally identical to (159) and (160). The only difference is the discourse relation within the CC, which is orthogonal to the correlative construction itself.

It is worth reiterating that, syntactically, all clauses involved remain paratactically juxtaposed. The hierarchical discourse structure of these examples with complex CCs does not trickle down into syntactic connectivity:

(164)
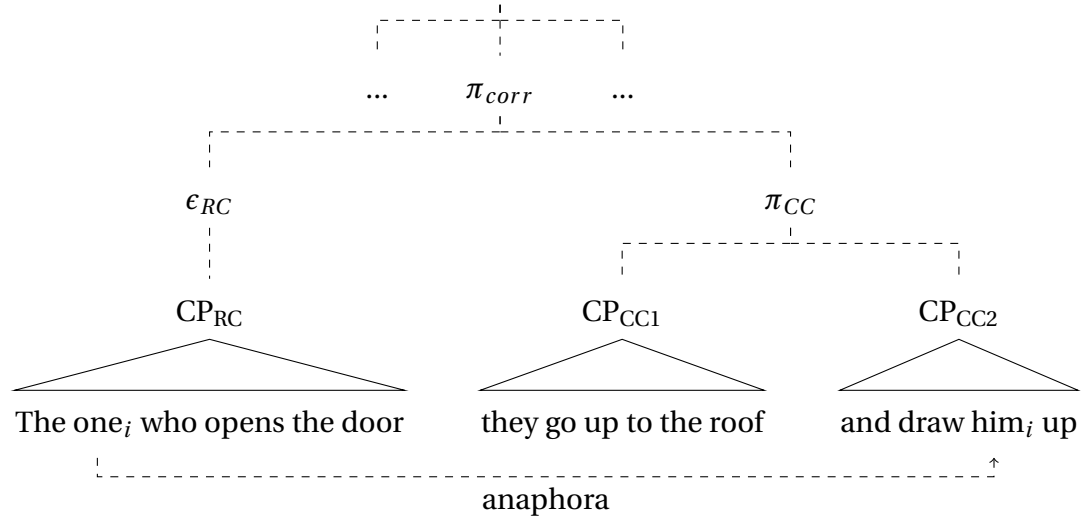
Thus, all correlative constructions in Hittite are *syntactically* equivalent (modulo the number of clauses involved). The differences between them lie in their semantics and their discourse structures.

4.4.2 Multi-clause RCs

Just as the CC can consist of multiple clauses, the "RC" part (again, using that label a bit loosely) can consist of multiple clauses:

(165) nu   kuiš DUMU-aš$_i$ alpanza našma=šši$_i$=kan garāteš adanteš   n=an$_i$
       CONN REL child   sick   or=him=PTC   innards devoured CONN=him

       tuīkkuš   išgaḫḫi
       bodyparts I.anoint

       'Whatever child is sick, or his innards are devoured, I anoint his bodyparts (lit. I anoint him the bodyparts).'

(166)

$$\begin{array}{|l|} \hline \epsilon_{RC},\pi_{CC} \\ \hline \pi_{corr}: \begin{array}{l|l} & \begin{array}{|l|}\hline \pi_{RCa},\pi_{RCb} \\ \hline \end{array} \\ \epsilon_{RC}: & \pi_{RCa}: \text{Whatever child}_i \text{ is sick} \\ & \pi_{RCb}: \text{or his}_i \text{ innards are devoured} \\ & Alternation(\pi_{RCa},\pi_{RCb}) \\ \\ \pi_{CC}: \text{I anoint him}_i \text{ the bodyparts} \\ \\ HT(\epsilon_{RC},\pi_{CC}) \end{array} \\ \hline \end{array}$$
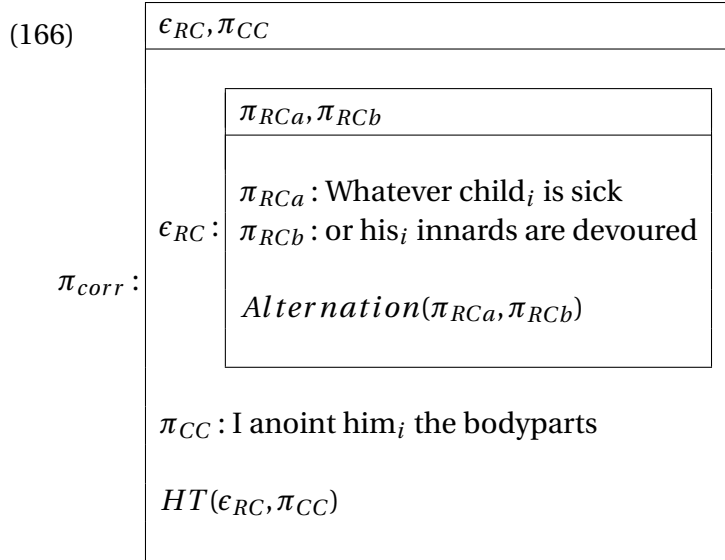
Note that only the first clause has a Rel. The second clause refers back to that referent by means of anaphora rather than by means of a gap or an additional Rel. Interestingly, the fact that the RC segment has what we might call "internal anaphora" makes it almost syntactically indistinguishable from a correlative construction with a complex CC, such as (158). Indeed, with a paratactic structure, the two types *are* syntactically identical, including the use of anaphors. What distinguishes (158) and (165) is the discourse structure, whether the second clause is the first part of the CC or the second part of the RC. That is decided by the semantics rather than syntax, namely what discourse relations make the discourse maximally coherent. The discourse approach also makes good sense of *why* the second RC clause has internal anaphora, rather than a second Rel or a gap: the two clauses are syntactically separate, and the link between them operates at the level of discourse, so discourse anaphora is the default strategy for making continued reference.

4.4.3 Multiple RCs to one CC

As the following example shows, two correlatives can associate to the same CC independently of each other:

(167) [$_{RC}$purut$_i$=ma kuit [d]ašket] [$_{RC}$nu kuwapi$_j$ KIN-az hūman kittat]

      mud=CONTR REL took   CONN where work all was.placed

      apūnn$_i$=a apiya$_j$ pēdā[(i)]

      that=too there brings

      'The mud$_i$ which he had taken, where$_j$ all the work has been placed, he carries that$_i$ too there$_j$.'

(KBo 10.45+ i 29–31 (MH/NS); Trameri 2022: 50)

(168)

$$\pi_{corr}: \begin{array}{|l|}
\hline
\epsilon_{RC1}, \epsilon_{RC2}, \pi_{CC} \\
\hline
\\
\epsilon_{RC1}: \text{The mud}_i \text{ which he had taken} \\
\epsilon_{RC2}: \text{where}_j \text{ all the work has been placed} \\
\pi_{CC}: \text{he carries that}_i \text{ too there}_j \\
\\
HT(\epsilon_{RC1}, \pi_{CC}) \\
HT(\epsilon_{RC2}, \pi_{CC}) \\
\\
\hline
\end{array}$$

Syntactically, this is just the same as all the other cases we have seen so far: the clauses are juxtaposed paratactically. In the discourse structure, each RC acts as a topic for the CC, so there is an *HT* relation for each.

4.4.4 Summary

In this section, I proposed that the hierarchical structure of correlative constructions in Hittite is as shown in (169).

(169)

π_{corr}

CP$_{RC}$ CP$_{CC}$

nu=mu MUŠEN.ḪI.A$_i$ kue uppešta   n=at$_i$ arḫa ḫ[ar]ranteš eš[er]

'The birds$_i$ which you sent to me'   'they$_i$ were spoiled'

anaphora
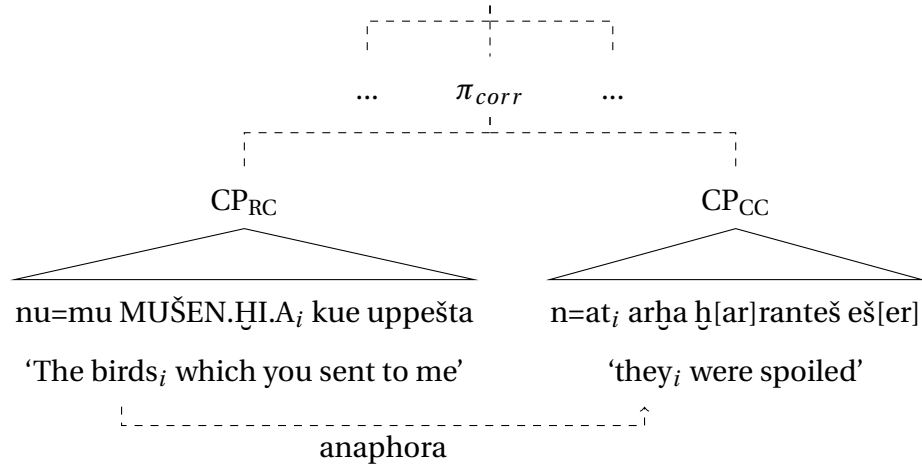
The individual clauses that make up the construction are not linked to each other syntactically; they are all juxtaposed in simple parataxis. The RC and CC are distinct discourse constituents which are joined together to form a single discourse constituent corresponding to the whole correlative construction. The RC and CC discourse constituents may be internally complex, containing multiple clauses joined by a variety of discourse relations. The potential for internal complexity means that various constructions that are syntactically identical (being paratactic) can have different discourse structures. I showed that SDRT, which emphasizes the rhetorical relations between discourse constituents, is an apt framework for capturing the functional topic-comment relationship between the RC and the CC and for expressing the construction's discourse structure. (I will discuss the semantic aspects of this framework more in the next chapter.)

4.5   What about adjunction (or other approaches)?

In the previous section, I presented a parataxis account of the syntax of Hittite correlative (and HT) constructions. In this section, I will consider various integrative approaches that have been proposed for correlatives or HTs. I will examine two approaches to correlative syntax involving adjunction, as well as two syntactic approaches to HT constructions. I will group them according to whether they assume that the RC/HT is syntactically subordinate to the CC or not.

4.5.1 Subordinate to CC

4.5.1.1 Asymmetric adjunction

In the literature, correlatives have often been treated as syntactically adjoined to the CC at some level. For example, Srivastav (1991)/Dayal (1996) and Bhatt (2003) both assume that correlatives adjoin to IP in Hindi, and Izvorski (1996) assumes they adjoin to CP in Slavic languages:

(170)   Schematic of asymmetric adjunction

$$\text{IP}_{\text{CC}}/\text{CP}_{\text{CC}}$$

```
              IP_CC/CP_CC
             /          \
         CP_RC         IP_CC/CP_CC
        /     \         /       \
The birds_i which    they_i were spoiled
you sent to me
```
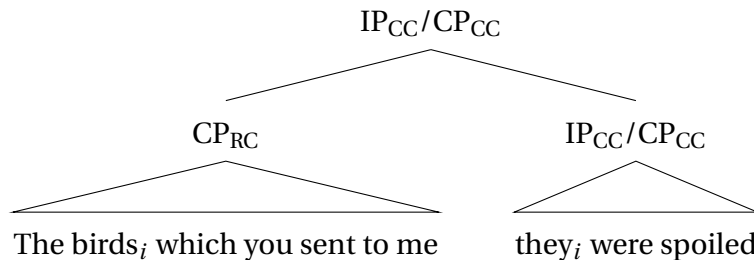
In these models, the relevant projection of the CC (IP or CP) projects over the RC, hence the asymmetry.

IP is ruled out for Hittite because correlatives precede discourse connectives (*nu, šu, ta*) in the CC, which themselves always appear at the beginning of the clause (Hoffner and Melchert 2008: 390) and precede other CP-range material such as fronted topics (p. 407):

(171)   *'I have given my son Tudḫaliya over to you in servitude'*

nu	É	**ᵈ*IŠTAR***	[ᵐD]utḫaliyaš	DUMU=*YA* ⟨ tapardu
CONN	house	Ishtar	Tudḫaliya	son=my administer.3SG.IMP

'**and** Tudḫaliya my son shall administer **the house of Ishtar**.'

(KUB 1.1 iv 77–78 (NH); Otten 1981: 28)

A CP-adjunction site is harder to argue against because the adjunct would precede all clausal material, the same as in a paratactic model. However, intervening-clause constructions like (154) make asymmetric adjunction to CP problematic. The correlative is most closely connected in interpretation to the CC, but in these constructions the correlative cannot be directly ad-

joined to it. The only way around this problem is to assume adjunction to some constituent combining the intervening clause with the CC:

(172)

```
                            XP
              ┌─────────────┴─────────────┐
           CP_RC                          XP
        ┌────┴────┐              ┌─────────┴─────────┐
The one_i who opens the door  CP_setup            CP_CC
                           ┌────┴────┐        ┌─────┴─────┐
                      they go up to the roof  and draw him_i up
```
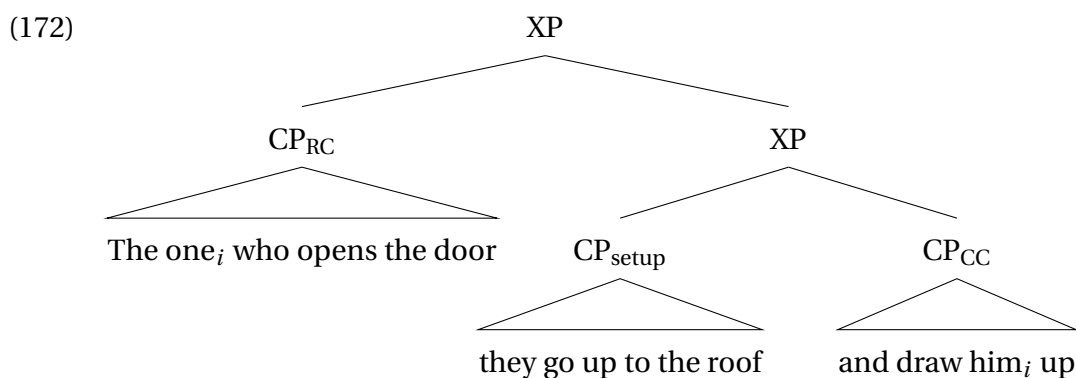
However, it is far from clear that these sentences are plausibly construed as syntactically joined since they are both independent clauses. I argue that the connection between them, as with any two independent clauses in narrative sequence, is a matter of discourse connection, not syntactic constituency.

4.5.1.2   HTs in the left periphery

Benincà and Poletto (2004: 65) propose that HTs occupy a dedicated functional projection HTP high in the left periphery of the clause, which precedes the position of pre-topic complementizers (often held to be in Force^0):

(173) $[_{HTP} [_{ForceP} \ldots]]$

The Hittite data reveals two problems with this account. The first, as before, is that the intervening clause in examples like (154) has nowhere to enter such a structure: as the clause is an independent clause, it should not be syntactically subordinate to another, and yet the only positions available between HTP and the rest of the CC are other left-periphery positions inside the CC.

The second problem concerns the relationship between HTP and the rest of the CC. Recall from chapter 2 that the clitic chain in Hittite attaches to the first prosodic word of its clause; in HT and correlative constructions, the HT/RC is always to the left of the chain's host (bolded

148

below):

(174) a. ^d*IŠTAR* **DINGIR-*LIM*=aš=mu**

Ishtar   goddess=she=me

'(As for) Ishtar, she is my goddess.'

(KUB 1.1 iv 74 (NH); Otten 1981: 28)

b. nu=za   *ANA PANI ABI ABI=YA*   kuiš URU Kaškaš

CONN=REFL in.time.of grandfather=my REL city Kaška

^{ḪUR.SAG}Tarikarimun GÉŠPU-az ešat   **namma**=aš=za ^{URU}KÙ.BABBAR-ši

Mt. Tarikarimu   by.force settled again=it=REFL to.Ḫattuša

ḫargaš kišat
threat became

'The Kaškean city which had settled Mt. Tarikarimu by force in the time of my grandfather, once again it became a threat to Ḫattuša.'

(KBo 3.4 iii 57–59 (NH); Götze 1967: 80)

This means that HTs lie outside the prosodic domain that makes up the rest of the clause. Similarly, since HTs can exhibit case mismatch (cf. section 4.3.2.2), they lie outside the domain of syntactic processes like case assignment — in other words, outside the (normal) syntactic domain that makes up the clause. If the position of HTs (the purported HTP) is outside the normal prosodic and syntactic domains of the clause, why assume that it is a syntactic projection of that clause in the first place?

4.5.2 Not subordinate to CC

4.5.2.1 Discourse as syntactic trees

Giorgi (2015: 245–247) argues that HTs occur in the specifier of a "discourse head" H which is "prosody-oriented". She is building on a claim of Cinque (2008) that discourse is encoded in syntactic trees. The head H thus joins two sentences in a discourse (Cinque 2008: 118):

(175)   a.   [$_{HP}$ CP [H CP]]

b.

```
                        HP
                   /          \
                 CP            H'
              /      \        /   \
   John is no longer here.   H     CP
                                  /    \
                            He left at noon.
```
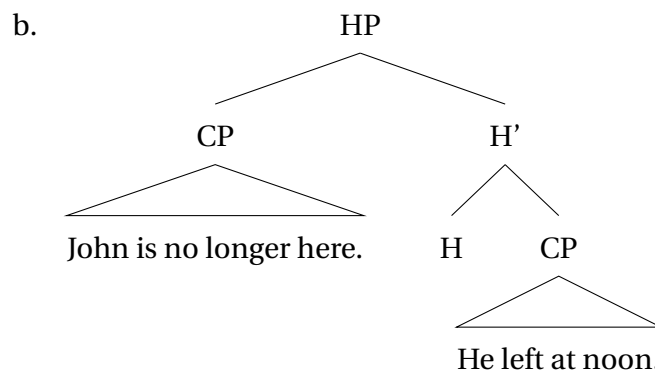
H has rather different properties as a functional head: it does not permit ellipsis between its specifier and its complement, and it permits each to have independent prosody. Cinque's stated goal (p. 118) is to leverage Kayne's (1994) Linear Correspondence Axiom to equate linear order in discourse with asymmetric c-command in a syntactic structure.

Giorgi proposes that H is also used to bind an HT with its CC (representation mine):

(176)   [$_{HP}$ HT [H CP]]

It should be noted that Giorgi describes this as a "discourse", in contrast to other types of left dislocation that form a "single sentence". In this respect at least, Giorgi's proposal aligns with mine and differs from that of Benincà and Poletto (2004).

The idea that discourse structures are embodied in syntactic trees is an assumption that I believe is unfounded. First, in my view, the existence of a head H of this type is not well substantiated. It is by no means established that discourse structure is assembled by the syntactic

component of the grammar. Moreover, the syntactic head H would have to be of a very different kind from other heads, since it essentially acts like a partition between its specifier and its complement, allowing no syntactic or phonological processes to operate across the divide.

Second, it is plain that the schema in (175) will not work for discourses of more than two sentences. To expand to three sentences or more, we would need to allow either the specifier or complement to be another HP. Consider the following discourse (reproduced from Asher and Lascarides 2003: 8–9):

(177) π_1: Max had a great evening last night.

   π_2: He had a great meal.

   π_3: He ate salmon.

   π_4: He devoured lots of cheese.

   π_5: He then won a dancing competition.

The following diagram represents the rhetorical structure of the discourse:

(178)
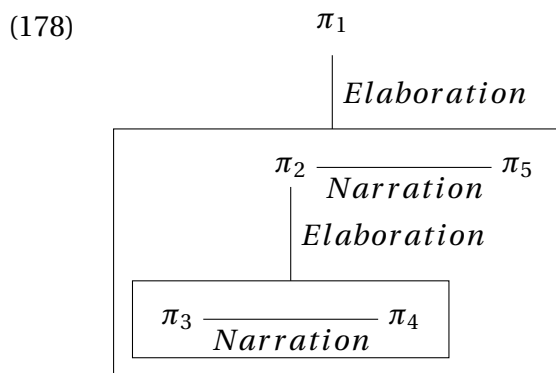
A Cinque-style syntactic tree for this discourse would have to be something like the following:

(179)

```
                    HP
                   /  \
                 π₁    H'
                      /  \
                     H    HP
                         /  \
                       HP    H'
                      /  \   / \
                    π₂   H'  H   π₅
                        / \
                       H   HP
                          /  \
                        π₃    H'
                             / \
                            H   π₄
```
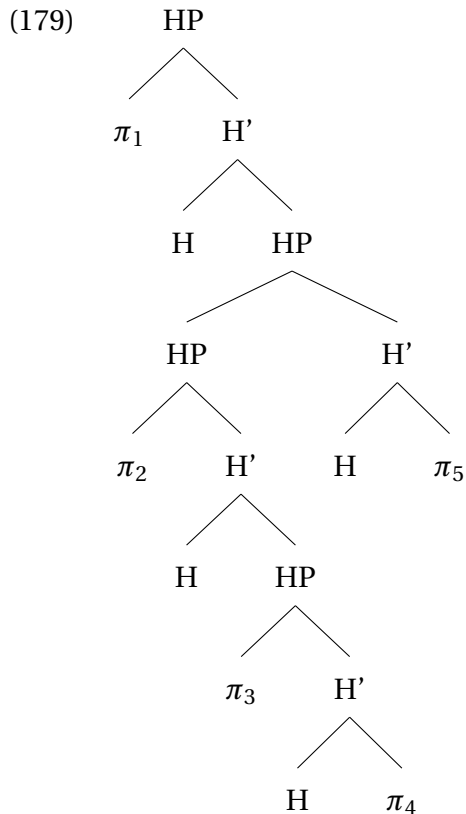
After allowing HPs to have other HPs as their specifiers and complements, the syntactic structure in (179) ends up being close to a notational variant of (178), except with the added assumption that a head like H exists. However, there is another problem with using Cinque's method for discourse structure: most frameworks agree on distinguishing two types of rhetorical relation, *coordinating* relations like $Narration$, which link one discourse segment to another on the same "level", and *subordinating* relations like $Elaboration$, which link one segment to another which is subordinate to the first and in some way expands on it (Benz and Kühnlein 2008: 7–8). As can be seen in (179), Cinque's analysis cannot distinguish between these two types of relations, because it only allows one connection between discourse segments: the specifier-complement relation. In (177), π_3 and π_4 work together to paint the full picture of the meal mentioned in π_2. Thus, the relationship between π_2 and π_3 is the same as that between π_2 and π_4 (a subordinating one), while the relationship between π_3 and π_4 is of a different kind (a coordinating one). (179) completely obscures the nature of these relationships: π_4 has the same structural relationship to π_3 that π_3 does to π_2. Thus, Cinque's analysis fails to properly reflect

the rhetorical properties of the discourse.

4.5.2.2 Symmetric adjunction

Davison ([2009](#): 229) proposes an alternative adjunction approach for Sanskrit, one in which the RC and CC are symmetrically adjoined:

(180)   Schematic of symmetric adjunction
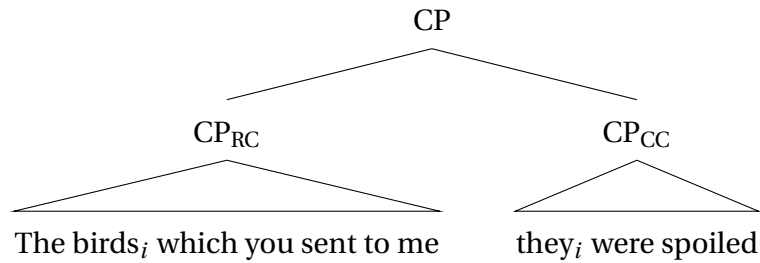
Although Davison states that it is unclear which clause should project over the other, it seems to me that a genuinely symmetric relationship would involve no projection of either. The superordinate category either has to be a joint projection of both, in which case presumably the two adjuncts must be of the same category, or it is of a different category altogether.

The first of these options works perfectly well for correlatives, assuming that all clauses involved are CPs. Note that, because of the symmetry, any number of clauses could in principle be adjoined. Under this approach, the intervening-clause examples like (154) could actually be accommodated without issue! However, we cannot accommodate HTs under this account if the adjuncts must be of the same category so as to jointly project. We would be combining an NP and a CP, which would not work. Thus, we could not obtain a unified treatment of HTs and correlatives. The second option described above *would* be able to accommodate both correlatives (even (154)) and HTs:

(181)

$$X$$

$$NP_{HT} \qquad\qquad CP_{CC}$$

(As for) H̱uiduḏḏuwalli$_i$ they settled him$_i$ in the city of Šallašna
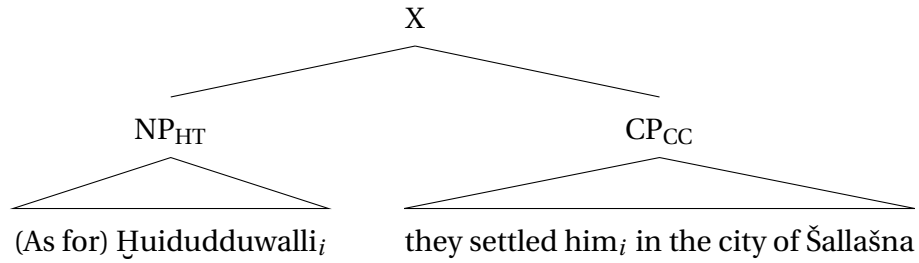
If the combined structure just gets a different label altogether, there is no reason why the adjuncts could not differ in category.

It is worth noting how similar this proposal is to my own in terms of hierarchy. Compare Davison's proposal (modified with an independent superordinate label, as per the above discussion) to my own proposal, repeated here:

(182)   a.   Symmetric adjunction approach:

$$X$$

$$CP_{RC} \qquad\qquad CP_{CC}$$

The birds$_i$ which you sent to me   they$_i$ were spoiled

       b.   Discourse approach:

$$\ldots \quad \pi_{corr} \quad \ldots$$

$$\epsilon_{RC} \qquad\qquad \pi_{CC}$$

$$CP \qquad\qquad CP$$

The birds$_i$ which you sent to me   they$_i$ were spoiled
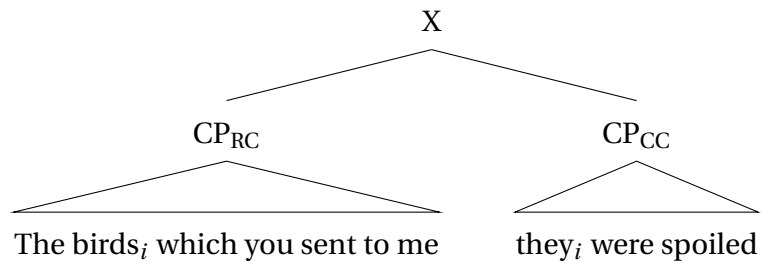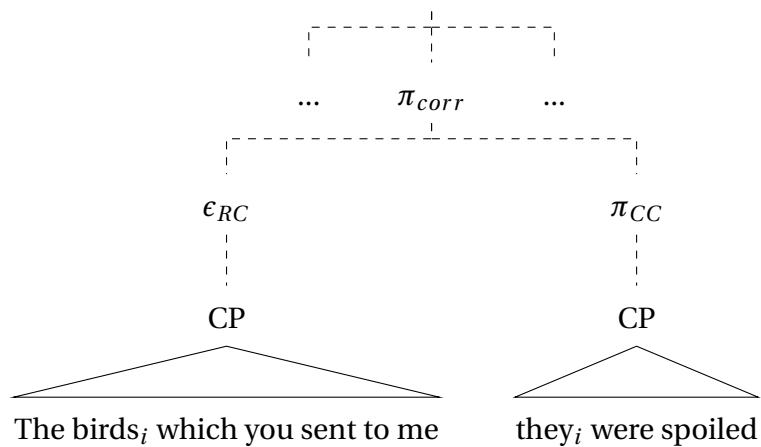
The two proposals are basically isomorphic. The only difference is whether the relationship is a syntactic one or not. For sure, the two clauses are linked in hierarchical structure. Given that the

154

clauses are semantically linked, we can say confidently that they are connected by the discourse component of the grammar. But is that it, or does the syntactic component of the grammar reinforce this with a connection of its own? We should not simply assume a syntactic connection just because two clauses are linked in the discourse. If we did, then we could well treat two independent sentences as adjoined. In my view, adjunction (and syntactic connection in general) should not be posited simply because two linguistic objects that are semantically associated. It should be justified on the basis of concrete syntactic evidence. For Hittite correlatives, as I have argued, this evidence is lacking.

4.5.3 Summary

We have seen that various syntactically-oriented proposals do not work for correlative and HT constructions in Hittite. The asymmetric adjunction and HTP approaches cannot accommodate non-prototypical constructions like (154) and provide no clear explanation for why HTs seem to lie outside the syntactic and prosodic domains of the CC. Cinque's (2008) and Giorgi's (2015) discourse-head approach properly assigns the HT relationship to the discourse, but misguidedly assumes that discourse is structured like clausal syntax (and by the same means), which overlooks the non-uniform nature of inter-clausal rhetorical relations. Davison's (2009) symmetric adjunction approach is actually very close to the mark, in my opinion, except that it assigns clausal connections to the syntactic component that I believe are better assigned to discourse.

4.6 Parataxis and other dependent clauses

This dissertation is focused on correlative constructions, and so the majority of my argumentation has been focused on them. However, in section 4.3.1 I suggested in passing that the same syntactic approach should be used for correlatives and for other dependent clauses. I noted that the internal syntax of dependent clauses is very similar to that of independent clauses, ex-

cept for the presence of a "subordinating" morpheme.[12] While I mentioned this to argue for non-integration of correlatives, the argument applies equally to other dependent clauses. Correlatives are not special or anomalous in terms of having non-integrative syntax, but rather just like other dependent clause types.

A caveat is in order: this claim does not necessarily extend to *all* dependent clauses. Hittite does certainly have some non-paratactic clauses: as mentioned in chapter 2, Hittite has embedded free RCs and externally-headed RCs which are syntactically part of their main clause. In this section, I am talking about dependent clauses which, like correlatives, are *peripheral* to another clause; my examples are all left-peripheral, but I believe the claim will hold for right-peripheral clauses as well. For a detailed discussion of clause types, see Hoffner and Melchert 2008: 414–429.

4.6.1 Similar function to correlatives

To further justify a paratactic analysis of correlatives, I associated them with HTs. We cannot use the exact same parallel for non-RC dependent clauses, since they are not individual-referring. However, we can observe that they have a similar functional role of evoking some circumstance that is used to evaluate further clauses in the same topic-comment manner. *How*-clauses introduce some standard of comparison. Conditionals introduce a situation based on an event or state (which may be hypothetical), and can be thought of as introducing (a class of) possible worlds. Temporal clauses refer to a point or interval of time. Viewed in this way, a basic parallel of discourse function becomes apparent.

Similarities between adverbial or conditional clauses and relative clauses have been noted before in the literature. Hall and Caponigro (2010) argue that temporal *when*-clauses are free relatives referring to time instead of individuals. It is also well-known that conditionals and correlatives have a great deal in common syntactically and semantically (Lipták 2009b: 26). In fact, correlatives with universal readings are logically equivalent to conditionals. The close sim-

---

12. I use "subordinating" for lack of a more convenient term. As should be clear at this point, I am not arguing for genuine clausal subordination.

ilarities between the two clause types have even led to diachronic and synchronic accounts linking them. Arsenijević (2009) argues that correlatives are in fact a subtype of conditionals, and Huggard (2015) argues the same for correlatives with universal readings. Belyaev and Haug (2020) derive wh-correlatives diachronically from paratactic conditionals crosslinguistically.[13] The similarities between these types of clauses further justifies similar syntactic treatments.

4.6.2 Complex constructions

Further support for a paratactic analysis of dependent clauses in general comes from complex constructions where RCs follow other dependent clauses. Consider the following three examples:

(183) GIM-an=ma   NINDA.GUR$_4$.RA.ḪI.A paršiyauwanzi zinnai   nu=kan   kue
       when=CONTR   thickbreads   to.break   finishes CONN=PTC REL

       AWATE.MEŠ *ANA* ^{d}UTU-*ŠI*   ŠÀ-ta n=at=za   *ANA* DINGIR.MEŠ
       things   to   His.Majesty heart CONN=them=REFL to   gods

       arkuwar DÙ-zi
       plea   makes

       'When he finishes breaking the thickbreads, whatever things are in His Majesty's heart, he makes them into a plea to the gods.'

       (KUB 6.45 iv 45–47 (NH); Rieken, Lorenz, and Daues 2017d)

---

13. See chapter 6 for further discussion of these claims, including arguments against the strong claim that correlatives *are* conditionals.

(184) kuitman=ma=za   DUMU-aš ešun   nu=za   KUR.KUR LÚ.KÚR kue

while=CONTR=REFL boy   I.was CONN=REFL lands   enemy   REL

taruḫḫiškenun   n=at   ṬUPPU ḫantī   DÙ-mi

I.conquered.IMPF CONN=them tablet   separately I.make

'While I was young, what enemy lands I conquered, I will make them (into) a tablet separately.'

(KUB 1.1 i 73–74 (NH); Otten 1981: 8)

(185) kuitman=ma DINGIR-*LUM* *INA* UD.3.KAM mug[āmi] nu=za=kan

while=CONTR god   in   three.days I.entreat   CONN=REFL=PTC

zašḫimuš kuiēš uškezz[i]   n=aš   memiškezzi

dreams   REL   he.sees.IMPF CONN=them he.tells.IMPF

'While [I] entreat the god for three days, the dreams which he sees, he reports them.'

(KUB 7.5+ iv 5–7 (pre-NH/NS); Mouton 2012)

Each example contains a triclausal sequence: temporal clause, RC, CC. Each temporal clause identifies a point or interval of time, but the relationship of that point/interval to the other clauses differs between the three examples. In (183) the point of time in question only seems to pertain to the CC, since presumably the things being in His Majesty's heart does not depend on the time of bread-breaking. In (184) the time interval is only tied to the RC; the future tablet-making is independent. In (185) the time interval covers both RC and CC, since both a dream and a report are expected to happen on each of the three days in the interval.

What is important to note in (183)–(185) is that, although the temporal clause in each example depends semantically on different clause(s), there are no discernable syntactic differences that reflect this. This is especially clear when comparing (184) and (185), which for our purposes have effectively identical syntax. Thus, it is simplest to assume that the temporal clause has the

same syntax in each example. If we take a paratactic view of these temporal clauses, then the facts fall out naturally: all three examples involve three juxtaposed clauses, and the various semantic connections are anaphoric and pragmatically determined.

As far as I can tell, no integrative approach provides an explanatory advantage. If the temporal clause were integrated with either the RC or the CC, we would have to appeal to anaphora to explain the other semantic connection in (185), which is the same mechanism used in the paratactic account. Moreover, one would have to assume that the different integration points left no visible differences. All in all, I think that assimilating dependent clauses more broadly into the paratactic account provides a more streamlined and elegant solution.

Moreover, the following example shows an intervening independent clause, in a manner similar to what we saw in (154):

(186) kī=ya=šta   warān   paḫḫur GIM-an$_i$ kištati
       this=too=PTC   burning fire   how   is.quenched

       n=ašta   kuiš kūš   *NIŠ* DINGIR.MEŠ šarrizzi
       CONN=PTC   REL these oaths   transgresses

       n=an   kē   *NIŠ* DINGIR.MEŠ appandu
       CONN=him   these oaths   seize.3PL.IMP

       n=ašta   apell=a   TI-tar=šet ^{LÚ}GURUŠ-tar=šet luluš=šet   *INA*
       CONN=PTC   his=also life=his   youthful.vigor=his   prosperity=his   for

       EGIR.UD.*MI* *QADU*   DAM.MEŠ=*ŠU* DUMU.MEŠ=*ŠU* *QATAMMA*$_i$
       future   together.with wives=his   sons=his   likewise

       kištaru
       be.quenched.3SG.IMP

       'Just as this burning fire too is quenched, whoever transgresses these oaths, let
       these oaths seize him, and let also his life, his youthful vigor, and his prosperity
       for the future, together with his wives and children, likewise be quenched.'

                                      (KBo 6.34 iv 5–11 (MH/MS); García Trabazo 2002: 538)

The adverbial *how*-clause is resumed in the last clause via *QATAMMA* 'likewise', as made clear by
the parallel predicates *kištati* and *kištaru*, declaring a punishment for oathbreaking. In between
these two clauses are a correlative (identifying the oathbreaker), which is also resumed in the
final clause, as well as an independent clause listing another punishment for the oathbreaker.
It is this latter clause that is revealing to us. In section 4.3.3, we saw examples like (154) where
an independent clause intervened between a correlative and its CC, a situation which strongly
motivated a paratactic analysis over an integrative one. In just the same way, the RC's first CC in
(186) breaks the adjacency we might otherwise want for a *how*-clause, and forces us to use the
same logic to conclude that the *how*-clause is paratactically incorporated.

160

4.7 Conclusion

I have proposed an account of the syntactic and discourse structure of correlative constructions in Hittite. This involved addressing two fundamental questions about the surface position of the RC: what is that position, and how does the RC get there? I tackled the latter question first, showing that the RC is base-generated in its position rather than moved there from somewhere within the CC. Various pieces of evidence point in this direction. First, multiple correlatives and frame relatives cannot be derived by movement because there is no viable starting point. Second, there is evidence that Hittite correlatives are not subject to locality effects. Third, movement is not compatible with the nature of the correlate as a discourse anaphor, which was demonstrated in the last chapter.

Although the RC appears in a position which is adjacent to the CC's left edge, it is not an integrated subconstituent of the CC. Correlatives in Hittite are best viewed as HTs that have the form of a free RC. Various syntactic properties of HT and correlatives suggest that they are syntactically detached from their CC. Additional strong evidence pointing in this direction comes from constructions where an independent clause intervenes between the RC and the CC. Thus, I have argued that the best analysis is one where the RC and the CC are paratactically juxtaposed instead of syntactically integrated, an approach which can and should be extended to all dependent clauses in Hittite.

If the RC and CC are not syntactically integrated, then their connection must be attributed to discourse grammar. I have presented an analysis, framed in the discourse-oriented SDRT framework, in which the RC and CC correspond to distinct discourse constituents linked by an (as yet unformalized) rhetorical relation HT. This model easily accommodates complex constructions involving more than two clauses, including those where the RC or CC may be internally complex and consist of multiple clauses, and those where an independent clause apparently intervenes (reducing them to a complex CC without anaphora in the first clause). The ability to distinguish semantic relationships between various constructions that are otherwise syntactically indistinguishable validates a discourse treatment of these constructions.

CHAPTER 5

A dynamic model of correlative semantics

5.1 Introduction

In the last chapter, I proposed the syntactic and discourse structure in (188) for correlative constructions like (187), with a graphical representation as in (189).

(187) nu=mu   MUŠEN.ḪI.A kue uppešta n=at   arḫa ḫ[ar]ranteš eš[er]
       CONN=me birds   REL you.sent CONN=they spoiled   were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

(188)

CP_{RC} CP_{CC}

nu=mu MUŠEN.ḪI.A$_i$ kue uppešta   n=at$_i$ arḫa ḫ[ar]ranteš eš[er]

'The birds$_i$ which you sent to me'   'they$_i$ were spoiled'

(189)

$$\pi_{corr}: \begin{array}{|l|}
\hline
\epsilon_{RC}, \pi_{CC} \\
\hline
\epsilon_{RC} : \text{The birds}_i \text{ which you sent to me} \\
\pi_{CC} : \text{they}_i \text{ were spoiled} \\
\\
HT(\epsilon_{RC}, \pi_{CC}) \\
\hline
\end{array}$$

At the time, I introduced a discourse relation HT to represent the topic-comment relation between the RC and its CC, as well as the idea that the RC is individual-referring rather than event-describing, but I did not formalize the details. Now it is time to give formal definitions to these concepts and flesh out the dynamic account that I am proposing.

My analysis is based in Segmented Discourse Representation Theory (SDRT) (Asher and Lascarides 2003), a framework which extends Discourse Representation Theory (DRT) (Kamp 1981). DRT is a dynamic semantic framework designed to handle inter-sentential anaphora and model the accumulation of information in discourse over time. SDRT extends this framework to model hierarchical structure in discourse through the inclusion of rhetorical relations between discourse constituents. In this chapter, I provide formal definitions of a function ref and a rhetorical relation HT and show how they can be used to extend SDRT for individual-referring discourse constituents, permitting us to model the formation of correlative constructions in discourse and to capture the semantic relation between the RC and the CC. My analysis is not the only DRT-style analysis of correlatives in the literature; in section 5.3.1, I will discuss the DRT-based analysis of Belyaev and Haug (2020).

The chapter is laid out as follows. In section 5.2 I provide background on dynamic semantics, DRT, and SDRT, particularly the way that SDRT models the structure and semantics of discourse. In section 5.3, I motivate and formally define the key elements of my proposed extension to SDRT: the function ref and the rhetorical relation HT. I show how they can be applied to represent the structure of correlative construction and how structures involving these elements are interpreted. In section 5.4 I walk through the dynamic formation of a correlative construction, explaining how the discourse structure is formed (and how it can be subsequently altered).

In section 5.5 I show how my dynamic model can elucidate the grammar of a small group of constructions where elements of the CC seem curiously to occur in the RC. The chapter concludes with a summary of the argument in section 5.6.

This chapter is the most formally technical in this dissertation. I have tried to make it as accessible as possible to a broader audience (viz. readers who are not specialists in formal semantics). To this end, the version of SDRT presented in this chapter is simplified, and I have tried to retain only what is important to my extension of the system. Moreover, where technical formalism is presented, I have endeavored to walk through it with non-semanticist readers in mind. In places, this has perhaps led to some over-explanation, but I have chosen to beat the proverbial dead horse in the hopes of maximizing comprehensibility.

5.2 Background on SDRT

5.2.1 The basics of dynamic semantics

When two participants are engaged in some form of discourse (whether a dialogue between two active participants or a written text which one person writes and another reads), the information held in common by the interlocutors changes over the duration of the discourse. Dynamic semantics conceptualizes the meaning of a sentence in terms of this information change. At any given point in a discourse, the interlocutors share a particular information state. The meaning of a sentence is its *context change potential*, the particular way it changes the information in the discourse given an input state. At any given point in a discourse, the information state is the set of possible *contexts* in which the discourse up to that point can be evaluated as true. The addition of a new sentence S to the discourse whittles that set down, outputting only the contexts that also make S true.

5.2.2 The formation of discourse in SDRT

In DRT, discourse logical forms are represented by *discourse representation structures* (DRSs). Formally, these are defined as pairs $\langle U, C \rangle$, where the *universe U* is a set of discourse referents (in the form of variables like x, y, z) and C is a set of *conditions* that the referents must satisfy.

These conditions can be predicate formulas such as $buy(x, y)$ or they can be logical formulas involving subordinate DRSs and logical connectives ($\neg, \wedge, \vee, \Rightarrow$):

(190)   a.   John bought a painting.

       b. $[x, y : john(x), painting(y), buy(x, y)]$

(191)   a.   John did not buy a painting.

       b. $[x : john(x), \neg[y : painting(y), buy(x, y)]]$

DRSs can also be represented visually in a box format:

(192)   a.   John bought a painting.

       b.
$$
\begin{array}{|l|}
\hline
x, y \\
\hline
john(x) \\
painting(y) \\
buy(x, y) \\
\hline
\end{array}
$$

In the box representation of DRSs, the universe U is listed in the top compartment and the DRS conditions in C are given in the lower compartment.

SDRT extends this formalism to accommodate rhetorical relations between discourse constituents. In classical DRT, new information is added directly to the DRS of the preceding discourse (Kamp 1981):

(193) a. John bought a painting. Mary framed it.

b.
$$
\boxed{\begin{array}{l} x, y, w, z \\ \hline \\ john(x) \\ painting(y) \\ mary(w) \\ z = y \\ buy(x, y) \\ frame(w, z) \end{array}}
$$

SDRT keeps the structures of the individual discourse contributions separate. The individual structures receive labels (e.g., π), and the connections between them are expressed via relations on those labels (e.g., $Narration(\pi_1, \pi_2)$). The notion of DRSs is extended to *segmented discourse representation structures* (SDRSs). All DRSs count as SDRSs, as do all rhetorical relation formulas of the form $R(\pi_1, \pi_2)$; all SDRSs receive labels. SDRS structures can also be represented in box-style notation:

(194) a. π_1: John bought a painting.

π_2: Mary framed it.

b.
$$
\pi: \boxed{\begin{array}{l} \pi_1, \pi_2 \\ \hline \\ \pi_1: \boxed{\begin{array}{l} x, y \\ \hline john(x) \\ painting(y) \\ buy(x, y) \end{array}} \quad \pi_2: \boxed{\begin{array}{l} w, z \\ \hline mary(w) \\ z = y \\ frame(w, z) \end{array}} \\ \\ Narration(\pi_1, \pi_2) \end{array}}
$$

Here, the SDRSs corresponding to the two sentences receive the labels π_1 and π_2, while the rhetorical relation $Narration(\pi_1, \pi_2)$ receives the label π. Discourse is constructed dynamically by attaching new content to the existing SDRS structure for the preceding discourse via rhetorical relations: a new relation is introduced which links the label of the new content with

the label of some part of the previous structure. In the toy example in (194), we start by adding π_1 to a null structure, and subsequently we introduce π_2 and use the relation $Narration(\pi_1, \pi_2)$ to attach it to π_1.

5.2.3 Interpretation of SDRSs

I follow Asher and Lascarides (2003) in defining the semantics of (S)DRSs according to an intensional model (one in which the semantic value of linguistic expressions is relativized to possible worlds). Simplifying somewhat, this model has the form $M = \langle A_M, W_M, I_M \rangle$, where:

- A_M is a set of individuals. I represent plurals as summed individuals, so A_M includes both atomic individuals $(a, b, c, \dots)$ and summed individuals $(a+b, b+c, a+c, a+b+c, \dots)$. The individuals in A_M are partially ordered by sum-inclusion: for example, $a \leq a+b \leq a+b+c$.

- W_M is a set of possible worlds.

- I_M is an interpretation function that maps a predicate $P(x_1, \dots, x_n)$ and a world w to a set of n-tuples of the individuals in A_M.

The truth conditions of formulas are provided by these elements. As noted above, discourse referents are represented by variables. The interpretation of these variables is encoded by *variable assignment functions*, which map variables to individuals in A_M. The function I_M encodes the truth conditions of predicates: $I_M(P)(w)$ lists the combinations of individuals that make P true in w. A formula $P(x, y)$ is true in world w, given an assignment function f, if and only if $\langle f(x), f(y) \rangle \in I_M(P)(w)$. For example, suppose that $f(x) = $ **John** and $f(y) = $ **painting**$_1$; then $buy(x, y)$ is true in w with respect to f if and only if $\langle$**John**, **painting**$_1\rangle \in I_M(buy)(w)$. Because A_M contains summed individuals as well as atomic individuals, there is some redundancy in I_M. I do not think this is a problem because predicates can generally be applied to plurals collectively or distributively.[1]

---

1. The situation is more complicated than I am portraying it here. For a detailed treatment of plurals in a dynamic logic, see Asher and Wang (2003), who use sets of individuals instead of summed individuals. I will set aside these complications here.

SDRT is a dynamic framework, meaning that the interpretation of an SDRS is a relation between an input and output information state. The input information state to an SDRS is a set of possible *contexts* of evaluation, namely those that satisfy the contents of the preceding discourse, and the output information state is the (sub)set of contexts that also satisfy the content of the new SDRS. Contexts are characterized as *world-assignment pairs* (w, f) containing a world w and an assignment function f. An SDRS formula K relates an input context (w, f) to an output context (w', g), expressed formally as $(w, f)[\![K]\!](w', g)$, under certain conditions, which are covered in detail by Asher and Lascarides (2003: 48–52, 156–159). I will expand on just a couple of them here.

The following definitions permit recursive definition of the interpretation of a DRS-style SDRS:

(195)   a. $(w, f)[\![\langle U, \emptyset \rangle]\!](w', g)$ iff $w = w' \wedge f \subseteq g \wedge dom(g) = dom(f) \cup U$,

           where $dom(f)$ is the domain of f

      b.   Let $K^\cap \gamma$ be the DRS produced by appending γ to the DRS conditions of K. Then:

           $(w, f)[\![K^\cap \gamma]\!](w', g)$ iff $\exists w'' \exists h$ such that $(w, f)[\![K]\!](w'', h) \wedge (w'', h)[\![\gamma]\!](w', g)$

These definitions handle the universe U and conditions C of DRSs, respectively; they can be used together to recursively define the interpretation of any DRS. (195a) guarantees that if any new variables are introduced in U, the assignment function f of the input context is extended in the output to a function g which assigns individuals to those new variables. (195b) expresses how DRS conditions combine compositionally: an output context (w', g) satisfies $K^\cap \gamma$ if it satisfies γ relative to at least one of the contexts that satisfy K. (It is not necessarily true that γ will be true in *all* of the contexts satisfying K; it only matters that γ be true in at least one of them.)

(195b) shows how DRS conditions combine, but we must also define how individual conditions are interpreted. For a full list of the definitions of the interpretation of various DRS conditions, see Asher and Lascarides 2003: 48; I will provide just the definition for predicates as an example:

(196) $(w, f)[\![P(x_1,\ldots, x_n)]\!](w', g)$ iff $(w, f) = (w', g) \land \langle f(x_1),\ldots, f(x_n)\rangle \in I_M(P)(w)$

The interpretation of a predicate-style DRS condition involves checking the corresponding individuals (identified by f) against $I_M(P)(w)$, the master roster of individuals that satisfy the predicate P in the world w. Note the stipulation $(w, f) = (w', g)$, which is also present in all the other DRS condition definitions. DRS conditions do not change the input context, but rather act as a test on it. An input context will be passed through to the output, but only if it passes the test. Crucially, the handling of referents in (195a) is different: the world w is not changed, but the assignment function f from the input may need to be extended in the output.

5.2.3.1 Example

Let us illustrate with an example. Assume the following toy model M:

(197) $M = \langle A_M, W_M, I_M \rangle$, where:

    a. $A_M = \{\textbf{John}, \textbf{painting}_1, \textbf{painting}_2\}$

    b. $W_M = \{w\}$

    c. I_M is defined as follows (note the aforementioned redundancy):

john	w	$\mapsto$	$\{\textbf{John}\}$
painting	w	$\mapsto$	$\{\textbf{painting}_1, \textbf{painting}_2\}$
buy	w	$\mapsto$	$\{\langle \textbf{John}, \textbf{painting}_1 \rangle\}$

In words, M models a situation in which there is a single possible world w with two paintings, where John bought $\textbf{painting}_1$ but not $\textbf{painting}_2$.

Let K be the DRS for *John bought a painting* given in (192b), repeated here:

(198)

x, y
$john(x)$ $painting(y)$ $buy(x, y)$

Suppose we have an input context (w, f). To interpret the sentence, we must identify the output context(s) from this input. There are two variables in the universe of K, namely x and y. We must extend f to a new assignment g that maps these variables to individuals in A_M. Let us first try an extension g_1 such that $g_1(x) =$ **John** and $g_1(y) =$ **painting$_1$**. Now we have to check the DRS conditions. In this case, all of the conditions are predicates, so we will interpret them as in (196), as tests. First, we check if $(w, g_1)[\![john(x)]\!](w, g_1)$, which is true if $g_1(x) =$ **John** $\in I_M(john)(w)$; this is indeed true given the definition in (197). Similarly, we check if $g_1(y) =$ **painting$_1$** $\in I_M(painting)(w)$, which is true, and if $\langle g_1(x), g_1(y) \rangle = \langle$ **John, painting$_1$** $\rangle \in I_M(buy)(w)$, which is true. Since (w, g_1) satisfies all the DRS conditions, it is a valid output. Expressed formally, $(w, f)[\![K]\!](w, g_1)$.

We can also try to extend f to g_2 where $g_2(x) =$ **John** and $g_2(y) =$ **painting$_2$**. Then we check the conditions. g_2 succeeds on the first two conditions, since $g_2(x) =$ **John** $\in I_M(john)(w)$ and $g_2 y) =$ **painting$_2$** $\in I_M(painting)(w)$. However, g_2 fails on the third condition, because $\langle g_2(x), g_2(y) \rangle = \langle$ **John, painting$_2$** $\rangle \notin I_M(buy)(w)$. Thus, (w, g_2) is not a viable output given input (w, f).

The DRS in (198), and the sentence *John bought a painting* that it represents, relate the input information state to an output information state. The input state was the set of the two contexts we tried: $\{(w, g_1), (w, g_2)\}$. As described above, (w, g_1) is a valid output but (w, g_2) is not, so the output information state that results is $\{(w, g_1)\}$, a subset of the input. In this way, the addition of the sentence has added information to the Common Ground, which is reflected in the fact that there are fewer possible contexts in the output.

5.3 Extending SDRT for HTs and correlatives

As presented in Asher and Lascarides 2003, SDRT models the interactions between discourse constituents that describe events, focusing on the relationships between the events described. The way an HT relates to its CC is distinctly different: the HT describes an individual, not an event. The same difference seems to be at play with correlatives: though the RC has event content, functionally the RC's job is to activate a referent. In order to accommodate HTs and correlatives in an SDRT-based approach, we will need to extend the formalism to include individual-referring discourse segments.

5.3.1 A previous DRT treatment of correlatives

Before I present my SDRT approach to correlatives, let us look at the proposal of Belyaev and Haug (2020), who analyze correlative constructions using DRT (not SDRT). According to their analysis, correlatives with *wh*-based Rels (as in Hittite — see below) have a fundamentally universal reading, which is encoded in the semantics by a conditional:

(199) [(kui)]š=za ^{LÚ}ḫippari   ḫāppar   iezzi   n=aš=kan   ḫāpparaz
       REL=REFL *ḫippara*-man purchase makes CONN=he=PTC purchase.price.ABL
       [šame]nzi
       withdraws

'Whoever makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.'

<div align="right">(KBo 6.2 ii 51–52 (OH/OS); Hoffner 1997: 58)</div>

(200)

$$
\begin{array}{|l|}
\hline
 \\
\hline
\begin{array}{|l|}
\hline
x, y, z \\
\hline
purchase(y) \\
hippara.man(z) \\
make(x, y, z) \\
 \\
\hline
\end{array}
\quad \Rightarrow \quad
\begin{array}{|l|}
\hline
a, b \\
\hline
a = x \\
purchase.price(b) \\
withdraw(a, b) \\
 \\
\hline
\end{array} \\
\hline
\end{array}
$$
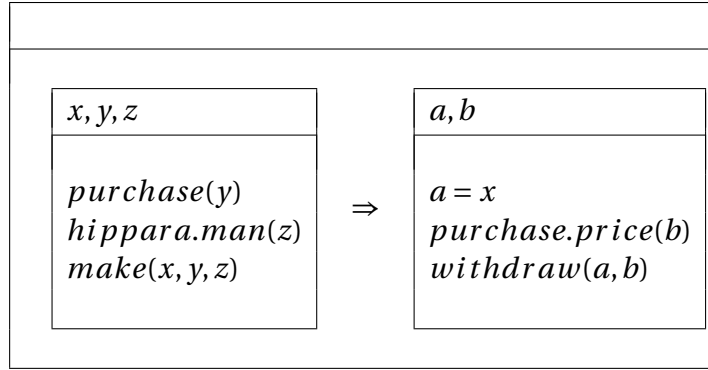
In a definite-reading correlative like (201), where the RC conditions are known to be true, the conditional-based structure in (202a) would be equivalent to the non-conditional merged DRS in (202b):

(201) nu=mu   MUŠEN.ḪI.A kue uppešta   n=at   arḫa ḫ[ar]ranteš eš[er]

        CONN=me birds   REL you.sent CONN=they spoiled   were

        'The birds which you sent to me, they were spoiled.'

                                             (AT 125 11–12 (NH); Hoffner 2009: 373)

(202) a.

$$
\begin{array}{|l|}
\hline
 \\
\hline
\begin{array}{|l|}
\hline
x, y, m \\
\hline
bird(x) \\
y = \text{ADDRESSEE} \\
m = \text{SPEAKER} \\
send(y, x, m) \\
 \\
\hline
\end{array}
\quad \Rightarrow \quad
\begin{array}{|l|}
\hline
z \\
\hline
z = x \\
spoiled(z) \\
\hline
\end{array} \\
\hline
\end{array}
$$

172
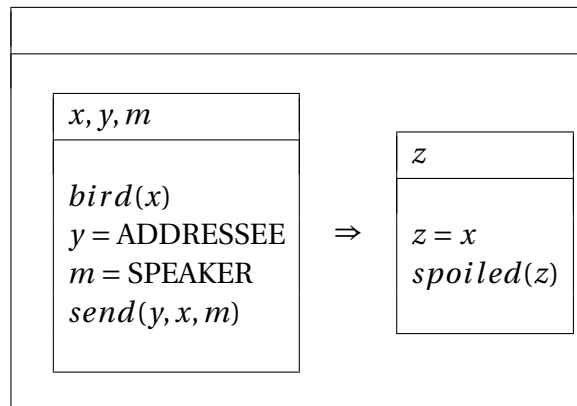
b.

x, y, m, z
$bird(x)$ $y = \text{ADDRESSEE}$ $m = \text{SPEAKER}$ $send(y, x, m)$ $z = x$ $spoiled(z)$

They argue that (202a) represents the historical origin of *wh*-correlatives, while (202b) represents the synchronic structure of a definite correlative.

There are a couple of shortcomings to this model. First, it fails to represent the fact that the correlative is a referential expression. In the case of a universal correlative, the RC is treated as the protasis of a conditional, and thus is treated like a proposition. In the case of a definite correlative, as shown in (202b), the variables and conditions of the RC are merged directly with those of the CC in a single DRS. The combined DRS has the referents and conditions of the RC, but merges it in the same way that it would two declarative clauses. The DRS in (202b) could also be produced by the two-sentence discourse in (203):

(203)   You sent me the birds. They were spoiled.

Recognizing the referential property of the RC requires a framework that keeps it distinct as a discourse object.

A second shortcoming of Belyaev and Haug's model is that it muddies the relationship between definite and universal correlatives. As noted by Garrett (1994: 44–45) and discussed in further detail in chapter 6, definite correlatives are not equivalent to conditionals, so the conditional formulation cannot felicitously represent definite correlatives synchronically. However, if we do not take it as the synchronic basis of definite correlatives, then we must assume that the two types of correlatives do not share a unified semantic representation synchronically.

In the following sections, I propose an analysis of HT and correlative semantics that aims to remedy these shortcomings. In particular, my model explicitly defines the semantic value of the

HT/RC in terms of the individuals it denotes, and the same definitions are used for definite and universal RCs. Moreover, my model uses discourse relations to elaborate discourse structure, preserving the separateness of the HT/RC as a referential speech act and allowing for a greater variety of complex constructions.

5.3.2 Rel as bare indefinite

The stem *kuiš* which acts as the Rel morpheme in Hittite also has interrogative and indefinite uses:

(204) a. Relative use

nu=mu   MUŠEN.ḪI.A **kue** uppešta n=at   arḫa ḫ[ar]ranteš eš[er]
CONN=me birds   REL you.sent CONN=they spoiled   were

'The birds **which** you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

b. Interrogative use

[(KUR.KUR.ḪI.A)=m]a ḫūman **kuiš** ḫarzi
lands=CONTR   all   who holds

'**Who** holds all the lands?'

(KUB 31.4 + KBo 3.41 12 (OH/NS); Hoffner and Melchert 2008: 351)

c. Indefinite use: *kuiš* + *-ki*

nu=šmaš   šardiyaš **kuiški** paizzi
CONN=them.DAT supporter some   goes

'and **some** supporter goes to them,'

(KBo 6.3 ii 31 (OH/NS); Hoffner 1997: 45)

    d. Indefinite use: *kuiš* alone

nu=wa=mu		mān	idālun	memian	**kuiš**	[memai]
CONN=QUOT=me	if	bad	word	someone	tells	

    'If **someone** tells me a bad word'

<div align="right">(KUB 14.1+ Vo 45 (MH/MS); Beckman, Bryce, and Cline 2011: 90)</div>

When the indefinite is used in normal declarative contexts, *kuiš* is augmented with a particle -*ki* (204c). The bare *kuiš* form is licensed in certain contexts, such as in the scope of a conditional (204d). To account for the semantic flexibility of this stem, Huggard (2015) argues that the *kuiš* morpheme is a bare indefinite whose fundamental semantic value is simply an open variable in the clause's logical form. Belyaev and Haug (2020: 887) take the same view of *wh*-based Rels in *wh*-correlatives cross-linguistically. I also adopt this approach.

In SDRT terms, this treatment of *kuiš* can be framed in the following manner. In a clause, *kuiš* introduces a non-anaphoric free variable x into the DRS; if *kuiš* comes with lexical material, there will be associated conditions in the DRS:

(205)   DRS for (204c)

x, y
$supporter(x)$ $y =$ [them (anaphoric)] $go(x, y)$

If *kuiš* is used as an indefinite, the DRS outputs any context (w', g) whose variable-assignment function g maps x onto an individual meeting the required conditions; this amounts to the same effect as in static frameworks, where the variable is bound by an operator (e.g., existential quantification). For relative and interrogative uses of *kuiš*, an additional function is applied to the formula to convert it to a different speech act type (i.e., not just a plain declarative). For the implementation with questions, see Asher and Lascarides 2003: 49–50; I will cover the imple-

mentation for correlatives below.

5.3.3 A referentializing function

The basic idea behind my proposal is that an HT or correlative (which I treat as a type of HT) is a referential expression that activates the referents satisfying the HT/RC's underlying formula. A speaker uses a referential expression in this way in order to make the referents accessible for further comment in the ensuing discourse. These referents may be new to the discourse, or they may have slipped out of highly accessible status either due to intervening material or due to the presence of discourse boundaries (such as the change to a new paragraph). The utterance of a referential expression as a discourse constituent on its own serves to bring the referents to attention and to make them accessible for subsequent anaphora.

To put this idea into formal terms, I propose to model the semantic value of the HT/RC in a given context as the set of referents that it refers to in that context. Mechanically, I accomplish this by feeding a formula to a function ref that outputs a set of individuals, thereby turning the formula into a referential expression. Let us build up a definition piecewise.

Our starting point is that ref takes as input a context (w, f) and a DRS formula $K(x_1, \ldots, x_n)$ that has the variables $x_1, \ldots, x_n$ in its universe (there may be other variables too). These variables correspond to the Rel phrases in an RC or to the nominal head in a nominal HT. The ref function outputs a set containing individuals in A_M (or, for multiple correlatives, n-tuples of individuals):

(206) $(w, f)\llbracket ref \rrbracket(\llbracket K(x_1, \ldots, x_n) \rrbracket) = \{\langle a_1, \ldots, a_n \rangle : \text{(conditions to be specified)}\}$

These individuals $a_1, \ldots, a_n$ are the ones which make $K(x_1, \ldots, x_n)$ true in (w, f) when each x_i is assigned the value a_i. In our dynamic model, we express this by stipulating the existence of a successful output context (w'', h) for $K(x_1, \ldots, x_n)$ where h assigns each a_i to the corresponding variable x_i:

(207) $(w,f)[\![ref]\!]([\![K(x_1,\ldots,x_n)]\!]) = \{\langle a_1,\ldots,a_n \rangle : \exists h \exists w'' \text{ such that}$

      (a) $(w,f)[\![K(x_1,\ldots,x_n)]\!](w'',h)$

      (b) $a_i = h(x_i)$ for each $i\}$

As mentioned in chapter 2, one of the hallmark properties of correlatives is maximalization: a correlative refers to the maximal entity satisfying its conditions. For example, the correlative 'which birds you sent to me' in (187) refers to the whole group of birds that were sent, not a subgroup. Thus, we must ensure that every individual in our ref set is maximal by adding a third condition, arriving at our final definition:

(208) $(w,f)[\![ref]\!]([\![K(x_1,\ldots,x_n)]\!]) = \{\langle a_1,\ldots,a_n \rangle : \exists h \exists w'' \text{ such that}$

      (a) $(w,f)[\![K(x_1,\ldots,x_n)]\!](w'',h)$

      (b) $a_i = h(x_i)$ for each i

      (c) $\forall w''' \forall k [h(x_i) < k(x_i)$ for some $i \rightarrow \neg (w,f)[\![K(x_1,\ldots,x_n)]\!](w''',k)]\}$

Condition (c) of the definition ensures that, if an assignment k that maps x_i to a larger individual than h does, then k will not be part of any successful output for $K(x_1,\ldots,x_n)$. Note that since A_M is *partially* ordered, there is not necessarily a unique maximal individual selected by ref, but the ones selected are not ordered with respect to one another. Condition (c) will become important in chapter 6.

The DRS for the RC makes $x_1,\ldots,x_n$ accessible as discourse referents, and feeding the DRS to ref ensures that the RC denotes specifically those individuals that are valid values for $x_1,\ldots,x_n$.

5.3.4 HT: a rhetorical relation linking HT/RC and CC

The function ref maps a DRS formula to a set of individuals satisfying it, creating a referring expression out of the formula. The CC applies a second condition to those individuals. I model this with a discourse relation HT between the HT/RC and the CC. Let us build up a definition of this relation.

Let α and β be the labels of the HT/RC and CC, respectively. The function of the HT/RC in the construction is to activate a referent and restrict our attention to circumstances where that referent meets the conditions of the HT/RC. Thus, for the construction to be valid in an input context (w, f), the HT/RC must be valid. That is, there must be a valid output (w'', h) for the HT/RC's DRS $K_\alpha(x_1, \ldots, x_n)$, and this must be true for each possible referent (tuple) of the HT/RC, i.e., for each member of the ref set:

(209) $(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

   (a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists w''$ such that

   $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h)$

Moreover, we cannot just accept any possible output (w'', h). It has to be one where h maps the Rel variables onto the individuals $a_1, \ldots, a_n$ that the RC denotes (i.e., the members of the ref set):

(210) $(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

   (a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists w''$ such that

   (i) $h(x_i) = a_i$ for each i

   (ii) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h)$

This stipulation is important because, as explained below, we will pass (w'', h) along as the input to K_β. To make sure that β properly comments on the a_i individuals under consideration, rather than just any old individuals, we need to pick an h that maps to $a_1, \ldots, a_n$.

It is worth observing at this point that the definition of HT partially recapitulates the definition of ref. This is necessary because the ref function does not actually change the information state by relating an input context to an output context. In SDRT, only rhetorical relations execute a change of information state. ref only gives us a set of individuals that *would* satisfy $K_\alpha(x_1, \ldots, x_n)$ in a given input context. It does not actually test the input context and give us an output. That job falls to HT, which is why we need the definition of HT to guarantee the valid satisfaction of K_α.

Our definition now states that the HT/RC's conditions are met and provides us with the relevant output context (w'', h), reflecting the fact that using the HT/RC as a referential expression presupposes its validity. When the CC is introduced, it adds a second set of conditions that must hold in those same circumstances. In other words, it takes the output context from the HT/RC as its input, and maps it to a new output:

(211) $(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

$\quad$ (a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists w''$ such that

$\qquad$ (i) $h(x_i) = a_i$ for each i

$\qquad$ (ii) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h) \land (w'', h)[\![K_\beta]\!](w', g)$

Note that the output context (w', g) for the overall construction is the same as the output for the CC itself. This reflects the fact that the HT/correlative construction gives us some information about the HT/RC's referent, and the CC is what gives us that information.

What our definition tells us so far is that α and β stand in an HT relation if and only if the conditions of both α and β are satisfied for each individual (or tuple) that α denotes. Note that this does not actually state at any point that β actually says anything about those individuals. This predicts that any clause can be the CC, as long as it is valid in the relevant contexts. This is obviously not what we want, because it fails to reflect the core property of the construction's topic-comment structure, that the CC says something about the referent of the HT/RC (or something related). Thus, we must include a second condition in our definition that stipulates the existence of a bridging function F linking $x_1, \ldots, x_n$ in α to some referent(s) $y_1, \ldots, y_j$ in β:

(212) $(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

$\quad$ (a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists w''$ such that

$\qquad$ (i) $h(x_i) = a_i$ for each i

$\qquad$ (ii) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h) \land (w'', h)[\![K_\beta]\!](w', g)$

$\quad$ (b) $\exists \langle y_1, \ldots, y_j \rangle \in U_\beta^j \exists F$ such that $F(x_1, \ldots, x_n) = \langle y_1, \ldots, y_j \rangle$ for some j

The nature of the bridging function is purposefully left unspecified in this definition, because

179

we need to allow for frame relatives as well as prototypical correlatives. If F is the identity function, then we have a prototypical correlative construction where the correlate is identical in reference to the RC. Frame relatives will involve other kinds of functions, to be inferred based on context and various other information sources (such as world-knowledge). Note also the use of the index j for the referents in β, which is not the same as the index n used to count the variables in α. This reflects that fact that not all of the Rels need to be matched with correlates (because Hittite does not obey the matching requirement): if $j < n$, then only some of $x_1, \ldots, x_n$ will be matched to referents in β.

We have almost reached a complete definition, but there is one more tweak to make (for now — we will add another in chapter 6). The definition as stated so far requires that the correlate(s), represented by $y_1, \ldots, y_j$, be part of the constituent β. However, the following example shows that the correlate may be in a *sub*constituent of β, not in β itself:

(213) nu   ^{GIŠ}IG kuiš ḫašzi nu   šuḫḫa parkiyanzi n=an=kan   šarā
       CONN door REL opens CONN to.roof they.go.up CONN=him=PTC up

       SUD-anzi
       they.draw

       'The one who opens the door, they go up to the roof and draw him up.'

(IBoT 3.148 iii 13–14 (MH/NS); *CHD* P: 156 *s.v. park-* 2a)

Here, β would represent a multi-clause segment, and the clause with the correlate is a subconstituent of that segment. So we must amend our definition to locate the correlate(s) in some constituent γ, and allow for one of two possibilities: either γ *is* β (i.e., the simple one-clause CC case), or γ is outscoped by β (the multi-clause CC case).[2] Thus, we arrive at our final (for now) definition:

---

2. See Asher and Lascarides 2003: 131 for how to define outscoping formally in SDRT. For our purposes, the approximation "DRS within a DRS" will suffice.

(214) $(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

(a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists w''$ such that

(i) $h(x_i) = a_i$ for each i

(ii) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h) \wedge (w'', h)[\![K_\beta]\!](w', g)$

(b) $\exists \langle y_1, \ldots, y_j \rangle \in U_\gamma^j \exists F$ such that $F(x_1, \ldots, x_n) = \langle y_1, \ldots, y_j \rangle$ for some j,

where either $\gamma = \beta$ or β outscopes γ

Note that the HT relation holds between an input and output context if and only if K_α and K_β are both satisfied. HT is therefore a *veridical* relation, meaning that it entails the truth of its two arguments. We will return to this point in section 5.4.3 below, as well as in chapter 6, where I will discuss how to reconcile this property with the fact that correlatives can be hypothetical.

Another point worth commenting on is the fact that condition (b) of the definition of HT is expressed in terms of discourse referents (i.e., the variables $x_1, \ldots, x_n$), not in terms of the individuals that they get mapped to. The reason for this is that I believe that the bridging relation between the RC and the CC should be a matter of linguistic competence (coupled with some world knowledge). An interlocutor should be able to verify that the bridging relationship exists just based on linguistic form of the clauses, not based on the individuals themselves.[3]

---

3. I believe that this makes the right empirical predictions in cases like the following, where an HT could have a *de re*/ *de dicto* ambiguity:

(i)   The Morning Star, I saw it last night.

Under a *de dicto* interpretation of *Morning Star* (i.e., 'the bright star that appears in the morning'), this construction should sound weird, because I am saying that I saw the star that appears in the morning, but I saw it at night. Under a *de re* interpretation (i.e., thinking in terms of the Morning Star's identity as Venus, which also appears at night), there is no issue. My own intuition is that the *de dicto* reading is the first interpretation attempted, and the *de re* reading is accessed when it fails. If the bridging function operated on the individuals, that would amount to *de re*. But if we look for a bridging function on the variables, then first we might attempt an identity function (i.e., equation under a *de dicto* reading) and then have to find a less direct function as a backup, which would presumably require applying the knowledge that the Morning Star and the Evening Star are actually the same object.

5.3.5 Discourse topic

Some rhetorical relations, such as *Narration* and *Background*, are assumed in SDRT to be linked to a superordinate *discourse topic* constituent that, roughly speaking, summarizes the content, though its exact nature depends on the relation. For example, the discourse topic of *Narration* amounts to something like a proposition that is held in common by the related constituents. In (215), the discourse topic can be something like "I got into trouble" (Asher and Lascarides 2003: 164).

(215)   My car broke down. Then the sun set and I knew I was in trouble.

The topic to a *Background* relation like the one operating in (216) is assumed to be the union of the information from both arguments, i.e., the totality of information from the foregrounded sentence and its background (p. 165–166).

(216)   Max entered the room. It was pitch dark.

I will assume that HT also involves a discourse topic which recapitulates the content of the CC, but with relevant underspecifications resolved (such as the ? in the correlate's condition); if $K_{\pi_{CC}}$ is the content of the CC, I will notate this recapitulation $K_{\pi_{CC}}^{+}$. This reflects the intuition that a correlative construction involves a two-part topic-comment relation, but that the CC is the "true" propositional part in terms of adding content to the discourse; the HT/RC primarily serves to set it up by providing an activated referent. Still, the activated referent has been made prominent and may remain accessible to future clauses beyond the CC. We can reflect this in our formalism by using a mechanism sketched by Asher (2008: 47), in which the discourse topic is endowed with a special list of accessible referents in addition to its propositional content. At any point, if the referents of the discourse topic's propositional content are accessible, then so is the special list. I suggest that we could treat π_{corr} (i.e., the constituent embodying the whole construction) in this way and endow it with a special list consisting of the ref set. (However, I will not attempt to notate it in representations.)

The whole structure, including discourse topic, can be represented as follows, using box and

tree representations:

(217) a.

$$\pi':\begin{array}{|l|}\hline \pi_{corr},\pi \\\hline \pi_{corr}:K^+_{\pi_{CC}} \\[4pt] \pi:\begin{array}{|l|}\hline \epsilon_{RC},\pi_{CC}\\\hline \epsilon_{RC}:\text{The birds}_i\text{ which you sent to me}\\ \pi_{CC}:\text{they}_i\text{ were spoiled}\\[6pt] HT(\epsilon_{RC},\pi_{CC})\\\hline\end{array}\\[6pt] Topic(\pi_{corr},\pi)\\\hline\end{array}$$

b.

$$\pi_{corr}$$

$$\begin{array}{|ccc|}\hline \epsilon_{RC} & \rule{2cm}{0.4pt} & \pi_{CC}\\ & HT & \\\hline\end{array}$$
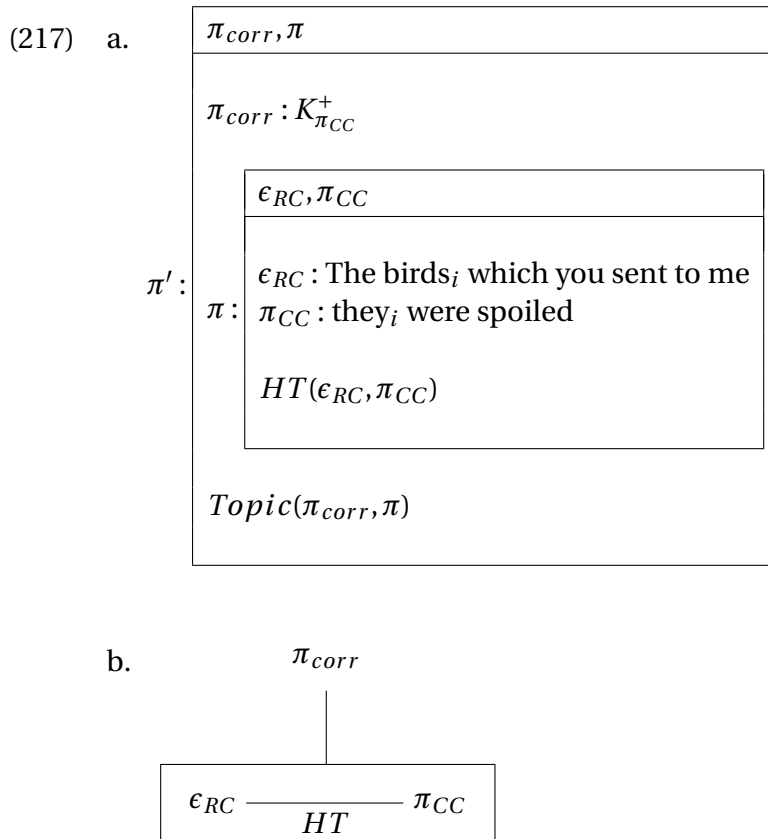
Because the topic constituent above the HT layer is a DRS that essentially recapitulates the content of the CC, it can interact with other constituents in either the preceding discourse or following contributions. For example, in cases where a correlative sets up a referent for the protasis of a conditional, we would model the structure with the discourse topic itself in the role of the protasis.

We can apply the notion of discourse topics to apply ref to discourse segments covering multiple clauses. For example, we can use the discourse topic I have proposed for HT to account for "nested" correlatives such as the following:

(218) a. DINGIR-*LIM*=ma=kan kuedani *ANA* $^{\text{DUG}}$GÌR.GÁN$_i$ anda arranzi
god=CONTR=PTC   REL.LOC LOC vessel   in   they.wash

n=ašta   wātar$_j$ kuit *ANA* $^{\text{DUG}}$GÌR.GÁN$_i$ anda
CONN=PTC water REL LOC vessel   in

n=at$_j$ *ANA PANI* DINGIR-*LIM* apēz=pat   *IŠTU* $^{\text{DUG}}$GÌR.GÁN$_i$ dāi
CONN=it before   god   that.ABL=FOC ABL vessel   puts

'The vessel$_i$ in which they wash the deity, the water$_j$ which is in the vessel$_i$, he puts it$_j$ before the god with THAT vessel$_i$.'

Paraphrase: [The water$_j$ which is inside [the vessel$_i$ in which they wash the deity]], he puts the water$_j$ before the god with THAT vessel$_i$.

(KUB 27.16 i 30–33 (NH); Beckman 2015: 46)

184

b.

π'' :

π_{corr2},π'
$\pi_{corr2} : K^+_{\pi_{CC}}$
π' : $\begin{array}{l} \epsilon_{corr1},\pi_{CC},\pi \\[4pt] \epsilon_{corr1} : ref(K^+_{\pi_{RC2}}) \\ \pi_{CC} : \text{he puts it}_j \text{ before the god with THAT vessel}_i \\[4pt] \pi : \begin{array}{l} \epsilon_{RC},\pi_{CC} \\[4pt] \epsilon_{RC1} : \text{The vessel}_i \text{ in which they wash the deity} \\ \pi_{RC2} : \text{the water}_j \text{ which is in the vessel}_i \\[6pt] HT(\epsilon_{RC1},\pi_{RC2}) \end{array} \\[6pt] Topic(\epsilon_{corr1},\pi) \\ HT(\epsilon_{corr1},\pi_{CC}) \end{array}$
$Topic(\pi_{corr2},\pi')$

The first RC sets up a referent for the second RC, which sets up a referent for its own CC; the construction essentially builds the ultimate message in two referent-activation steps. Using a discourse topic ϵ_{corr1} to recapitulate the content of π_{RC2} allows us to reflect this stepwise procedure in the hierarchical structure, achieving what we might think of as a nested structure. The first HT projects up to a discourse topic $K^+_{\pi_{RC2}}$, thus providing us with a DRS formula that we can referentialize with ref before feeding it to the second HT. (The HT relation itself is a discourse relation, not a propositional formula, and thus would not fit the definition of ref.) If we use a tree-style representation, the structure becomes quite clear:

(219)

π_{corr2}

$$
\boxed{
\begin{array}{c}
\epsilon_{corr1} \dfrac{}{HT} \pi_{CC} \\[2em]
\boxed{\epsilon_{RC1} \dfrac{}{HT} \pi_{RC2}}
\end{array}
}
$$
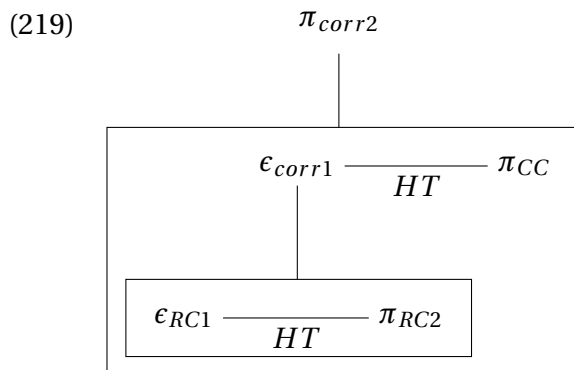
We can also use discourse topics to account for cases where a single RC discourse constituent contains multiple clauses:

(220) nu   kuiš DUMU-aš$_i$ alpanza našma=šši$_i$=kan garāteš adanteš   n=an$_i$

   CONN REL child   sick   or=him=PTC   innards devoured CONN=him

   tuīkkuš   išgaḫḫi

   bodyparts I.anoint

   'Whatever child is sick, or his innards are devoured, I anoint his bodyparts (lit. I anoint him the bodyparts).'

(KUB 7.1+ i 39–40 (pre-NH/NS); Fuscagni 2017)

The RC part involves a disjunction between two possibilities, which is encoded by a relation *Alternation* between them. I model the discourse topic for *Alternation* as a single DRS containing a condition that applies disjunction between the conditions of the first clause and the conditions of the second clause.[4]

---

4. This treatment differs from that of Asher (2004: 171), who models the discourse topic as a question. For example, the discourse topic for *Either there's no bathroom in this house or it's in a funny place* would be "Where is the bathroom?". I assume that questions cannot be made referential, so my account cannot use this version of discourse topic for *Alternation*. I leave for future work the task of reconciling the two accounts. For now, I will merely suggest that an open proposition, of the kind that form the background of focus, might work as a compromise between my treatment and his.

(221) a.

$$\pi'\,: \quad \boxed{\begin{array}{l} \pi \\[2mm] \pi_{corr} : K^+_{\pi_{CC}} \\[4mm] \pi\,: \boxed{\begin{array}{l} \epsilon_{RC}, \pi_{CC} \\[3mm] \epsilon_{RC} : ref \left(\boxed{\begin{array}{l} x \\ \hline [x\text{ is sick}] \vee [x\text{'s innards are devoured}] \end{array}}\right) \\[6mm] \pi_{alt} : \boxed{\begin{array}{l} \pi_{RCa}, \pi_{RCb} \\[3mm] \pi_{RCa} : \text{Whatever child}_i \text{ is sick} \\ \pi_{RCb} : \text{or his}_i \text{ innards are devoured} \\[3mm] Alternation(\pi_{RCa}, \pi_{RCb}) \end{array}} \\[6mm] \pi_{CC} : \text{I anoint him}_i \text{ the bodyparts} \\[3mm] Topic(\epsilon_{RC}, \pi_{alt}) \\ HT(\epsilon_{RC}, \pi_{CC}) \end{array}} \\[4mm] Topic(\pi_{corr}, \pi) \end{array}}$$
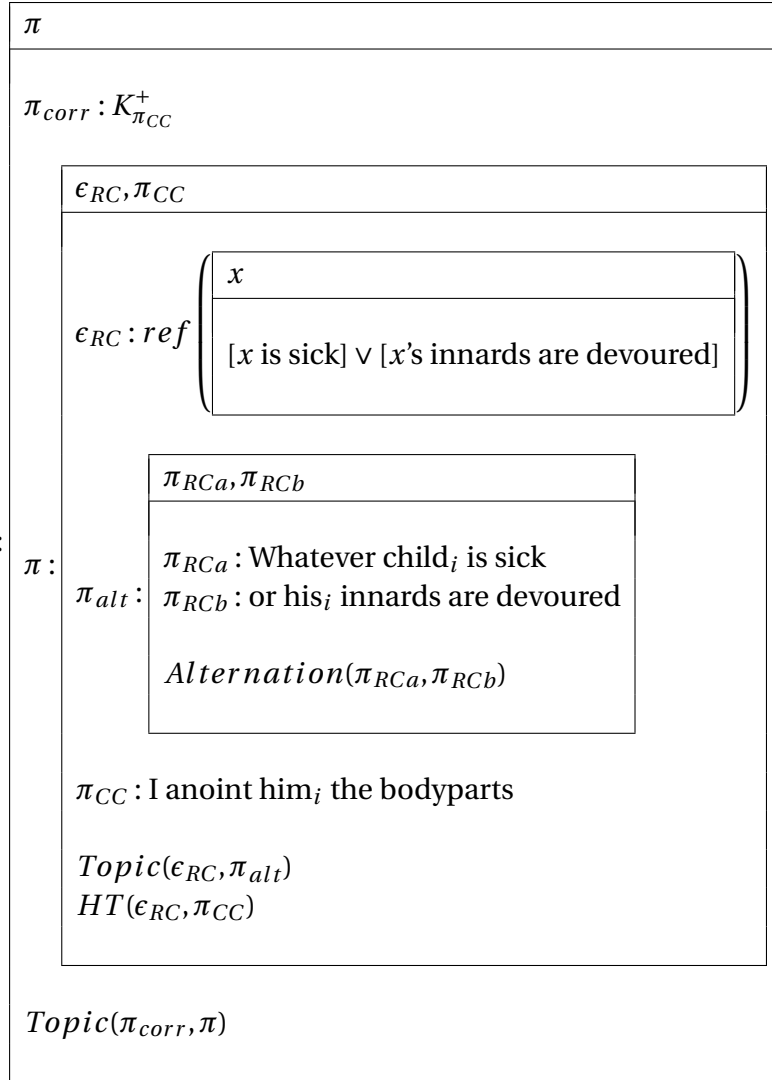
b.
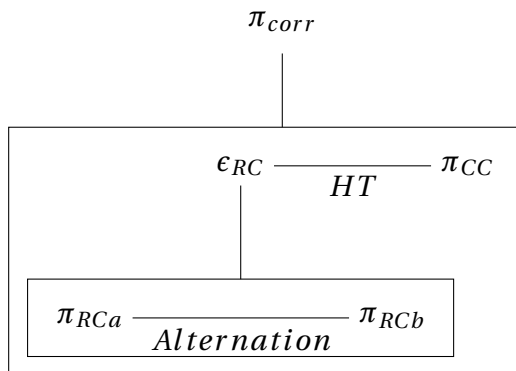
The DRS which is referentialized by *ref* is that of the discourse topic that collects the alternating condition-sets together.

187

5.3.6 Interpreting correlative constructions

Now let us examine how a correlative construction is interpreted in this framework. We will use the following example (given full logical representation):

(222)   a.   *'Concerning what you wrote to me thus: "The birds which I have sent there to My Lord, if My Lord liked those birds, may My Lord write back to me, and I will begin sending regularly." '*

nu=mu	MUŠEN.ḪI.A	kue	uppešta	n=at	arḫa ḫ[ar]ranteš	eš[er]
CONN=me	birds	REL	you.sent	CONN=they	spoiled	were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

b.
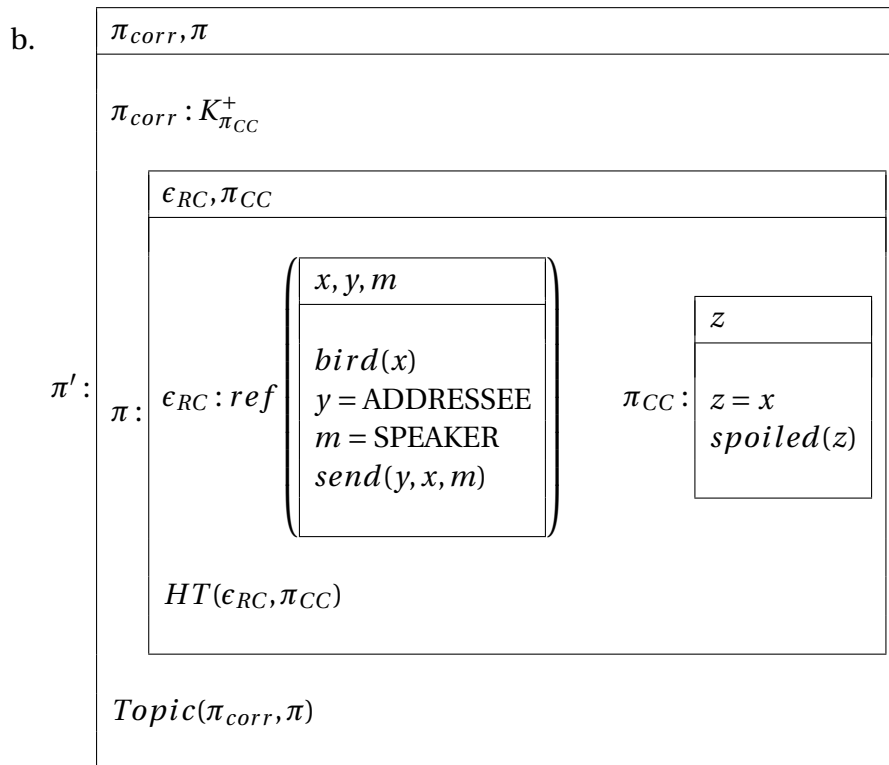
To make the illustration more concrete, let us use a toy model M structured as follows. We need to specify three things in our model: the set of individuals A_M, the set of worlds W_M, and

the interpretation function I_M. Based on the preceding context, we know that the addressee of (222a) sent the speaker a shipment of birds. We will include those birds in A_M as atomic individuals $\mathbf{bird}_1, \ldots, \mathbf{bird}_n$. We must also include the summed individuals (e.g., $\mathbf{bird}_1 + \mathbf{bird}_2$); for the sake of legibility, I will use the notation $\mathbf{B}_{i+j+k}$ to abbreviate $\mathbf{bird}_i + \mathbf{bird}_j + \mathbf{bird}_k$, and so on. A_M also includes individuals $\mathbf{Sp}$ and $\mathbf{Ad}$ representing the speaker and addressee. (In any reasonable model, there would obviously be plenty of other individuals, but this is all we need to interpret (222a).) Let us consider two different possible worlds w_1 and w_2: in w_1, the birds were sent and spoiled; while in w_2, the birds were sent but did *not* spoil. This characterization also lets us specify our interpretation function I_M as shown below. Taken all together, we define the model M as follows:

(223) $M = \langle A_M, W_M, I_M \rangle$, where:

     a. $A_M = \{\mathbf{Sp}, \mathbf{Ad}, \mathbf{B}_1, \ldots, \mathbf{B}_n, \mathbf{B}_{1+2}, \ldots, \mathbf{B}_{1+\cdots+n}\}$

     b. $W_M = \{w_1, w_2\}$

     c. I_M is defined as follows:

$bird$	w_1	$\mapsto$	$\{\mathbf{B}_1, \ldots, \mathbf{B}_n, \mathbf{B}_{1+2}, \ldots, \mathbf{B}_{1+\cdots+n}\}$
	w_2	$\mapsto$	$\{\mathbf{B}_1, \ldots, \mathbf{B}_n, \mathbf{B}_{1+2}, \ldots, \mathbf{B}_{1+\cdots+n}\}$
$send$	w_1	$\mapsto$	$\{\langle \mathbf{Ad}, \mathbf{B}_1, \mathbf{Sp}\rangle, \ldots, \langle \mathbf{Ad}, \mathbf{B}_n, \mathbf{Sp}\rangle, \langle \mathbf{Ad}, \mathbf{B}_{1+2}, \mathbf{Sp}\rangle, \ldots,$ $\langle \mathbf{Ad}, \mathbf{B}_{1+\cdots+n}, \mathbf{Sp}\rangle\}$
	w_2	$\mapsto$	$\{\langle \mathbf{Ad}, \mathbf{B}_1, \mathbf{Sp}\rangle, \ldots, \langle \mathbf{Ad}, \mathbf{B}_n, \mathbf{Sp}\rangle, \langle \mathbf{Ad}, \mathbf{B}_{1+2}, \mathbf{Sp}\rangle, \ldots,$ $\langle \mathbf{Ad}, \mathbf{B}_{1+\cdots+n}, \mathbf{Sp}\rangle\}$
$spoiled$	w_1	$\mapsto$	$\{\mathbf{B}_1, \ldots, \mathbf{B}_n, \mathbf{B}_{1+2}, \ldots, \mathbf{B}_{1+\cdots+n}\}$
	w_2	$\mapsto$	$\{\}$

The construction in (222a) is not discourse-initial, so it attaches to some part of the previous structure through some relation R. I assume the definition of R will in some way feed input

contexts to π'. Let us assume that the input contexts are (w_1, f_1) and (w_2, f_2). (It does not matter for our purposes whether f_1 and f_2 are the same or different.) With these inputs, let us start unpacking the interpretation of (222a) and see how we determine the output contexts.

5.3.6.1 Checking input (w_1, f_1)

Let us start with world w_1. The interpretation of rhetorical relations is defined in terms of their arguments, so we can unpack the meaning of the overall discourse structure from the top down. The top-level relation in the construction is $Topic(\pi_{corr}, \pi)$, and we want to figure out the output contexts (w_1', g_1) such that $(w_1, f_1)\llbracket Topic(\pi_{corr}, \pi)\rrbracket(w_1', g_1)$. Since $Topic$ merely acts to project some of the subordinate content up, I assume that $Topic$ has no effect of its own on the interpretation: $(w_1, f_1)\llbracket Topic(\alpha, \beta)\rrbracket(w_1', g_1)$ iff $(w_1, f_1)\llbracket K_\beta\rrbracket(w_1', g_1)$. So we can rewrite our relation as $(w_1, f_1)\llbracket HT(\epsilon_{RC}, \pi_{CC})\rrbracket(w_1', g_1)$, and we want to find the (w_1', g_1) that satisfy this relation.

To interpret HT, we will need the definitions of ref and HT. I repeat them here from (208) and (214), but simplified to one-variable versions and with specific labels inserted for mnemonic ease:

(224) $(w_1, f_1)\llbracket ref\rrbracket(\llbracket K_{\epsilon_{RC}}(x)\rrbracket) = \{a : \exists h \exists w''$ such that

      (a) $(w_1, f_1)\llbracket K_{\epsilon_{RC}}(x)\rrbracket(w_1'', h_1)$

      (b) $a = h_1(x)$

      (c) $\forall k[h_1(x) < k(x) \rightarrow \neg(w_1, f_1)\llbracket K_{\epsilon_{RC}}(x)\rrbracket(w_1'', k)]\}$

(225) $(w_1, f_1)\llbracket HT(\epsilon_{RC}, \pi_{CC})\rrbracket(w_1', g_1)$ iff

      (a) $\forall a \in (w_1, f_1)\llbracket ref\rrbracket(\llbracket K_{\epsilon_{RC}}(x)\rrbracket) : \exists h_1 \exists w_1''$ such that

          (i) $h_1(x) = a$

          (ii) $(w_1, f_1)\llbracket K_{\epsilon_{RC}}(x)\rrbracket(w_1'', h_1) \wedge (w_1'', h_1)\llbracket K_{\pi_{CC}}\rrbracket(w_1', g_1)$

      (b) $\exists\langle y_1, \ldots, y_j\rangle \in U_\gamma^j \exists F$ such that $F(x) = \langle y_1, \ldots, y_j\rangle$ for some j,

          where either $\gamma = \pi_{CC}$ or π_{CC} outscopes γ

From (225), we know what is required to satisfy the HT expression: both of the conditions listed in the definition must be satisfied. We can immediately verify that condition (b) is met because the variable z in π_{CC} is identical in value to x in ϵ_{RC}; thus, the function F of condition (b) is the identity function, and $F(x) = z$.

We now have to check condition (a) of (225). To do so, we first need to know the value of $(w_1, f_1)[\![ref]\!]([\![K_{\epsilon_{RC}}(x)]\!])$, which is the full set of maximal individuals that satisfy the conditions on x (as the privileged variable) in the RC. The definition in (224) tells us how to find these individuals. Per condition (a), we need to find contexts (w_1'', h_1) such that $(w_1, f_1)[\![K_{\epsilon_{RC}}(x)]\!](w_1'', h_1)$ — in other words, (w_1'', h_1) that satisfy the RC's conditions. We can already make a simplification: no condition in the RC changes the world index (as would happen if there were an imperative, for example), so $w_1'' = w_1$. We can then use the recursive definitions of DRS interpretation given in section 5.2.3 to break this down: we first extend our assignment f_1 to h_1 by adding values for the new variables in the universe of $K_{\epsilon_{RC}}(x)$, and then we test (w_1, h_1) on the conditions of $K_{\epsilon_{RC}}(x)$.

$K_{\epsilon_{RC}}(x)$ has three new variables: x, y, m. We extend f_1 with new assignments for these variables: $h_1(x) = a$, $h_1(y) = b$, and $h_1(m) = c$, where $a, b, c \in A_M$. Now we use the conditions as tests on the success of our new h_1 with these values. The conditions on y and m guarantee that $h_1(y) = \mathbf{Ad}$ and $h_1(m) = \mathbf{Sp}$; any extension that has a different assignment will fail the test. But what about the individual a for x? The relevant conditions are $bird(x)$ and $send(y, x, m)$. To check their validity, we compare with the I_M value for $bird$ and $send$ in w_1. We will have success if $a \in I_M(bird)(w_1)$ and $\langle \mathbf{Ad}, a, \mathbf{Sp}\rangle \in I_M(send)(w_1)$. From the definition of I_M in (223), we see that any of the $\mathbf{B}_\alpha$ will work (where the index α is either a single number or a sum). In other words, the DRS $K_{\epsilon_{RC}}(x)$ is satisfied by any h_1 that maps x to an individual representing some subset of the birds. How do we get the maximal individual? That is where condition (c) of (224) comes in: we only keep the h_1 that give us a $\mathbf{B}_\alpha$ that is maximal according to the partial order on A_M. The ref function outputs the set of all of these maximal individuals. In this case, there is only one maximal $\mathbf{B}_\alpha$, namely $\mathbf{B}_{1+\cdots+n}$, so $(w_1, f_1)[\![ref]\!]([\![K_{\epsilon_{RC}}(x)]\!]) = \{\mathbf{B}_{1+\cdots+n}\}$.

Now that we have the ref output, we can finish evaluating condition (a) of HT for every

single individual in it (there is only one in this case). Given the way ref is defined, we have already secured for ourselves that condition (a.i) and the $K_{\epsilon_{RC}}(x)$ part of condition (a.ii) are true. This part of the definition in (225) enables us to recover the (w_1'', h_1) that we used in evaluating ref, which (as we saw) was the same as (w_1, h_1).[5] All that is left to check is the $K_{\pi_{CC}}$ part of condition (a.ii). That is, we need to check whether there is a valid output (w_1', g_1) such that $(w_1, h_1)[\![K_{\pi_{CC}}]\!](w_1', g_1)$. Again, nothing in $K_{\pi_{CC}}$ shifts the world index, so $w_1' = w_1$.

Can we extend h_1 to g_1 in such a way as to satisfy the conditions of $K_{\pi_{CC}}$? $K_{\pi_{CC}}$ adds a variable z, but we have linked its value anaphorically to that of x. Thus, we can just extend h_1 to g_1 by adding $g_1(z) = \mathbf{B}_{1+\cdots+n}$, and all we have to do is ensure that $spoiled(z)$ holds in (w_1, g_1). To do so, we look to see whether $\mathbf{B}_{1+\cdots+n} \in I_M(spoiled)(w_1)$. As (223) shows, indeed it is, so HT successfully outputs the context (w_1, g_1). In other words, we have validated both clauses in the world w_1, and the new assignment g_1 is just an extension of f_1 to include new variables for the group of birds, as well as for the speaker and addressee.

5.3.6.2 Checking input (w_2, f_2)

Now let us consider world w_2, where the birds were sent but did not spoil, meaning that the RC conditions are true but the CC is not. Everything proceeds just as in the previous section, until the very final paragraph. In this case, we check to see whether $\mathbf{B}_{1+\cdots+n} \in I_M(spoiled)(w_2)$, and we find that this condition is not met. Therefore, the condition $(w_2'', h_2)[\![K_{\pi_{CC}}]\!](w_2', g_2)$ in the w_2-analogue of (225) is not true, meaning that $(w_2, f_2)[\![HT(\epsilon_{RC}, \pi_{CC})]\!](w_2', g_2)$ is not true and therefore the HT relation has no valid output. This lack of output context is the dynamic equivalent of falsehood: the input context (w_2, f_2) yields no output context, meaning that it is not continued in the output information state.

---

5. I commented on this definitional overlap above. The purpose is to make sure the right output context of $K_{\epsilon_{RC}}(x)$ gets used for the input of $K_{\pi_{CC}}$, to link the two.

5.4 Building correlative constructions dynamically

One of the hallmark features of a dynamic approach to semantics and discourse is that the structure and interpretation are formed dynamically: the information state and the discourse structure are updated as each new discourse constituent is added. Asher and Lascarides (2003: 212–222) formalize a procedure for updating an existing discourse structure with new content, which I will sketch here in simplified terms.

An important feature of SDRT is that information about the relational semantics of discourse constituents (i.e., the kind of information discussed above) is separated from information about the structure of discourse. The motivation behind this is that many different types of knowledge can affect speakers' understanding of discourse structure, such as linguistic competence, world knowledge, and the speakers' mental representation of other people's cognitive states. Relegating these knowledge domains to distinct modules keeps the logical system from becoming uncomputably complex. Information from the various modules is transferred (in a limited and abstract capacity) to a "glue logic" for use when constructing the logical form of discourse.

In the module that computes discourse structure, an information state is a set of SDRSs — namely, the ones that are compatible with the information available. This set is partially ordered according to a *Maximize Discourse Coherence* (MDC) principle (see Asher and Lascarides (2003: 233–234) for details). SDRSs that yield a more coherent discourse are ranked higher in the ordering. Updating the discourse with new content involves:

1. identifying the points in the structure where the new information may licitly attach,

2. creating an output set of SDRSs (in most[6] cases, a subset of the input set) such that

   (a) the new content joins the structure at one of those attachment points via a rhetorical relation,

   (b) any other inferences made in the glue logic are obeyed (e.g., an inference that the

---

6. Except, for example, when a previous contribution is corrected.

relation is *Narration*),

(c) and some underspecifications (e.g., anaphora) are resolved,

3. and the output set is ordered according to MDC.

It should be emphasized that information states for discourse construction are *sets* of SDRSs, not a unique SDRS, because there are infinitely many possible structures that are compatible with the given information. The MDC ordering identifies the most preferable structure(s), but less preferable structures are not discarded. This is significant because future updates may vindicate structures that, at earlier stages, seemed less preferable. (We will see an example of this in section 5.4.2 below.)

5.4.1 Sample derivation

Let us now walk through the derivation of a full construction, to see the process of discourse formation in action. I will use the construction in (226) — where an RC sets up a referent for the following two clauses, which form a conditional — and derive the structure shown in (227). (To make notation simpler, I am omitting the discourse topic layer in the representation and giving its proper label to the constituent representing the *HT* relation. This is to be understood as a shorthand.)

(226) ᵐMaraššantaš=ma kuit *ṬUPPU* ḫarzi n=at uezzi mān udai n=at
　　　 Maraššanta=CONTR REL tablet has CONN=it goes if brings CONN=it
　　　 le dattari
　　　 PROH is.accepted

'The tablet which Maraššanta has, if he proceeds to bring it, let it not be accepted.'

(Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

(227)

$$
\boxed{
\begin{array}{l}
\pi, \pi_{cond} \\[4pt]
\hline \\[-4pt]
\pi : [\dots] \\[6pt]
\pi' : \boxed{
\begin{array}{ll}
 & \epsilon_{RC}, \pi_{cond} \\[4pt]
 & \hline \\[-4pt]
 & \epsilon_{RC} : \text{The tablet}_i \text{ which Maraššanta has} \\[6pt]
\pi_{corr} : & \pi_{cond} : \boxed{
\begin{array}{l}
\pi_{protasis}, \pi_{apodosis} \\[4pt]
\hline \\[-4pt]
\pi_{CC} : \text{if he proceeds to bring it}_i \\
\pi_{apodosis} : \text{let it}_i \text{ not be accepted.} \\[6pt]
Consequence(\pi_{protasis}, \pi_{apodosis})
\end{array}} \\[20pt]
 & HT(\epsilon_{RC}, \pi_{cond})
\end{array}} \\[10pt]
R(\pi, \pi_{corr})
\end{array}}
$$
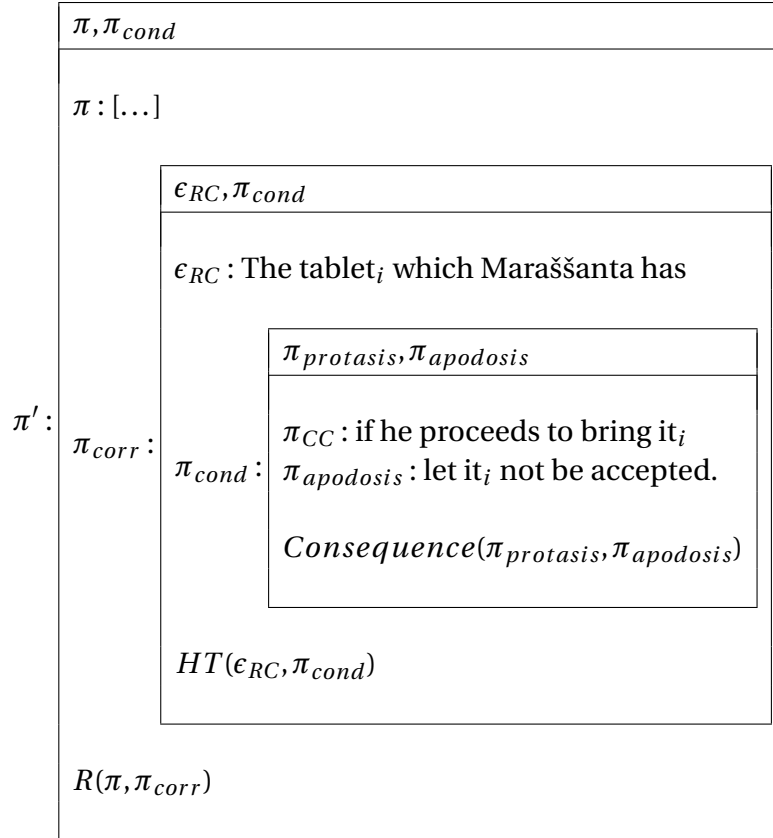
In (227), π represents (part of) the preceding discourse, namely the part to which π_{corr} is attached via some relation R. There are actually infinitely many discourse structures that would be compatible with the discourse up to (226); all share (226) and the preceding content, but the structural details may differ. In the box representations, I represent only the part of the structure contributed by (226). I will derive only (what I consider to be) the most plausible structure.

5.4.1.1 Step 1: Add the RC

The first part of the construction in (226) is the RC. It is added to the discourse, and (through whatever means) the intent to use it as a referential expression is registered. This triggers the use of the ref function. (The label ϵ is meant to evoke "type e", the semantic type of individuals. This is purely for the purposes of exposition and has no grammatical significance.)

195

(228)

$$\epsilon_{RC} : ref \left(\begin{array}{|l|}\hline m, x \\ \hline marassanta(m) \\ tablet(x) \\ have(m, x) \\ \hline\end{array}\right)$$

I assume that the use of ref invites the inference that the RC is part of an HT relation whose other argument is not yet known. Thus, during the update step we can introduce an under-specified relation formula $HT(\epsilon_{RC}, ?)$ with label π_{corr} (remember, this label is actually proper to the discourse topic, which I have omitted in the representation). This relation outscopes ϵ_{RC}, represented below via nested boxes.

(229)

$$\pi' : \begin{array}{|l|}\hline \pi_{corr} \\ \hline \pi_{corr} : \begin{array}{|l|}\hline \epsilon_{RC} \\ \hline \epsilon_{RC} : ref \left(\begin{array}{|l|}\hline m, x \\ \hline marassanta(m) \\ tablet(x) \\ have(m, x) \\ \hline\end{array}\right) \\ \\ HT(\epsilon_{RC}, ?) \\ \hline\end{array} \\ \\ ?(?, \pi_{corr}) \\ \hline\end{array}$$

At this point, the optimal attachment point and relation for π_{corr} may not necessarily be clear. The update mechanism leaves this underspecified, so for the moment this construction is being built in parallel.

5.4.1.2 Step 2: Add the protasis

Next, the second clause is added. This clause contains the conditional marker *mān* 'if', so we immediately infer that it is part of a *Consequence* relation, with an underspecified second ar-

gument. Before discourse update, the input pieces are the following:

(230)

$$\pi' : \quad \pi_{corr} : \boxed{\begin{array}{l} \pi_{corr} \\[4pt] \epsilon_{RC} : ref \left(\begin{array}{|l|} \hline m,x \\ \hline marassanta(m) \\ tablet(x) \\ have(m,x) \\ \hline \end{array} \right) \\[30pt] HT(\epsilon_{RC},?) \\[6pt] ?(?,\pi_{corr}) \end{array}} \qquad \pi_{cond} : \boxed{\begin{array}{l} \pi_{protasis} \\[4pt] \pi_{protasis} : \begin{array}{|l|} \hline y,z \\ \hline y =? \\ z =? \\ bring(y,z) \\ \hline \end{array} \\[24pt] Consequence(\pi_{protasis},?) \end{array}}$$
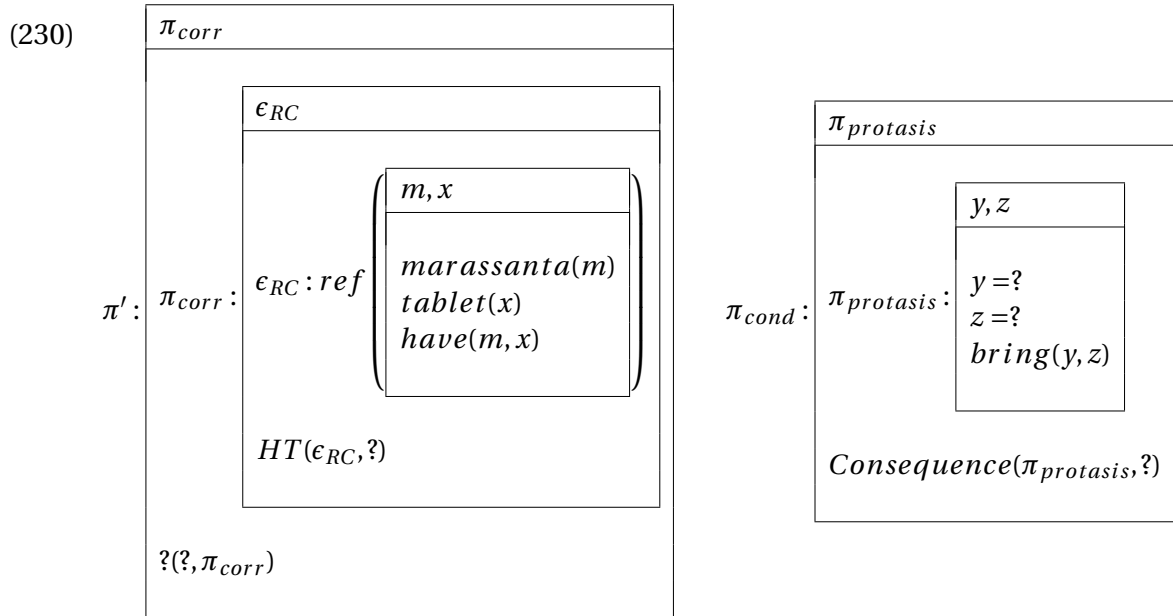
The update procedure looks to see if we can connect these pieces in a way that allows us to resolve some underspecifications in $\pi_{protasis}$. Since we have an incomplete HT relation, it is logical to check whether attaching π_{cond} as the second argument yields a successful structure. Indeed it does: we can resolve the anaphoric conditions in $\pi_{protasis}$ with referents of ϵ_{RC} (see Asher and Lascarides 2003: 149 for details on finding antecedents for anaphors):

(231)

π' :
π_{corr} :

$\boxed{\begin{array}{l} \pi_{corr} \\[4pt] \epsilon_{RC},\pi_{cond} \\[2pt] \epsilon_{RC}:ref\ \left(\!\!\begin{array}{|l|}\hline m,x \\ \hline marassanta(m) \\ tablet(x) \\ have(m,x) \\ \hline\end{array}\!\!\right) \quad \pi_{cond}: \pi_{protasis}:\ \begin{array}{|l|}\hline \pi_{protasis} \\ \hline y,z \\ \hline y=m \\ z=x \\ bring(y,z) \\ \hline \\ Consequence(\pi_{protasis},?) \\ \hline\end{array} \\[4pt] HT(\epsilon_{RC},\pi_{cond}) \\[4pt] ?(?,\pi_{corr}) \end{array}}$
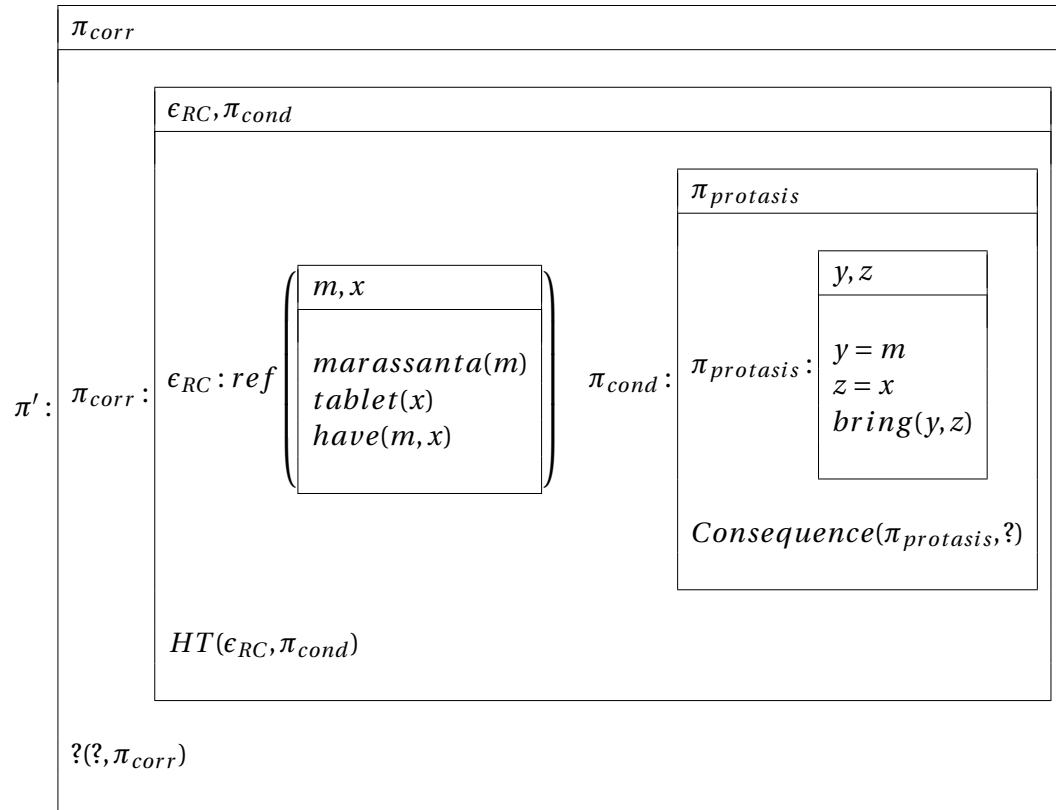
5.4.1.3 Step 3: Add the apodosis

Finally, we add the apodosis of the conditional:[7]

---

7. The symbol δ in $\pi_{apodosis}$ is used by Asher and Lascarides (2003) to represent imperatives.

(232)

$$
\pi' : \quad
\boxed{
\begin{array}{l}
\pi_{corr} \\[4pt]
\pi_{corr} : \boxed{
\begin{array}{l}
\epsilon_{RC}, \pi_{cond} \\[6pt]
\epsilon_{RC} : ref\left(
\begin{array}{|l|}
\hline
m, x \\
\hline
marassanta(m) \\
tablet(x) \\
have(m, x) \\
\hline
\end{array}
\right)
\quad
\pi_{cond} : \pi_{protasis} :
\boxed{
\begin{array}{l}
\pi_{protasis} \\[4pt]
\begin{array}{|l|}
\hline
y, z \\
\hline
y = m \\
z = x \\
bring(y, z) \\
\hline
\end{array} \\[6pt]
Consequence(\pi_{protasis}, ?)
\end{array}
} \\[20pt]
HT(\epsilon_{RC}, \pi_{cond})
\end{array}
} \\[6pt]
?(?, \pi_{corr})
\end{array}
}
$$

$$
\pi_{apodosis} :
\begin{array}{|l|}
\hline
w \\
\hline
w = ? \\
\delta\neg
\begin{array}{|l|}
\hline
v \\
\hline
accept(v, w) \\
\hline
\end{array} \\
\hline
\end{array}
$$
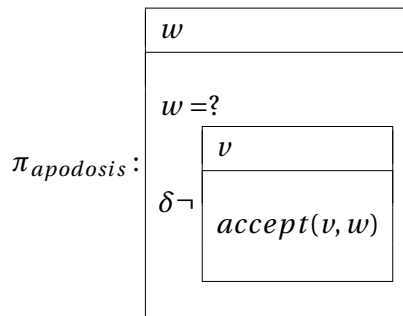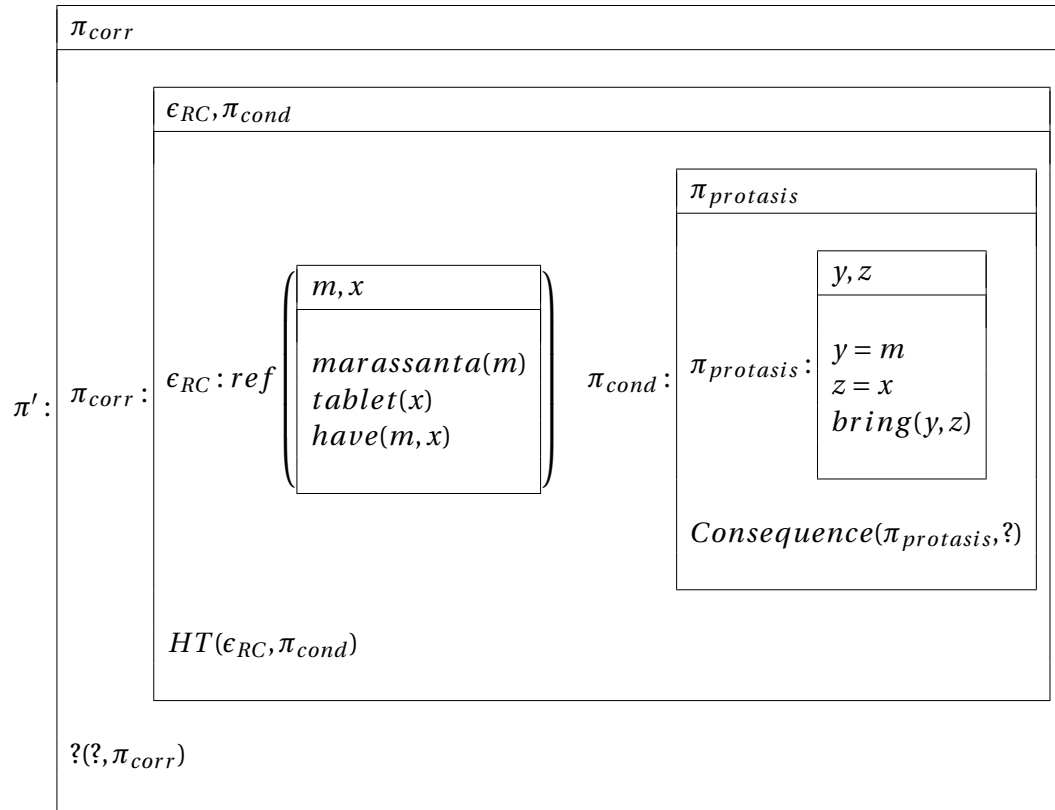
The update mechanism looks for the best attachment site for $\pi_{apodosis}$. Attaching it to $\pi_{protasis}$ allows us to resolve two underspecifications, namely the second argument of *Consequence* and the anaphor w:

(233)

π_{corr}

$\pi':\ \pi_{corr}:$

ϵ_{RC},π_{cond}

$\epsilon_{RC}:ref$
$$\begin{array}{|l|}\hline m,x \\\hline marassanta(m) \\ tablet(x) \\ have(m,x) \\\hline\end{array}$$

$\pi_{cond}:$

$\pi_{protasis},\pi_{apodosis}$

$\pi_{protasis}:$
$$\begin{array}{|l|}\hline y,z \\\hline y=m \\ z=x \\ bring(y,z) \\\hline\end{array}$$

$\pi_{apodosis}:$
$$\begin{array}{|l|}\hline w \\\hline w=z \\ \delta\neg\ \begin{array}{|l|}\hline v \\\hline accept(v,w) \\\hline\end{array} \\\hline\end{array}$$

$Consequence(\pi_{protasis},\pi_{apodosis})$

$HT(\epsilon_{RC},\pi_{cond})$

$?(?,\pi_{corr})$
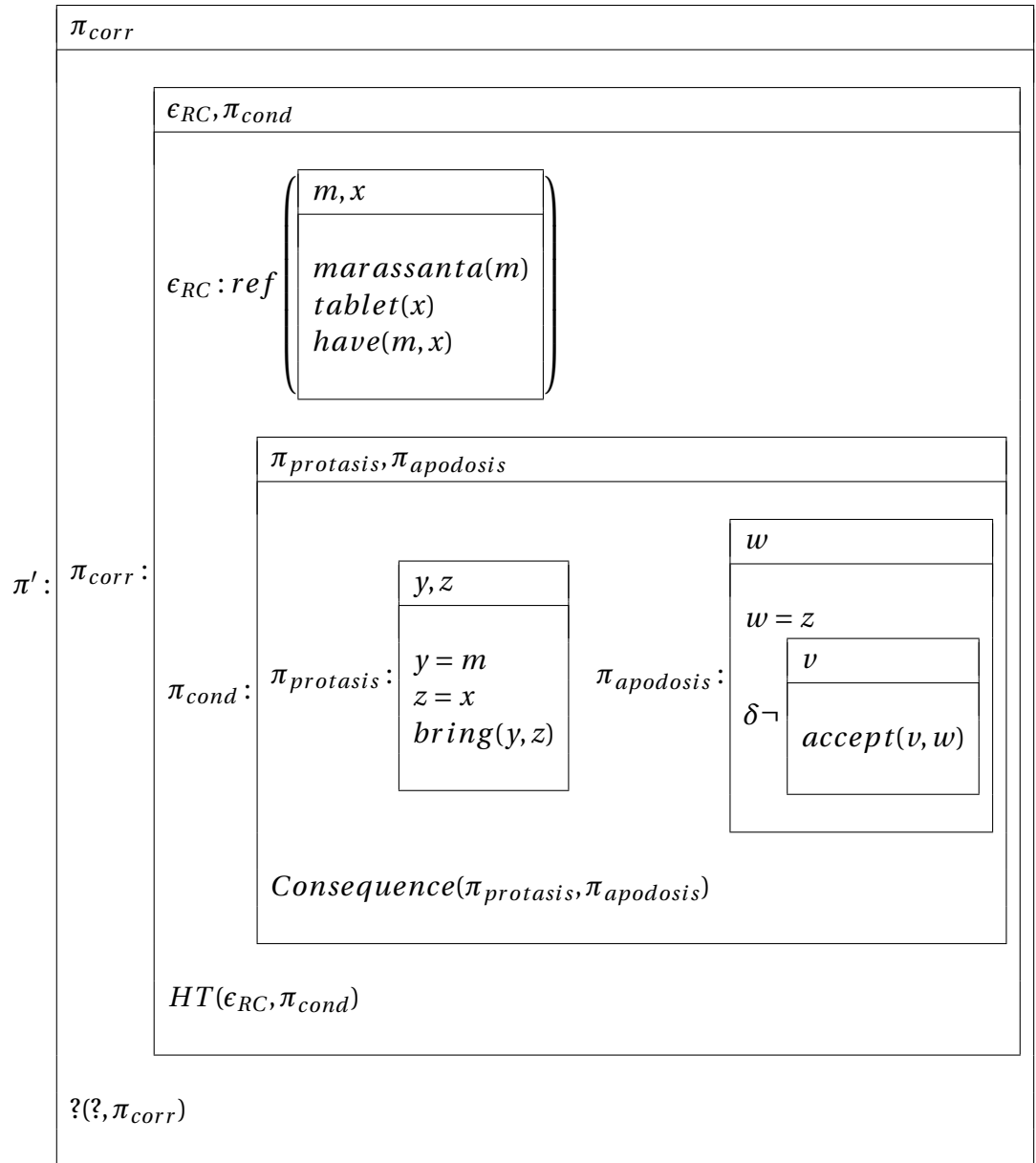
The update will presumably also find an attachment point π for π_{cond} into the existing discourse and a suitable relation R (if it had not already — I see no reason to rule out the possibility that preceding steps could yield enough information to make a reasoned guess):

(234)

$\pi':$ $\boxed{\begin{array}{l} \pi_{corr} \\[4pt] \begin{array}{l} \pi_{corr}: \boxed{\begin{array}{l} \epsilon_{RC}, \pi_{cond} \\[4pt] \epsilon_{RC}: ref \left(\boxed{\begin{array}{l} m, x \\ \hline marassanta(m) \\ tablet(x) \\ have(m, x) \end{array}}\right) \\[24pt] \pi_{cond}: \boxed{\begin{array}{l} \pi_{protasis}, \pi_{apodosis} \\[4pt] \pi_{protasis}: \boxed{\begin{array}{l} y, z \\ \hline y = m \\ z = x \\ bring(y, z) \end{array}} \quad \pi_{apodosis}: \boxed{\begin{array}{l} w \\ \hline w = z \\ \delta \neg \boxed{\begin{array}{l} v \\ \hline accept(v, w) \end{array}} \end{array}} \\[24pt] Consequence(\pi_{protasis}, \pi_{apodosis}) \end{array}} \\[12pt] HT(\epsilon_{RC}, \pi_{cond}) \end{array}} \\[8pt] R(\pi, \pi_{cond}) \end{array}}$
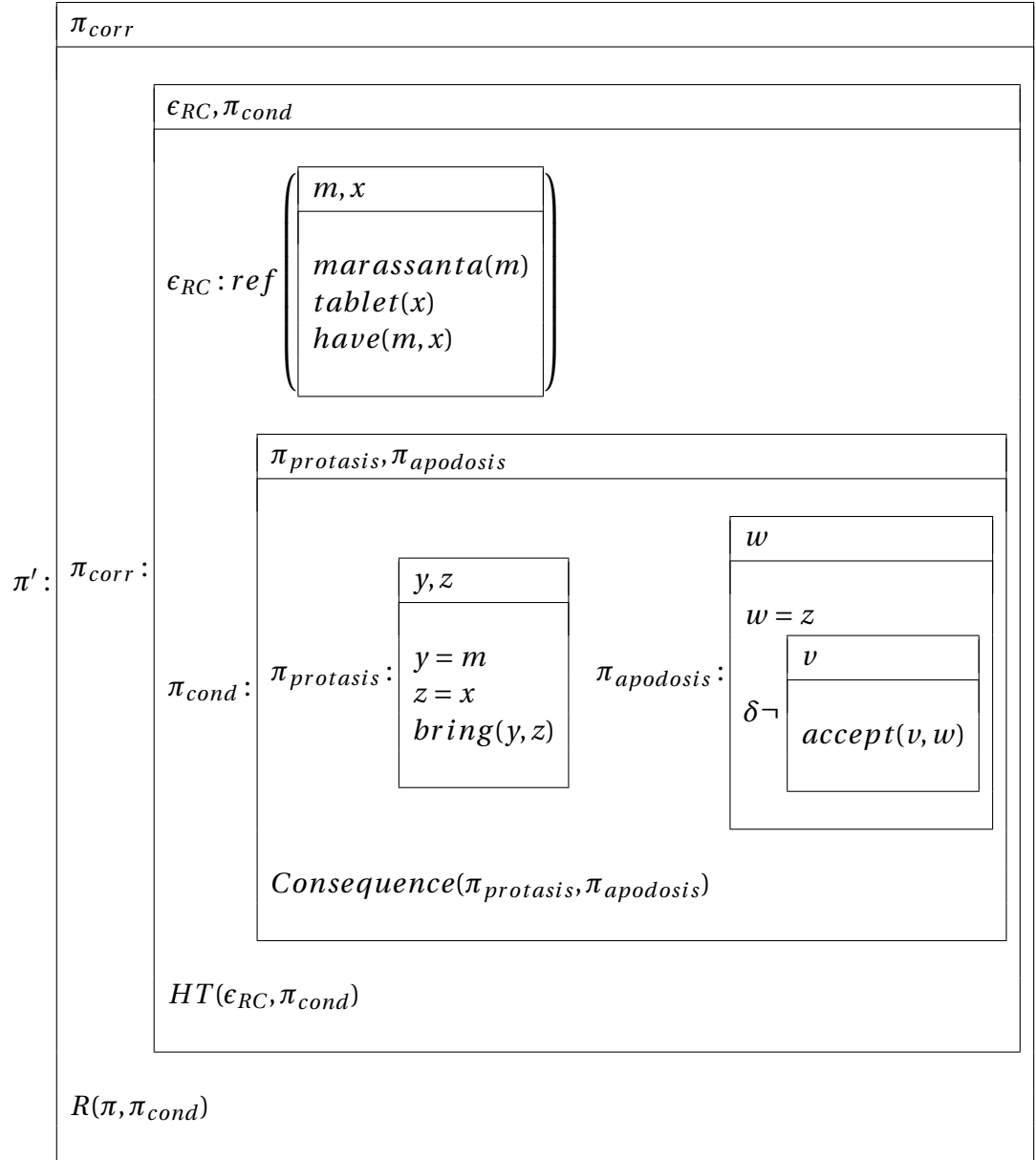
With that, interpretation of the construction can proceed.

5.4.2 Revising structure during update

As discussed above, discourse construction involves ranking a set of possible structures in order to maximize the coherence of the discourse. When the discourse is updated with new content, the output set contains *all* structures from the input set that remain consistent with the new content, not just the one that was most coherent. This is important because it can happen that a structure that was previously considered suboptimal may later prove to be superior. By in-

cluding this kind of structural revision, we can more easily model the formation of intervening-clause examples such as (235).

(235) nu=tta   ᵐMurši-DINGIR-*LIM*-iš^! LUGAL-uš uddār kue memiškezzi nu
      CONN=you Muršili   king   words REL speaks   CONN

      ᵈUTU   ᵁᴿᵁArinna GEŠTU-[an] parā l[agā]n ḫarak   n=at
      Sungoddess Arinna   ear   inclined   hold.2SG.IMP CONN=them

      ištamaške
      listen.2SG.IMP

      'The words which Muršili the king speaks to you, hold your ear inclined, Sungoddess of Arinna, and listen to them.'

                      (KBo 51.18a+KUB 24.3 ii 7–9 (NH); Rieken, Lorenz, and Daues 2016b)

By the time we have added the second clause, we could very well have a well-formed frame relative construction (236a). Another possible structure (236b) assumes that there is extra content coming which will pair with the second clause, but we do not yet know what.

(236) a.

π_{corr} :

ϵ_{RC}, π_{CC}
ϵ_{RC} : The words which Muršili the king speaks to you π_{CC} : hold your ear inclined, Sungoddess of Arinna $HT(\epsilon_{RC}, \pi_{CC})$

b.

$$\epsilon_{RC}, \pi_{CC}$$

ϵ_{RC} : The words which Muršili the king speaks to you

π_{corr} : π_{CC} :

$$\pi_{CC1}, ?$$

π_{CC1} : hold your ear inclined, Sungoddess of Arinna

$?(\pi_{CC1}, ?)$

$HT(\epsilon_{RC}, \pi_{CC})$
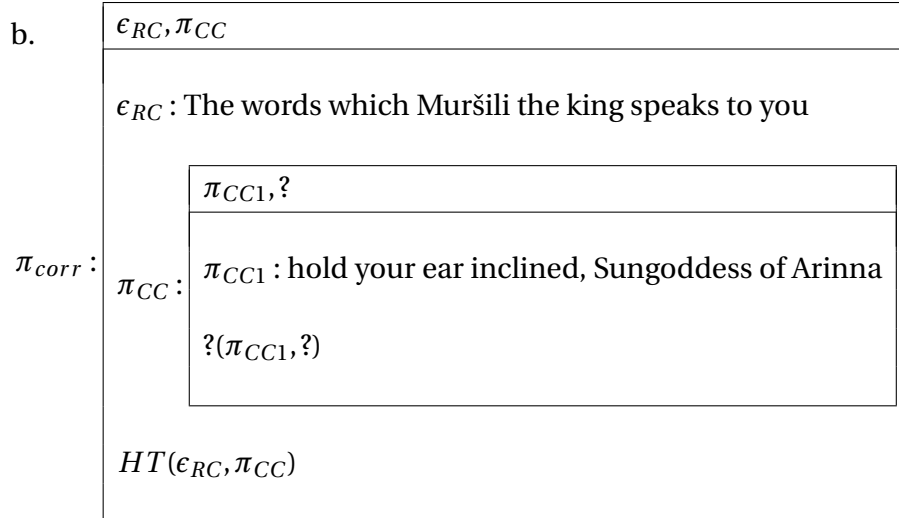
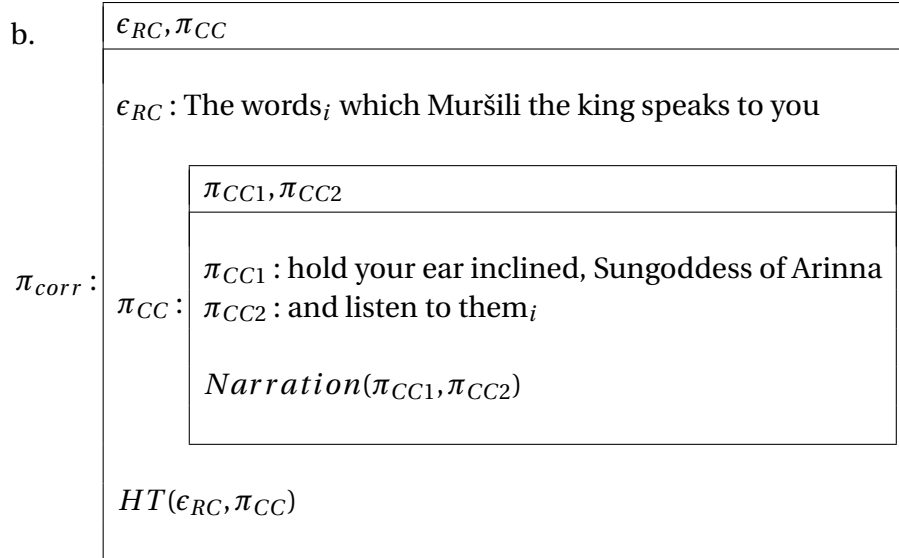Both structures are consistent with the material uttered so far, but at this stage (236a) will be ranked as more coherent because, all other things being equal (enough), it contains fewer nodes (cf. Asher and Lascarides 2003: 233).

Things change when the third clause is added. All of a sudden, we discover that the second clause *was* intended as a pair after all. The structures in (236) can be extended with the new clause to give the following:

(237) a.

$$\epsilon_{RC}, \pi_{CC1}, \pi_{CC2}$$

π_{corr} :
ϵ_{RC} : The words$_i$ which Muršili the king speaks to you
π_{CC1} : hold your ear inclined, Sungoddess of Arinna
π_{CC2} : and listen to them$_{*i}$

$HT(\epsilon_{RC}, \pi_{CC})$
$Narration(\pi_{CC1}, \pi_{CC2})$

b.

π_{corr} :

ϵ_{RC}, π_{CC}
ϵ_{RC} : The words$_i$ which Muršili the king speaks to you
π_{CC} : $\begin{array}{\|l\|} \hline \pi_{CC1}, \pi_{CC2} \\ \hline \pi_{CC1} \text{: hold your ear inclined, Sungoddess of Arinna} \\ \pi_{CC2} \text{: and listen to them}_i \\ \\ Narration(\pi_{CC1}, \pi_{CC2}) \\ \hline \end{array}$
$HT(\epsilon_{RC}, \pi_{CC})$
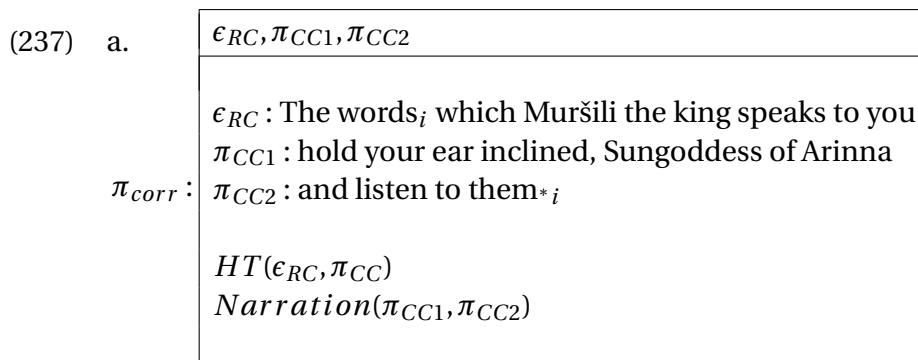
These two structures differ in whether the anaphor *them* in π_{CC2} can find *the words* in ϵ_{RC} to be its antecedent. An anaphor in π_{CC2} can only access referents in a DRS α if some relation links α to π_{CC2} directly (i.e., $R(\alpha, \pi_{CC2})$) or to a DRS that outscopes π_{CC2} (i.e., $R(\alpha, \gamma)$ and γ outscopes π_{CC2}) (cf. Asher and Lascarides 2003: 149). This condition is met in structure (237b), since ϵ_{RC} is related to π_{CC} by HT and π_{CC} outscopes π_{CC2}; the condition is *not* met in structure (237a). This means that (237b) yields a more coherent discourse than (237a), since the anaphor can only receive a value in (237b). Thus, the addition of the third clause has caused us to revise our understanding of the optimal discourse structure.

5.4.3 What all goes in the CC?

We have seen that discourse is assembled dynamically by attaching successive clauses to previous points in the structure. In particular, as shown above we can create a multi-clausal CC by adding new clauses to the material already present in the CC. How do we know when this process stops? Suppose we have a correlative followed by a series of clauses, where each clause is connected to the previous one by some discourse relation. How do we determine which of these clauses go in the CC and which ones do not?
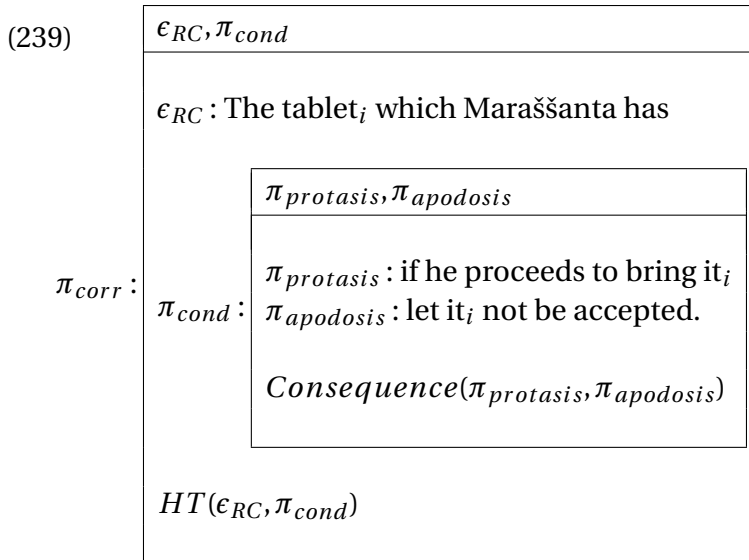
204

5.4.3.1 Topic continuity

In the derivation above, we obtained the structure in (239) for the correlative construction in (238):

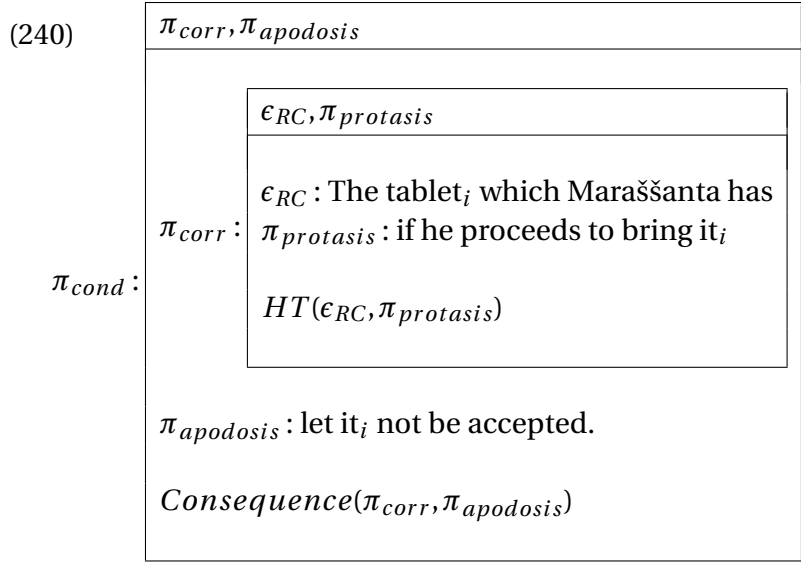(238) $^{\text{m}}$Maraššantaš=ma   kuit   *ṬUPPU* ḫarzi n=at   uezzi mān udai   n=at

       Maraššanta=CONTR REL   tablet   has   CONN=it goes if   brings CONN=it

       le   dattari

       PROH is.accepted

       'The tablet which Maraššanta has, if he proceeds to bring it, let it not be accepted.'

                                         (Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

(239)

$\pi_{corr}:$

$$\boxed{\begin{array}{l} \epsilon_{RC}, \pi_{cond} \\[6pt] \hline \\ \epsilon_{RC}: \text{The tablet}_i \text{ which Maraššanta has} \\[6pt] \pi_{cond}: \boxed{\begin{array}{l} \pi_{protasis}, \pi_{apodosis} \\ \hline \\ \pi_{protasis}: \text{if he proceeds to bring it}_i \\ \pi_{apodosis}: \text{let it}_i \text{ not be accepted.} \\[6pt] Consequence(\pi_{protasis}, \pi_{apodosis}) \end{array}} \\[6pt] HT(\epsilon_{RC}, \pi_{cond}) \end{array}}$$

In step 2, we introduced $\pi_{protasis}$ and π_{cond}, using the latter to fill in the missing argument of HT. This is tantamount to assuming that ϵ_{RC} sets up a referent for the conditional as a whole. But we could also have tried a structure where just the protasis is the CC, rather than the whole conditional. The conditional structure would outscope the correlative construction:

(240)

$$\pi_{cond}:
\boxed{
\begin{array}{l}
\pi_{corr}, \pi_{apodosis} \\[4pt]
\pi_{corr}:
\boxed{
\begin{array}{l}
\epsilon_{RC}, \pi_{protasis} \\[4pt]
\epsilon_{RC}: \text{The tablet}_i \text{ which Maraššanta has} \\
\pi_{protasis}: \text{if he proceeds to bring it}_i \\[6pt]
HT(\epsilon_{RC}, \pi_{protasis})
\end{array}
} \\[30pt]
\pi_{apodosis}: \text{let it}_i \text{ not be accepted.} \\[6pt]
Consequence(\pi_{corr}, \pi_{apodosis})
\end{array}
}$$

Intuitively, this structure seems reasonable. So how do we choose between the two structures? Here, we might appeal to the fact that both the protasis and apodosis have pronouns that refer to the RC referent — effectively, two correlates. This referent is topical in both clauses, so we could treat the entire conditional as the comment.

A similar consideration applies in the case of clauses joined by $Narration$, except here we can perhaps be more specific. The crucial point is that a sequence of clauses joined by $Narration$ must be dominated by a discourse topic that, roughly speaking, summarizes the shared content. For a $Narration$ sequence following a correlative, we can determine which clauses are inside the CC and which are outside by looking at the discourse topics for the various possible subsequences. In the following example, the RC is followed by two clauses which are linked by $Narration$:

206

(241) É.MEŠ L[(UGAL É)].MEŠ GU₄ É ^{NA4}KIŠIB.ḪI.A ^Étarnuwēš kue karuw[(il)]i

royal.buildings cattle.barns storehouses bathhouses REL old

n=at arḫa arrirrandu n=at dān EGIR-pa nēwi[(t)]

CONN=them scrape.off.3PL.IMP CONN=them a.second.time back new.INS

wilanit ḫaniššandu

plaster.INS plaster.3PL.IMP

'The royal buildings, the cattle barns, the storehouses, and the bathhouses that are old, let them scrape them off and replaster them a second time with new plaster.'

(KUB 13.2 ii 13–15 (MH/NS); Miller 2013: 224)

The two post-RC clauses both describe something which is to be done to repair the buildings referred to by the RC. Thus, the narrative topic for these two clauses would be something like *repair x*, where x is the RC referent. The fact that the RC referent is part of the narrative topic's content justifies putting both clauses inside the CC, with the narrative topic acting as the second argument of HT:

(242)

π_{corr}:

$\boxed{\begin{array}{l} \epsilon_{RC}, \pi_{top}, \pi \\[4pt] \hline \epsilon_{RC}: \text{The royal buildings, cattle barns, storehouses, and bathhouses}_i \text{ that are old} \\ \pi_{top}: (\text{repair } x) \\[4pt] \pi: \boxed{\begin{array}{l} \pi_{CC1}, \pi_{CC2} \\ \hline \pi_{CC1}: \text{let them scrape them}_i \text{ off} \\ \pi_{CC2}: \text{and replaster them}_i \text{ a second time with new plaster} \\ Narration(\pi_{CC1}, \pi_{CC2}) \end{array}} \\[4pt] HT(\epsilon_{RC}, \pi_{top}) \\ Topic(\pi_{top}, \pi) \end{array}}$

We can add clauses to the CC as long as the RC referent persists in topic continuity. If the referent ceases to be the topic, then the ensuing clauses will not be parsed into the CC, but

will attach to the discourse topic of HT — in other words, to the whole construction itself. The following example presents such a scenario:
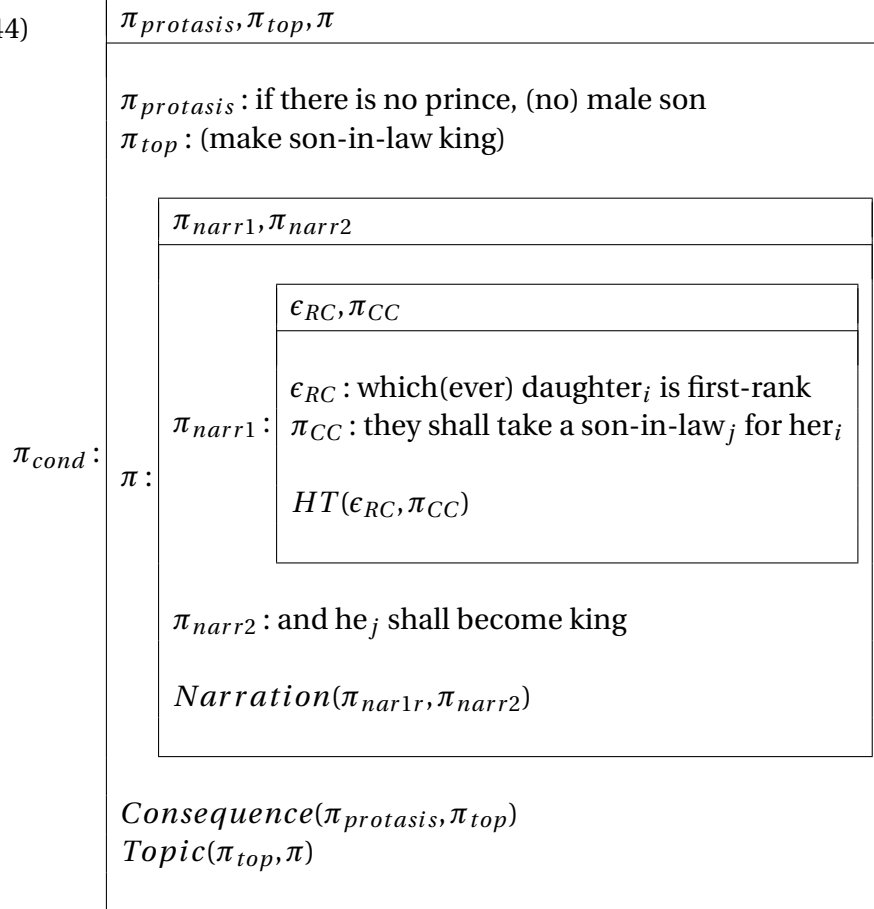
(243) mān   DUMU.LUGAL=ma   IBILA   NU.GÁL   nu   kuiš   DUMU.MUNUS
       if   prince=CONTR   male.son   does.not.exist   CONN   REL   daughter

       ḫantezziš   nu=šši=ššan   ᴸᵁantiyantan   appāndu   nu   LUGAL-uš   apāš
       first.rank   CONN=her=PTC   son-in-law   take.3PL.IMP   CONN   king   he

       kiš[(aru)]
       become.3SG.IMP

       'If there is no prince, (no) male son, which(ever) daughter is first-rank, they shall take a son-in-law for her, and HE shall become king.'

<div align="right">(KBo 3.1 ii 38–39 (OH/NS); Hoffmann 1984: 32)</div>

After the first post-RC clause, the topic shifts from the daughter to the son-in-law, so despite the fact that the sequence is bound by $Narration$, we consider only that first clause to be the second argument of HT:

(244)

$\pi_{protasis}, \pi_{top}, \pi$

$\pi_{cond}:$

$\pi_{protasis}:$ if there is no prince, (no) male son
$\pi_{top}:$ (make son-in-law king)

$\pi:$

π_{narr1}, π_{narr2}

$\pi_{narr1}:$

ϵ_{RC}, π_{CC}

$\epsilon_{RC}:$ which(ever) daughter$_i$ is first-rank
$\pi_{CC}:$ they shall take a son-in-law$_j$ for her$_i$

$HT(\epsilon_{RC}, \pi_{CC})$

$\pi_{narr2}:$ and he$_j$ shall become king

$Narration(\pi_{nar1r}, \pi_{narr2})$

$Consequence(\pi_{protasis}, \pi_{top})$
$Topic(\pi_{top}, \pi)$

5.4.3.2 Multiple optimal structures

What about a case like (245), which has the same basic RC-plus-conditional structure as (238), except only the protasis has a correlate?

(245) kāšma=wa   MUŠEN.ḪI.A kue *ANA* EN=*YA*   uppaḫḫun nu=wa=za

there=QUOT birds   REL to   lord=my I.sent   CONN=QUOT=REFL

mān EN=*YA*   apē   MUŠEN.ḪI.A malāši   nu=wa=mu   EN=*YA*

if   lord=my those birds   approved.2SG CONN=QUOT=me lord=my

EGIR-pa ḫatrāu

back   write.2SG.IMP

'The birds which I have sent there to My Lord, if you My Lord approved of those
birds, may My Lord write back to me.'

(AT 125 5–9 (NH); Hoffner 2009: 373)

How do we know whether the structure for (245) is like (239), where the RC applies to the whole
conditional, or (240), where the RC applies to just the protasis? In fact, I am not sure that we
can know, and I am not sure that we need to. Crucially, *Maximize Discourse Coherence* creates a
partial order on the set of possible discourse structures. This means that there will not always
be a unique structure that is ranked above all the others. Sometimes, there may be multiple
structures that are not themselves outranked by any others — in other words, multiple maxi-
mally coherent structures, reflecting the possibility of structural ambiguity in discourse. I think
that this is one such case: just from the clauses and the relations between them, we cannot
definitively say that one scoping relationship is correct, as both seem to work.[8]

5.4.3.3 Discourse topic prevents flat structures

One might wonder if it would be possible to do without the nested structures in (239) and (240),
and just attach $\pi_{apodosis}$ to $\pi_{protasis}$ directly:

---

8. We might presume that the speaker intended one particular version, but that is not information we can re-
cover.

(246)

$$\boxed{\begin{array}{l} \epsilon_{RC}, \pi_{protasis}, \pi_{apodosis} \\[2mm] \hline \\[-1mm] \pi: \begin{array}{|l} \epsilon_{RC} : \text{The tablet}_i \text{ which Maraššanta has} \\ \pi_{protasis} : \text{if he proceeds to bring it}_i \\ \pi_{apodosis} : \text{let it}_i \text{ not be accepted.} \\[3mm] HT(\epsilon_{RC}, \pi_{protasis}) \\ Consequence(\pi_{protasis}, \pi_{apodosis}) \end{array} \end{array}}$$

Thus, there would be only one label, $\pi : HT(\epsilon_{RC}, \pi_{protasis}) \wedge Consequence(\pi_{protasis}, \pi_{apodosis})$, with the two relations in conjunction. This would be ruled out because it is not compatible with the discourse topic requirement of HT. The relation HT must be outscoped by a discourse topic (call it π_{topic}), and the two would be linked by the relation $Topic(\pi_{topic}, \pi)$. However, π_{topic} is not exactly the topic of π, which is a conjunction of HT and $Consequence$. It is only the topic of the HT part. Therefore, I take it that (246) is not a viable structure.[9]

5.5 Proleptic correlatives

I would now like to turn attention to a group of correlatives that are something of a syntactic anomaly. I have chosen to address them here, rather than in the previous chapter, because my analysis of them relies on the dynamics of construction formation. These correlatives give us an opportunity to see the explanatory advantages of the dynamic framework outlined above.

In all of the examples we have seen so far in this and other chapters, the RC precedes all material belonging to its CC. However, there are some correlative constructions where a word belonging semantically to the CC comes linearly before the RC material. The material from the CC seems to come "too early," ahead of where it is expected:

---

9. In this specific case involving $Consequence$, there is a second problem that invalidates (246): HT is veridical and thus entails the truth of its arguments. The structure in (246) would entail the truth of $\pi_{protasis}$, which is an incorrect prediction.

(247)   *'The king throws away the napkin.'*

ta   **mān** DUMU.MEŠ É.GAL kuēz   paršnan ḫarkanzi n=at   apezza

CONN if   palace.officials   REL.ABL squatted have   CONN=it that.ABL

peššiyazi n=at   DUMU.MEŠ É.GAL danzi

throws   CONN=it palace.officials   take

'**If** the side on which the palace officials are squatting, he throws it on that side, then the palace officials take it.'

Paraphrase: If he throws it on the side where the palace officials are squatting, then the palace officials take it.

(KBo 4.9 vi 5–9 (OH/NS); Huggard 2015: 166)

The basic structure in (247) is a conditional construction: 'If he throws it to side X, the palace officials take it.' The subordinator *mān* has semantic scope over the predicate of the second clause (*peššiyazi* 'throws'), but does not actually appear in that clause. Descriptively, it occurs in the first clause, the RC:

(248)   RC   ta   **mān** DUMU.MEŠ.É.GAL kuēz   paršnan ḫarkanzi

CONN if   palace-officials   REL.ABL squatted have

'**If** the side on which the palace officials are squatting,'

CC = Protasis n=at   apezza   peššiyazi

CONN=it that.ABL throws

'he throws it on that side,'

Apodosis   n=at   DUMU.MEŠ.É.GAL danzi

CONN=it palace.officials   take

'then the palace officials take it.'

This kind of unexpected position can also happen with discourse-oriented connective words like *namma* 'furthermore, moreover':

(249)   *'O lord my lord, keep your eyes on my house and let them not oppress it.'*

namma=mu	DI.ḪI.A	kue	ēšzi	n=at	*BELU*	*BELI=YA*
furthermore=me.DAT	legal.affairs	REL	are	CONN=them	lord	lord=my

ḫanni
judge.2SG.IMP

'**Furthermore**, the legal affairs which I have, O lord, my lord, judge them.'

(HKM 52 28–29 (MH/MS); Hoffner 2009: 195)

The connective *namma* here is most felicitously taken with the CC as a further request, adding to the requests in the preceding context. However, it linearly appears in the RC.

I will call these *proleptic correlatives*, because an element of the CC (a subordinator or a connective) appears early, giving a similar feeling to examples of prolepsis like the following:

(250)   Consider the lilies of the field, how they grow. (Matthew 6:28)

The sense of (250) is (often said to be[10]) *Consider how the lilies of the field grow*, but the subject of the *how*-clause is presented early.

There are a few properties of proleptic correlatives that an analysis must account for. The first has already been discussed: the unexpected early appearance of a subordinator or connective from the CC before the proper material of the RC. The second, observable in (249) and in (251) below, is that the subordinator or connective acts as the host for clitics that belong syntactically to the RC.

---

10. Whether this is actually true is not critical, since I mention it only to explain my use of the term *prolepsis*.

(251) tepawe=wa=mu pedi   pau[wanzi …] **kuitman=wa=šši**   MU.KAM.ḪI.A
       little=QUOT=me place.LOC go.INF   until=QUOT=for.him   years

       kuiēš   daranteš nu=war=aš=za   šar[ā] tittanuzi
       which   decreed   CONN=QUOT=them=REFL   fulfills

'[The Stormgod commanded[?]] me [to] g[o] to the Little Place until the years that
are decreed for him, he fulfills them.'[11]

Paraphrase: '… until he fulfills the years that are decreed for him.'

(KUB 33.106 ii 6–7 (NH); Rieken et al. 2009; *CHD* P: 340 *s.v. peda-* A e 16')

Third, after the RC comes a clause boundary before the remaining CC material, identifiable
by the presence of a connective (*nu, šu, ta*) or a clitic chain containing the CC's clitics. Such a
boundary can be observed in all of the above examples.

The question for an analysis of proleptic correlatives is how to reconcile these properties.
On the one hand, we might expect that the displaced subordinator or connective (which I will
dub the *proleptic element* (PE)) would syntactically belong to the CC, making it look like the RC
actually splits the CC. On the other hand, the fact that the PE hosts the RC's clitics suggests that
it belongs to the RC (at least prosodically), and the presence of an identifiable clause boundary
between the clauses does not easily reconcile with the idea that the CC is split.
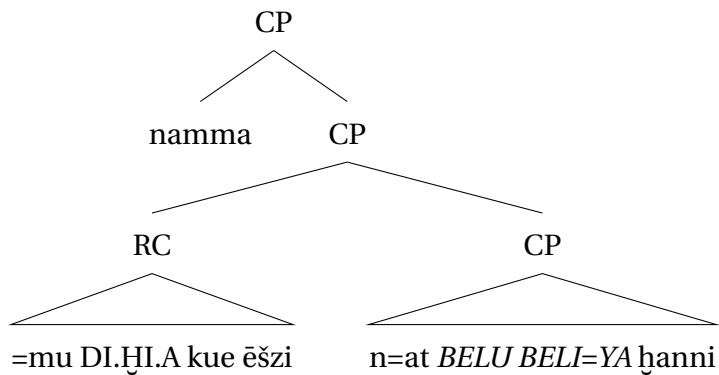
In the following sections, I will examine two competing analyses of proleptic correlatives.
The first is that of Sideltsev (forthcoming[b]), who argues that the RC syntactically splits the CC.
The second is my own proposal, assigning the PE syntactically to the RC.

---

11. It should be noted that this particular example comes from translation literature. Nevertheless, it is by no
means the only example of a proleptic correlative, and does not seem to me to show signs of non-Hittite influence.
The properties I am adducing here can be observed in other examples outside of translation literature, so I do not
feel the need to discount this example.

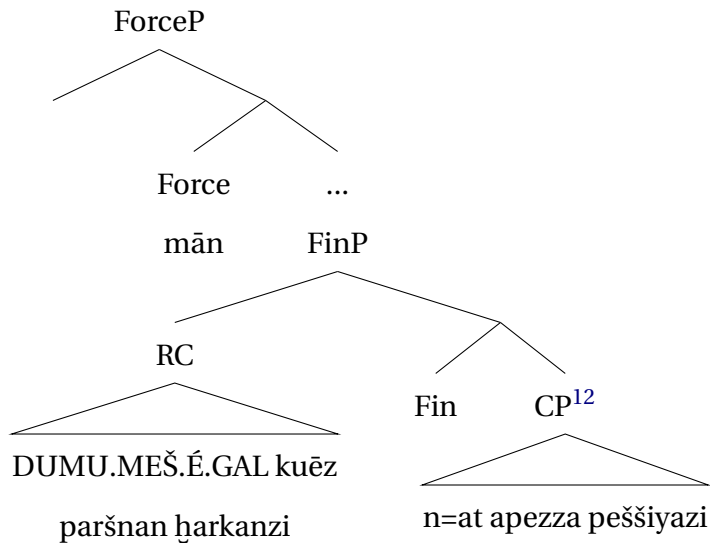### 5.5.1 A CC-splitting approach

Sideltsev's (forthcoming[b]) analysis of proleptic correlatives, which he calls "mismatch sentences", starts from the assumption that the PE is syntactically a part of the CC. This is certainly reasonable, since it is clearly *interpreted* with the CC predicate. The only way to get the linear position of the RC right, then, is to assume that it splits the CC right after the PE. Sideltsev (p. 38–41) proposes different structures depending on whether a subordinator or connective is involved, on the assumption that these items enter the left periphery in different ways:
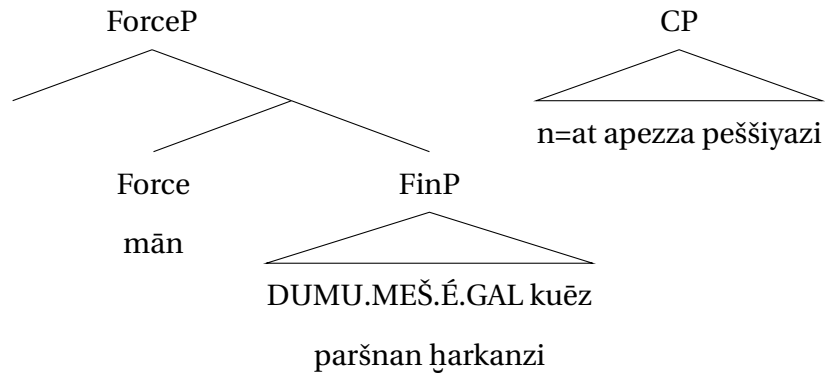
(252) Structure for connectives:

```
                    CP
                  /    \
             namma      CP
                      /    \
                    RC      CP
                  /    \   /    \
         =mu DI.ḪI.A kue ēšzi   n=at BELU BELI=YA ḫanni
```

(253) Structure for subordinators:

a. Before reanalysis:

```
              ForceP
             /     \
          Force     ...
          mān      FinP
                  /     \
                RC       Fin   CP[12]
              /    \          /    \
     DUMU.MEŠ.É.GAL kuēz   n=at apezza peššiyazi
       paršnan ḫarkanzi
```

215

b. After reanalysis:

```
        ForceP                              CP
       /      \                           /    \
    Force     FinP                  n=at apezza peššiyazi
    mān       /    \
         DUMU.MEŠ.É.GAL kuēz
          paršnan ḫarkanzi
```

Sideltsev assumes that connectives like *namma* are adjoined to the clause at its highest projection; he assumes that correlatives do the same, and the proleptic order is simply a matter of the RC adjoining before the connective does. Sideltsev argues that this configuration is not possible with subordinators like *mān*, which enter as heads to ForceP. Adjoining the RC to the highest projection would make the RC precede the subordinator, so in proleptic correlatives the RC must adjoin lower down — as he argues, to FinP (253a). Sideltsev proposes a reanalysis in which the RC becomes the complement of the subordinator, leaving the rest of the CC to be a separate clause entirely.[13]

This proposal accounts for the linear facts, but two points remain to be handled: the fact that the PE hosts clitics from the RC, and the presence of an identifiable clause boundary after the RC. For the former, Sideltsev (forthcoming[a]) argues that the RC's clitics move (post-syntactically) out of their clause and latch onto the PE by analogy with the quotative clitic

---

12. Cf. Sideltsev, forthcoming(b): 40 for the label.

13. Sideltsev also argues for a third type of "mismatch sentence" in which the element before the RC is an HT that is tied to the same CC. As I showed above, there are reasons to believe that HTs in Hittite are generally not syntactically integrated, so I do not believe that such constructions are genuine proleptic correlatives like (247) and (249). The HT in Sideltsev's proposed third type is simply a non-integrated constituent sitting to the left of the RC; the structure is identical to constructions with multiple unrelated RCs:

(i) [$_{RC}$purut$_i$=ma   kuit dašket] [$_{RC}$nu   kuwapi$_j$ KIN-az human kittat]   apūnn$_i$=a apiya$_j$
      mud=CONTR   REL took   CONN where   work   all   was.placed that=too   there
      pēdā[(i)]
      brings

     'The mud$_i$ which he had taken, where$_j$ all the work has been placed, he carries that$_i$ too there$_j$.'
                                                                        (KUB 7.41 Vo 36–38 (MH/MS?); Otten 1961: 118)

=wa(r). I will not reproduce here the details of Sideltsev's ([forthcoming[a]](#)) intricate proposal, which involves three classes of clitics and three stages of clitic insertion. The important point is that *=wa(r)* appears in the same clitic chain as the other sentential clitics in the vast majority of constructions. Sideltsev argues that in proleptic constructions in a quotation, the CC would naturally have a *=wa(r)* on the PE (the CC's first word), and that the RC's clitics move out of their proper domain to join in a chain with the *=wa(r)* under the influence of the aforementioned dominant pattern.

As for the latter issue, that there is a clause boundary following the RC, and thus seemingly *internal* to the CC, Sideltsev ([forthcoming[a]](#)) argues that the discourse connectives (*nu, šu, ta*) are inserted post-syntactically, not representing a syntactic head. Clitics are also inserted post-syntactically. Though Sideltsev does not provide much detail about how the grammar calculates the point of insertion, the argument seems to be that the items which apparently mark a clause boundary are not positioned according to syntactic principles, and therefore the apparent clause boundary is in fact an illusion.

In my view, Sideltsev's approach does not persuasively resolve the questions embodied in the last two paragraphs. His explanation of the position of the RC's clitics is overly complicated in requiring a tripartite taxonomy of Hittite clitics with different stages of post-syntactic insertion. Moreover, I find it unlikely that a quotative particle could be a fundamental crux for an analogical repositioning of other clitics; such an analogy requires a quotative context — a rather specific discourse scenario — and just seems too elaborate for my taste. Sideltsev's answer to the inter-clausal boundary also seems unsatisfactory, although that is due in part to the lack of detail offered. Still, the connective and clitic chain occurring at that boundary typically line up at genuine clause boundaries in Hittite. If the boundary is illusory, then why have those elements ended up *there*? Finally, Sideltsev's solution assumes two different structures, including two different merge points for the RC, depending on whether the PE is a connective or a subordinator. I think that this is overly complicated and is a sign of a missed generalization.

5.5.2 The PE is in the RC

5.5.2.1 Explaining the syntactic and prosodic properties

In the previous chapter, I proposed a paratactic analysis of Hittite correlative syntax. In the case of proleptic correlatives, the structure would be the following (ignoring the discourse structure):

(254)

$$\pi_{corr}$$

CP$_{RC}$ — ta **mān** DUMU.MEŠ.É.GAL kuēz$_i$ paršnan ḫarkanzi

CP$_{protasis}$ — **n=at apezza$_i$ peššiyazi**

CP$_{apodosis}$ — n=at DUMU.MEŠ.É.GAL danzi
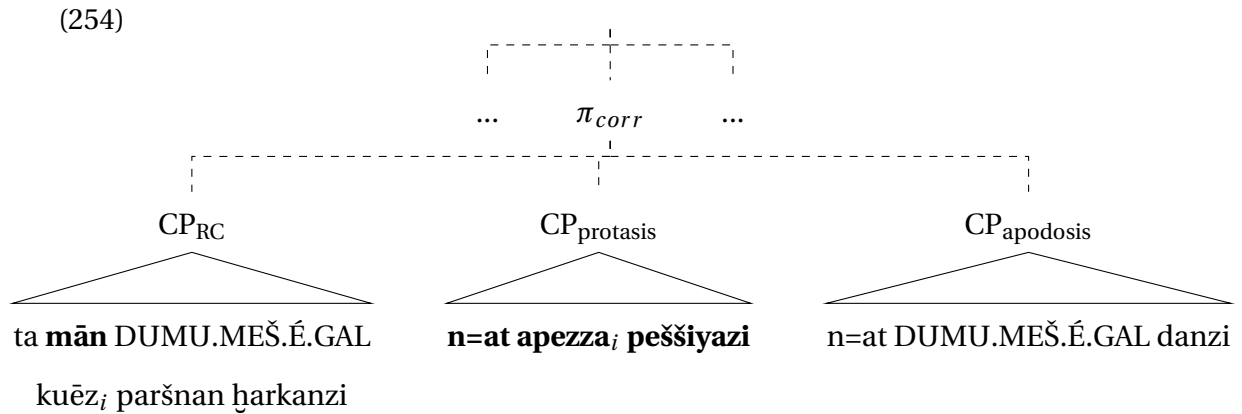
I see no reason to suppose that the PE can stand alone, so we must parse it into the RC, even if that is not where it belongs semantically. This analysis transparently takes care of the post-RC boundary that we find in proleptic correlatives: it is a genuine syntactic boundary, just like in all other instances. The connective and the clitic chain of the CC are exactly where we expect them to be.

This approach also provides a simple account for the position of the RC's clitics. If the PE is syntactically part of the RC, then it is a perfectly viable host for the RC clitics. We do not need any extra assumptions or special mechanisms. This has the virtue of preserving boundary alignment between syntactic and prosodic domains, as has often been proposed (cf., e.g., the discussion in Selkirk 2011). We can observe that clitics to clause-internal, externally-headed RCs remain inside the RC:

(255) [n=ašt]a   ^{LÚ}AZU   SÍG   SA₅   [_{RC}AN[A   ^{GI]Š}ÉRIN-(a)=**ššan**   kuit   peran

CONN=PTC   exorcist   wool   red   DAT   cedar.wood=PTC   REL   in.front

ḫaminkan]   [...]x   tallāyaz   Ù   IŠTU   Ì.DÙG.GA   [š]arā   dā[i]

tied   *tallai*-vessel.ABL   and   ABL   fine.oil   up   takes

'The exorcist picks up the red wool that is tied to the front of the cedar wood [...] with the *tallai*-vessel and the fine oil.'

(KUB 15.34 i 30–31 (MH/MS); García Trabazo 2002: 578)

Sideltsev's approach requires positing a difference in prosodic behavior between proleptic correlatives and (255), which must be attributed to a taxonomic difference between the RC classes. My approach does not require such assumptions: in both cases, the clitics are hosted by the first word of the RC and thus remain within it.

There is some concrete evidence suggesting that the PE is not parsed as part of the CC. In the following example, the subordinator *mān* is doubled after the RC:

(256) **mān**   *UNU*[(*TE*)].MEŠ   GIŠ-*ṢI*   *UNUTE*.MEŠ   GIR₄   kue   ḫarteni   n=ašta

if   utensils   wood   utensils   ceramic   REL   you.have   CONN=PTC

mān   ŠAḪ-aš   UR.GI₇-aš   kuwapikki   anda   šālika

if   pig   dog   ever   gets.into

'**If** the utensils of wood and the utensils of ceramic that you have, **if** a pig or dog ever gets into (them),'
'but the kitchen employee does not throw them away, and he gives to the gods to eat from the unclean, the gods will give him feces and urine to eat and drink.'

(KUB 13.4 iii 64–68 (MH/NS); Miller 2013: 260)

If the first *mān* were a structural part of the CC's left periphery, why would we need a second *mān*? Moreover, where would it go in the structure, if the first *mān* already occupies the relevant position? Under my analysis, the two *mān*'s do not compete for syntactic position, as they are in
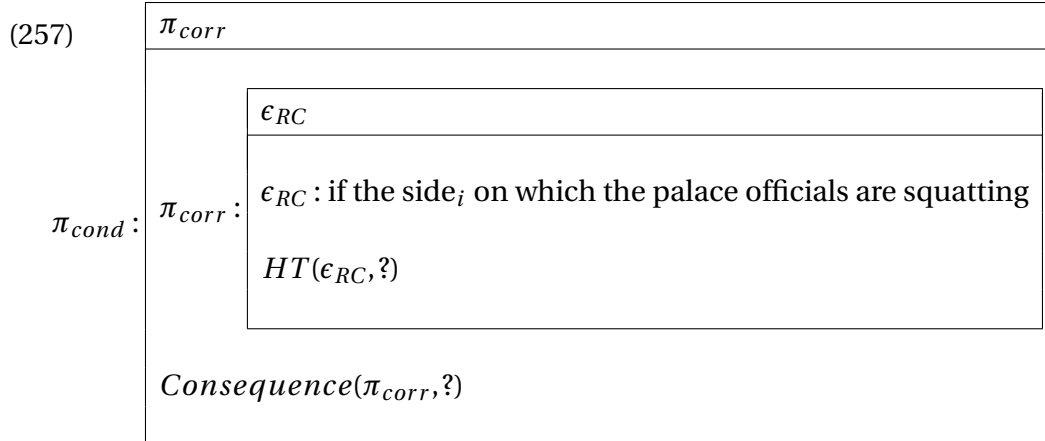
different clauses. The second *mān* is there presumably because the speaker felt the need to re-state it in the clause it properly governs — in essence, a repair strategy driven by the perception of an unwieldy structure.

Under my paratactic approach, most of the behavior of proleptic correlatives is straightfor-wardly explained. There is no syntax-prosody mismatch with respect to clitic positioning, as supposed by Sideltsev (forthcoming[b]), and the post-RC boundary is taken at face value. What remains to be explained is how the PE can be a part of the RC, when it semantically belongs with the CC: my approach requires a syntax-semantics mismatch.
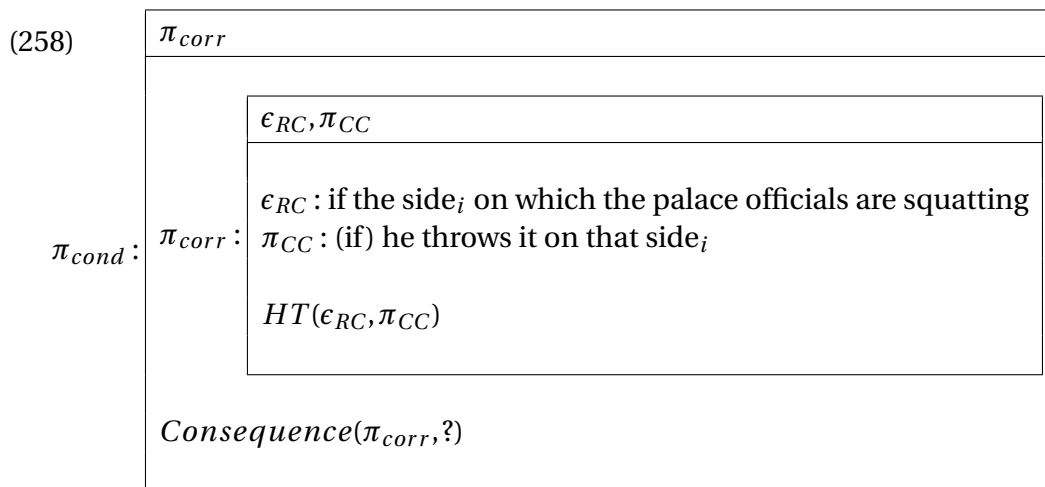
5.5.2.2 Prolepsis as an early signal of discourse structure

The key to my answer to the syntax-semantics mismatch lies in the fact that the PE allows us to infer something about the discourse structure. In ordinary (non-proleptic) cases, connectives and subordinators act as clues to rhetorical relations linking the clause under consideration with either preceding or following contributions, respectively. A connective like *namma* 'fur-thermore' tells us that a discourse constituent will be part of some larger structure that also includes part of the preceding context. Given a subordinator like *mān* 'if', we infer a relation (for *mān*, $Consequence$) linking the clause to one that has yet to emerge. I argue that prolepsis of these elements provides an early signal of this structure, before the relevant clause has en-tered the picture. We can model this easily in dynamic terms: since the RC additionally contains the PE, *two* rhetorical relations will be inferred when the RC enters the discourse.

Let us walk through the derivation of (247) to see how this would work. First, the RC is added. As we saw before, we infer an HT relation with label π_{corr} at this stage. Because the RC also contains a PE *mān*, we also infer a $Consequence$ relation with label π_{cond}. We may presume that the RC's CC will function as the protasis, so that π_{corr} will be the first argument of π_{cond}, so we can assume an outscoping relationship. (We can later revise the structure if this assumption proves problematic, but in this case that will not happen.)
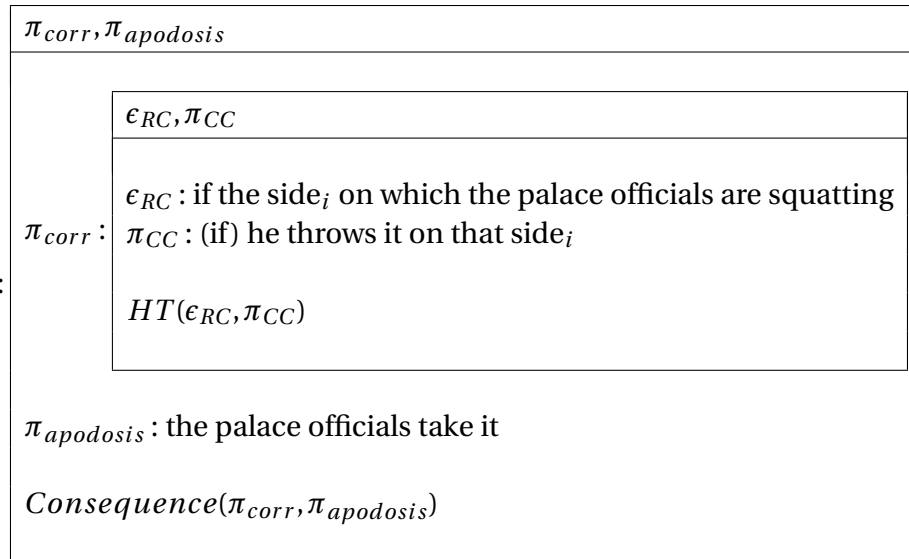
(257)

$\pi_{cond}:$ $\boxed{\begin{array}{l} \pi_{corr} \\[4pt] \pi_{corr}: \boxed{\begin{array}{l} \epsilon_{RC} \\[4pt] \hline \epsilon_{RC}: \text{if the side}_i \text{ on which the palace officials are squatting} \\[6pt] HT(\epsilon_{RC}, ?) \end{array}} \\[20pt] Consequence(\pi_{corr}, ?) \end{array}}$

Next, the CC is added, completing the *HT* relation. (I have added an 'if' in parentheses to represent where the conditional marker is actually interpreted.)

(258)

$\pi_{cond}:$ $\boxed{\begin{array}{l} \pi_{corr} \\[4pt] \pi_{corr}: \boxed{\begin{array}{l} \epsilon_{RC}, \pi_{CC} \\[4pt] \hline \epsilon_{RC}: \text{if the side}_i \text{ on which the palace officials are squatting} \\ \pi_{CC}: \text{(if) he throws it on that side}_i \\[6pt] HT(\epsilon_{RC}, \pi_{CC}) \end{array}} \\[20pt] Consequence(\pi_{corr}, ?) \end{array}}$

Finally, the apodosis of the conditional is added, filling in the second argument of *Consequence*.

(259)

$$\pi_{cond}: \begin{array}{|l|} \hline \pi_{corr}, \pi_{apodosis} \\ \hline \pi_{corr}: \begin{array}{|l|} \hline \epsilon_{RC}, \pi_{CC} \\ \hline \epsilon_{RC}: \text{if the side}_i \text{ on which the palace officials are squatting} \\ \pi_{CC}: \text{(if) he throws it on that side}_i \\ \\ HT(\epsilon_{RC}, \pi_{CC}) \\ \hline \end{array} \\ \\ \pi_{apodosis}: \text{the palace officials take it} \\ \\ Consequence(\pi_{corr}, \pi_{apodosis}) \\ \hline \end{array}$$

I believe that proleptic constructions such as this are best understood in dynamic terms from the perspective of the speaker. Prolepsis does not occur because of a syntactic relationship between the RC and its CC. Instead, the speaker has a discourse message in mind and knows that the core of the corresponding structure is a rhetorical relation — signaled by a particular morpheme — between the CC and some other clause (for connectives, part of the preceding discourse, and for subordinators, some clause yet to come). In the process of turning the structure into linear form (i.e., the stream of speech), the speaker introduces that morpheme as part of the first clause in the new contribution, in order to signal the discourse structure. However, the first clause is not actually the CC, but is instead an RC that is supposed to set up the CC! But the signaling morpheme has already been integrated into the RC, so a proleptic construction emerges. (This does not necessarily stop the speaker from producing the PE a second time in the CC, as we saw in (256). The speaker may feel the need to reiterate the PE so that its locus of interpretation is crystal clear.)

Thus, proleptic correlatives are not a separate type of correlative construction in syntactic and semantic terms. The proleptic position of the PE is not derived from syntactic structure or from a process of syntactic displacement. Instead, prolepsis is a pragmatically driven effect. The speaker anticipates a particular rhetorical structure for the discourse, and feels pragmatic pressure to get the PE out early. Various factors may contribute to this pragmatic pressure; I will

222

mention two here.

One way that the PE's associated rhetorical relation can become especially prominent is by being part of a contrastive structure. Indeed, the prolepsis in example (247) is likely due to the fact that the construction is half of the contrastive structure in (260).

(260)   *'The king throws away the napkin.'*

ta   **mān** DUMU.MEŠ É.GAL kuēz   paršnan ḫarkanzi n=at   apezza
CONN if   palace.officials   REL.ABL squatted have   CONN=it that.ABL
peššiyazi n=at   DUMU.MEŠ É.GAL danzi
throws   CONN=it palace.officials   take

mān=ma LÚ.MEŠ *MEŠEDI* kuēzzi   paršnan ḫarkanzi n=at   apēzza
if=CONTR bodyguards   REL.ABL squatted have   CONN=it that.ABL
peššiyazi n=at   LÚ.MEŠ *MEŠEDI* dānzi
throws   CONN=it bodyguards   take

'**If** the side on which the palace officials are squatting, he throws it on that side, then the palace officials take it.
But **if** the side on which the bodyguards are squatting, he throws it on that side, then the bodyguards take it.'

(KBo 4.9 vi 5–12 (OH/NS); Huggard 2015: 166)

This passage is clearly structured according to two contrasting possibilities, because the king can throw the napkin to one side or the other. Thus, the contrast is primary, and each contrasting situation is represented by a conditional, so it is understandable that the speaker would lead with the conditional marker that flags the two halves of the overall construction.[14]

Another factor that might lead to a subordinator or connective being proleptic is if that element connects the new material with the preceding discourse. There is good pragmatic rea-

---

14. In fact, there is another version of this ritual which has appositional RCs instead of correlatives:

son to advance the PE: delaying it until its "proper" clause risks obscuring the relationship it is meant to signal between that clause and the preceding discourse. At the cost of giving the PE a bit early, the speaker increases the coherence of the discourse by flagging the continuity in a prominent way. We can probably understand all prolepsis of connectives like *namma* 'furthermore' in this way:

(261)   *'O lord my lord, keep your eyes on my house and let them not oppress it.'*

namma=mu	DI.ḪI.A	kue	ēšzi	n=at	*BELU*	*BELI=YA*
furthermore=me.DAT	legal.affairs	REL	are	CONN=them	lord	lord=my

ḫanni
judge.2SG.IMP

'**Furthermore**, the legal affairs which I have, O lord, my lord, judge them.'

(HKM 52 28–29 (MH/MS); Hoffner 2009: 195)

Here the author is asking the addressee for a series of protections. First he asks for protection for his house, and second he asks for legal protection. *namma* connects these two requests, and it makes pragmatic sense to put the connective at the beginning of the second request to show the link. It just so happens that the second request involves a correlative construction, so *namma* appears before the imperative clause instead of as part of it. Its position is at the beginning of the

---

(i) | n=āt | mān | *ANA* | LÚ.MEŠ *MEŠEDI* | andan | pe[šši]yazi | LÚ.MEŠ *MEŠEDI* | kuēz | paršnanteš |
|---|---|---|---|---|---|---|---|---|
| CONN=it | if | to | bodyguards | in | throws | bodyguards | REL.ABL | squatting |

n=at	LÚ.MEŠ *MEŠEDI*	danzi
CONN=it	bodyguards	take

mān=at	*ANA*	DUMU.MEŠ É.GAL=ma	anda	peššiyazi	DUMU.⟨MEŠ⟩ É.GAL	kuēz	paršššnanteš
if=it	to	palace.officials=CONTR	in	throws	palace.officials	REL.ABL	squatting

n=at	DUMU.MEŠ É.GAL	danzi
CONN=it	palace.officials	take

'If he throws it to the bodyguards, on the side where the bodyguards are squatting, the bodyguards take it.
If he throws it to the palace officials, on the side where the palace officials are squatting, the palace officials take it.'

(KUB 25.1 ii 1–9 (OH/NS); Huggard 2015: 167)

The presence of such an alternative construction suggests to me that both it and the version in (247) are adapted solutions for expressing a complex message while making the conditional contrast prominent. This supports a view of prolepsis as emergent and pragmatic.

construction, decided by pragmatic concerns, and I assume that it is syntactically incorporated into the RC just because that is the first clause in the construction.

The following example shows the same effect with a subordinator:

(262) tepawe=wa=mu pedi   pau[wanzi …] **kuitman**=wa=šši   MU.KAM.ḪI.A
       little=QUOT=me place.LOC go.INF   until=QUOT=for.him years

       kuiēš   daranteš nu=war=aš=za   šar[ā] tittanuzi
       which decreed   CONN=QUOT=them=REFL fulfills

       '[The Stormgod commanded?] me [to] g[o] to the Little Place **until** the years that
       are decreed for him, he fulfills them.'
       Paraphrase: '… until he fulfills the years that are decreed for him.'

                    (KUB 33.106 ii 6–7 (NH); Rieken et al. 2009; *CHD* P: 340 *s.v. peda-* A e 16')

'Until'-clauses in Hittite occur after their associated main clause (Hoffner and Melchert 2008: 416). While the *kuitman* could conceivably be delayed until its proper clause, there are two weaknesses with such a structure. First, it risks parsing the 'until'-clause as dependent on the RC, not on the previous main clause. Second, even if such a misparsing did not take place, the structure is still not as transparent as it could be. It would take some processing work to find the proper anchoring clause in such a scenario. Advancing the *kuitman* acts as an immediate signal of what kind of construction we are dealing with. Knowing ahead of time what rhetorical relations to expect means that the various clausal relationships can be parsed with less difficulty and without the possible need for revision.

5.6 Conclusion

I have proposed an extension to the SDRT framework to accommodate correlative and HT constructions by treating the RC/HT as a referential expression that is a discourse constituent by itself. The denotation of the RC/HT in a given context is the set of individuals that satisfy it, and the RC/HT stands in an *HT* relation with a following clause if the two clauses can both

be satisfied in a given context for every individual that the RC/HT denotes in that context. I demonstrated how correlative constructions are assembled in the discourse in a dynamic way, introducing each clause in turn and integrating it into the discourse structure (with revisions to the assumed structure if necessary, as permitted by SDRT's formulation of discourse update).

I wish to emphasize that the application of SDRT to Hittite correlatives is not simply an exercise in formal representation. The emphasis in SDRT on rhetorical relations and discourse structure gave us a concrete tool to explain the phenomenon of proleptic correlatives. The syntactic inclusion in the RC of connectives proper to the construction as a whole, or of subordinators proper to the CC specifically, is demonstrably a pragmatic phenomenon: the speaker feels the need to produce the connective or subordinator early to convey helpful information about the discourse flow. The syntactic account of Sideltsev (forthcoming[b]) does not explain the pragmatic motivations. Rhetorical relations give us an explicit way to capture the pragmatic factors behind prolepsis, meaning that SDRT grants us broader empirical coverage.

Definiteness, indefiniteness, and maximality

6.1 Introduction

In the last chapter, I elaborated a formal model of the semantics of correlatives, but I left one major semantic property of correlatives undiscussed. It is well-known (cf., e.g., Srivastav 1991; Dayal 1995, 1996; Grosu and Landman 1998; Lipták 2009b; Belyaev and Haug 2020) that correlatives have maximalizing semantics: the denotation of a correlative includes *all* individuals satisfying its conditions. For example, the correlative in (263) refers to all of the birds sent, not just some of them.[1]

(263) nu=mu   MUŠEN.ḪI.A kue uppešta n=at   arḫa ḫ[ar]ranteš eš[er]
      CONN=me birds   REL you.sent CONN=they spoiled   were

‘The birds which you sent to me, they were spoiled.’

(AT 125 11–12 (NH); Hoffner 2009: 373)

The statement would not be true if only some of the birds had spoiled. Correlatives are thus one of Grosu and Landman's (1998) "third-kind" relatives, a class of maximalizing RC types that also includes free relatives, internally headed RCs, and degree relatives. This class is contrasted with RC types that are not inherently maximalizing: restrictive relatives (*I picked up a shell that was on the beach*; one of many shells on the beach, presumably) and nonrestrictive relatives (*I invited John, who likes sushi*; plenty of other people like sushi, not just John).

---

1. Maximalization is reflected in the English translation by the definite article, which similarly has a maximalizing effect.

It is widely recognized that maximalization in correlatives can yield two distinct readings: definite and universal.[2] Correlatives with the definite reading, as in (263) are interpreted in the same manner as definite NPs, and can be felicitously translated as such in English. Other correlatives have a universal free-choice reading with quantificational force:

(264)　[(kui)]š=za $^{\text{LÚ}}$ḫippari　ḫāppar　iezzi　n=aš=kan　ḫāpparaz
　　　　REL=REFL　*ḫippara*-man　purchase　makes　CONN=he=PTC　purchase.price.ABL
　　　　[šame]nzi
　　　　withdraws

　　　　'Whoever/Any person who makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.'

<div align="right">(KBo 6.2 ii 51–52 (OH/OS); Hoffner 1997: 58)</div>

The universal reading can be rendered in English using *-ever* or free choice *any*. The universal reading quite often can have a hypothetical sense, as in (264): the construction covers any person who might make a purchase in any imaginable scenario.

In this chapter, I show how my semantic model captures the maximalizing semantics of correlatives based on the definitions of ref and HT in terms of maximal individuals and universal quantification over the ref set. I also show how my model derives the various readings that are available as a result of the number and variety of individuals that can be part of the ref set given the possible input worlds.

The chapter is laid out as follows. In section 6.2 I lay out the various readings that correlatives can have. I discuss prior approaches to deriving maximality with correlatives in section 6.3, and how maximality is reflected in my SDRT proposal in section 6.4. In section 6.5 I show how the various readings are derived from my semantic model. In section 6.6 I discuss the similarity between correlatives and conditionals. Section 6.7 summarizes the discussion.

---

2. Belyaev and Haug (2020: 875) note that some languages only allow one reading for correlatives, not both. Hittite allows both, so I will abstract away from this issue here.

6.2   Readings of correlatives

Before we proceed to a theoretical model, we need to establish the empirical facts. In this section I will review the various readings that correlatives have and their characterization in the literature.

6.2.1   Definiteness and indefiniteness

I will divide the readings into definite and indefinite categories, so it is worth spending a few words on how I view the distinction between these concepts. Scholars have historically been divided on how to define definiteness; an overview can be found in L. Becker 2021: 56–64. Some have viewed uniqueness as the core factor: a definite description can be used of a referent if that description picks out a unique entity. Others have characterized definiteness in terms of familiarity: a definite description is felicitous if the referent is familiar to the speaker and hearer. I follow Becker in using the notion of identifiability, defined below.

Becker's model centers on the cognitive relations that exist between participants in a discourse and the things that can be referred to. We can represent the knowledge and beliefs of the speaker and the hearer as their *mental spaces*, sets containing discourse referents that correspond to the individuals and propositions that make up that knowledge. (This correspondence can be expressed as an assignment function.) For example, my own mental space could be (*very* partially) represented as $\{x_{\text{laptop}}, x_{\text{COVID-19}}, x_{\text{Frank Sinatra}}, x_{\text{lamp1}}, x_{\text{lamp2}}, \ldots\}$. In the context of a discourse between two participants, the mental spaces of the speaker and hearer will overlap, and the discourse universe (i.e., all of the referents that have been added to the discourse so far — we could think of this as the domain of the assignment functions in the current information state) will be a subset of that overlap. The overlap includes the discourse universe as well as other referents that the interlocutors may have in common, such as objects present in the physical situation of the discourse.

Becker (p. 57) defines definiteness and indefiniteness in terms of *identifiability* and especially *mutual identifiability*:

(265) A referent evoked by a referring expression is *identifiable* by a discourse partici-
pant if the referent is an element of their mental space.

(266) *Mutually identifiable referent*

A referent evoked by a referring expression is *mutually and unambiguously iden-
tifiable* by the speaker and the hearer if the referent is an element of both the
speaker's mental space and the hearer's mental space, and if the speaker and the
hearer assign the same referent to the referring expression.

A referent may be described as *definite* if it is mutually and unambiguously identifiable by both
speaker and hearer (hereafter, I will use "identifiable" as shorthand, except where specified).
Definiteness is not a primitive concept, but actually covers several categories of referent which
are distinguished by their relation to the discourse universe and discourse situation, such as
deixis, anaphora to a preceding discourse referent, or a bridging relation to another referent.

A referent may be described as *indefinite*, on the other hand, if it is not mutually and unam-
biguously identifiable by both speaker and hearer; it may be identifiable by the speaker but not
the hearer, or it may not be identifiable by either participant. Like definiteness, indefiniteness
is an umbrella term and covers two subtypes of referent: specific and nonspecific. The differ-
ence between the subtypes depends on whether the referential expression picks out a partic-
ular referent. If it does (and the speaker and hearer know this), then the referent is *specific*. If
the referential expression merely identifies a type, such that the referent may be thought of as a
placeholder or a representative of the type, then the referent is *nonspecific.*

6.2.2 Definite readings

Correlatives can have a definite reading, as shown by the following examples:

(267) jo laRkii khaRii hai vo lambii hai

REL girl   standing is she tall   is

'The girl who is standing, she is tall.'

<div align="right">(Dayal 1995: 179)</div>

(268) *'My father made Maraššanta a tablet, and Maraššanta has it.'* [10 more clauses]

ᵐMaraššantaš=ma   kuit *ṬUPPU* ḫarzi n=at   uezzi mān udai   n=at

Maraššanta=CONTR REL tablet   has   CONN=it goes if   brings CONN=it

le   dattari

PROH is.accepted

'The tablet which Maraššanta has, if he proceeds to bring it, let it not be accepted.'

<div align="right">(Bo 86/299 ii 2–3 (NH); Otten 1988: 14)</div>

The RC in (268) has a definite interpretation because its referent, Maraššanta's tablet, is identifiable, having been directly introduced into the discourse as a referent ten clauses prior. In L. Becker's (2021) taxonomy, this would be an *anaphoric referent*.

Recall from chapter 2 that Hittite has "nonrestrictive" correlatives in addition to "restrictive" correlatives like (263) and (268):[3]

---

3. This observation has interesting theoretical implications, since the literature, following Grosu and Landman (1998), typically describes maximalizing RCs as a distinct third kind separate from restrictive and nonrestrictive RCs. If correlatives can have either flavor, it suggests that the typology of RCs is more complicated than generally acknowledged, which warrants further theoretical and typological investigation. I will set the matter aside here.

(269) KUR ^{URU.d}U-tašša=tta kuit peḫḫun n=at   katta tuel=pat NUMUN-anza
land Tarḫuntašša=you REL I.gave   CONN=it down your=FOC descendant

ḫarzi
holds

'The land of Tarḫuntašša, which I have given to you, only YOUR descendant will hold it.'

(Bo 86/299 ii 97–98 (NH); Otten 1988: 20)

For the purposes of this chapter, the distinction will not be important because we are focused on the reference of the RC as a whole. Looking at the RC and not just the head, the referent is identifiable in both the "restrictive" (268) and the "nonrestrictive" (269), so they are both definite.

6.2.3 Indefinite readings

6.2.3.1 Universal

In the literature on correlatives, the definite reading is contrasted with a *universal* reading, where the reference is to all referents meeting the RC's conditions. No single referent is unambiguously identifiable because there are (potentially) several of them, so the reading may be classified as indefinite. According to Dayal (1995: 196–197), the following correlative has a universal reading:

(270) jo   bhii laRkii is   patrikaa kii sampadikaa hotii hai usko   inaam
REL -ever girl   this magazine of editor   is.HAB to.her prize

miltaa hai
is.given.HAB

'Whatever girl/Any girl who is the editor of this magazine, a prize is given to her.'

(Dayal 1995: 196)

As Dayal explains, the universal reading is due to the generic/habitual tense in the RC and CC, which triggers generalization over possible situations, as opposed to the non-generic tense found in definite correlatives like (267). Dayal argues (p. 192) that *bhii* in (270) is a polarity sensitive item that widens the interpretation of the associated noun phrase in some contextually determined way. Its meaning is similar to English *-ever* in free RCs and free choice *any* (hence the alternative translations above).

Correlatives with generic tense can have the universal reading even without *bhii*:

(271) jo   laRkii is   patrikaa   kii sampadikaa hotii hai usko   inaam miltaa hai
      REL girl   this magazine of editor   is.HAB to.her prize is.given.HAB

      'What girl is the editor of this magazine, a prize is given to her.'

<div align="right">(Dayal 1995: 196)</div>

According to Dayal, the difference between the above examples is that (271) may allow exceptions in the case of unusual situations, but the addition of *bhii* in (270) reduces the possibility of exceptions, strengthening the universality expressed.

Hittite also has universal correlatives:

(272) [(kui)]š=za LÚḫippari   ḫāppar   iezzi   n=aš=kan   ḫāpparaz
      REL=REFL *ḫippara*-man purchase makes CONN=he=PTC purchase.price.ABL
      [šame]nzi
      withdraws

      'Whoever/Anyone who makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.'

<div align="right">(KBo 6.2 ii 51–52 (OH/OS); Hoffner 1997: 58)</div>

Note that Hittite does not have a generic/non-generic tense distinction, nor any modal distinction in verbs. However, a generic sense is clear from the function of this statement as a law,

which is meant to apply generally and in the abstract, even to hypothetical scenarios that are not guaranteed to occur.

It is well recognized in the literature on correlatives that there are significant similarities between universal correlatives and conditionals (see Lipták 2009b: 26 for references). In particular, universal correlatives generalize over all individuals that meet certain conditions, and conditionals generalize over all situations that meet certain conditions. The difference in practical terms is slight: if an individual is identified by means of a state or event, then universality can be achieved by generalizing across either the individuals or the state or event that identifies them. Thus, it is usually possible to paraphrase a universal correlative with a conditional involving a free-choice indefinite:

(273)   Translations of (272):

      a.   *As universal RC:*
         Whoever/Anyone who makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.

      b.   *As conditional:*
         If anyone makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.

Because of this similarity, some scholars have offered analyses in which one construction is analyzed as a type of the other: Arsenijević (2009) and Huggard (2015) analyze correlatives as a type of conditional, and Belyaev and Haug (2020) argue that conditionals form the basic semantics of *wh*-correlatives. I will discuss the relationship between correlatives and conditionals more in section 6.6.

6.2.3.2   Unknown identity

Dayal (1995) observes a second kind of reading associated with *bhii* in Hindi:

(274) jo   bhii laRkii vahaaN khaRii   hai vo ravi kii dost   hai
       REL -ever girl   there   standing is she Ravi of friend is

'Whatever girl (it is who) is standing there, she is Ravi's friend.'

Alternative: 'The girl standing there, whoever she may be, is Ravi's friend.'

(Dayal 1995: 181)

Here, the reference is to a specific girl, but her identity is either not known to the speaker or is simply presented as unknown. I refer to this type as the *unknown-identity* reading. This type is clearly indefinite (specific indefinite, to be exact) because the referent cannot be identified — that is the point, after all.

Hittite also has unknown-identity correlatives:

(275) *'If there is lots of dying in the land, and if some god of the enemy has caused it, I do
       as follows: . . . And they speak to him as follows:'*

kuiš=wa   DINGIR-*LUM* KUR LÚ.KÚR kī   ÚŠ-an i[(y)]an ḫarzi nu
REL=QUOT god   land enemy this plague caused has   CONN

kāša kūn UDU.NÍTA ḫaršanallantan tuk *ANA* DINGIR-*LIM* takšulanni
here this ram   crowned   you to god   in.reconciliation

ūnnummen
we.drove

' "Whichever god of the enemy land has caused this plague, we have driven (from) here this crowned ram for you, the god, in reconciliation." '

(HT 1 ii 24–27 (?/NS); Görke 2013a)

The situation is a plague that is assumed to be caused by some god of a hostile territory, but it is not known which god. A conciliatory ritual is performed regardless, and is targeted at whichever god it is.

6.2.4 Plurals

So far I have presented only examples where the Rel has singular morphology. In such cases, it is easy to distinguish between definite and unknown-identity readings on the one hand and universal readings on the other: if the RC applies (or can apply) to multiple individuals, it is clearly universal. What about plural Rels like (276)?

(276) *'Concerning what you wrote to me thus: "The birds which I have sent there to My Lord, if My Lord liked those birds, may My Lord write back to me, and I will begin sending regularly." '*

nu=mu	MUŠEN.ḪI.A		kue	uppešta	n=at	arḫa ḫ[ar]ranteš	eš[er]
CONN=me	birds		REL	you.sent	CONN=they	spoiled	were

'The birds which you sent to me, they were spoiled.'

(AT 125 11–12 (NH); Hoffner 2009: 373)

Using our representation of plurals as summed individuals (e.g., **bird₁**+**bird₂**+…), the reference here is to a summed individual, not an atomic individual. The summed individual is identifiable, which we can surmise from the quotation preceding the RC, so we can characterize it as a definite referent. However, it is also true that the conditions of the RC and CC apply to all of the individual birds comprising the sum, so we could justifiably say that the reading has a universal character, and yet above I characterized the universal reading as indefinite.

This is partly just an issue of terminology. Technically, all correlatives are universal in a sense, since they have maximalizing semantics. They refer to all individuals meeting the RC's conditions. If there is only one atomic individual (singular definites and unknown-identity), they are trivially maximalized and trivially universal. It is intuitively more natural to use "universal" for correlatives that refer to more than one atomic individual because the term "universal" implies a universe full of individuals to cover. These can either take the form of plural definites as in (276) or universal indefinites as in (272).

236

Though plural definites and universal indefinites share the property of universal coverage, they are not equivalent, and it is worth noting their differences. Plural definites refer to all of the members of an unambiguously identifiable group, which we are representing as a single sum. The conditions of the RC and CC are framed as applying to this group as a whole (though, given the nature of plurals, the interpretation can be distributive or collective).[4] By contrast, universal indefinites involve generalization over distinct situations, and these situations are framed individually rather than as a group property the way that plural definites are. Because of this generalizing meaning, universal indefinites intuitively match the spirit of universal quantification better than plural definites. For this reason, I will use "universal" for universal indefinites and refer to plural definites as "definite", which I take to be their defining referential characteristic.

6.2.5 Multiple correlatives

Though the data in my sample is limited, multiple correlatives in Hittite generally seem to have a universal reading:

---

4. Dayal (1996: 192–193) describes example (i) as definite and (ii) as "quasi-universal":

(i) jo   laRkiyaaN khaRii   haiN ve   bahane haiN
     REL girls   standing are   they sisters   are
     'The girls who are standing, they are sisters.'

(Dayal 1996: 193)

(ii) jo   laRkiyaaN khaRii   haiN ve   lambii haiN
      REL girls   standing are   they tall   are
      'The girls who are standing, they are tall.'

(Dayal 1996: 192)

I regard both as instances of the definite reading. The difference is not in the reference of the RC, which in both cases is a sum representing the group of standing girls, but in how the predicate of the CC applies to the members of the group. In (i) the CC predicate applies in a collective manner: $sister(x)$ applies to the group as a whole, not to each member individually. In (ii) the CC predicate applies in a distributive manner (i.e., $tall(x)$ *does* apply individually). It is in this sense that Dayal means "universal", but in my view the referential properties of the RCs do not differ between the two examples. Thus, I treat these both as definite readings, and attribute the difference between them to the different ways that plurals and predicates can interact (see Asher and Wang 2003 for one way to model those interactions).

(277)   *'The Kaškean enemy which my father found in the heart of the territory, it became*
        (= divided into) twelve detachments. And the gods went before my father,'

nu=kan	uni	$^{\text{LÚ}}$KÚR	$^{\text{URU}}$Gašgan	ERIN.MEŠ ŠU-*TI*	kuin$_i$	kuwapi
CONN=PTC	that	enemy	Kaškean	detachment	REL	REL.where

damašket	[n]=an$_i$=kan	kuwašket
caught.IMPF	CONN=it=PTC	destroyed.IMPF

'and whichever$_i$ of those enemy Kaškean detachments he caught wherever, he destroyed it$_i$.'

('For any detachment d, location l such that he caught d in l, he destroyed d.')

(KBo 14.3 iii 17–19 (NH); Del Monte 2009: 18)

Here, a universal interpretation can be deduced from the imperfective suffix *-šk-* on both verbs, which signals pluractionality and tells us that we are looking at multiple events, and from the fact that there are twelve detachments in question. We are thus generalizing over all pairs ⟨detachment, location⟩.

One of the examples in my sample seems to have a definite reading:

(278)   [The text begins with a lengthy invocation of gods, including dozens of named gods.]

Small sample: *'Sungod of Heaven, Sungoddess of Arinna, . . . , Stormgod of Lightning, . . . , Stormgod of Ḫalab, . . . , male gods and female gods of His Majesty's father, . . . '*

nu	DINGIR.MEŠ	kuiēš	kēdani	UD-ti	kuedani	arkuwēšni	*IŠTU*
CONN	gods	REL	this.LOC	day.LOC	REL.DAT	plea.DAT	with

EME=*YA*	ḫalziḫḫun	. . .
tongue=my	I.have.summoned	

'And the gods whom I have summoned with my tongue on this day for which plea,'

'may you, Sungod of Heaven, summon them from heaven and earth and . . . '

(KUB 6.45 iii 21–22 (NH); Rieken, Lorenz, and Daues 2017d)

A definite reading in this case means a single pair ⟨gods, plea⟩. This example comes from a prayer text which seems to be a form prayer: the actual plea is meant to be filled in on the appropriate occasion and takes place at a later point in the ritual. At any given recital, there is presumably a single identifiable plea (assuming that "plea" here means the whole request submitted to the gods), and the set of invoked gods is certainly identifiable, since the invocation is the immediately preceding context. Thus, it seems reasonable to treat this as definite. (Admittedly, if the speaker's summoning is regarded in stages, one could potentially read this as generalizing over the various groups of gods invoked. As noted above, the coverage of individuals between universal correlatives and plural definite correlatives is equivalent, so this is a bit of a gray area. Which label we assign depends on how we think the speaker's summoning is viewed: in groups or collectively.)

Dayal (1996), writing on Hindi, notes that there is a functional relationship between the relativized phrases. The first Rel is maximalized, and the others are dependent on it. For example, (279) generalizes over all girls, and each girl is paired with a *single* corresponding boy (multiple girls can get the same boy, but no girl gets more than one boy).

(279) jis laRkii-ne$_i$ jis laRke-ke$_i$ saath khelaa us-ne   us-ko   haraayaa
       REL girl-ERG   REL boy-GEN   with played that-ERG that-ACC defeated

'Every girl defeated the boy she played with.'

(Lit. '**Which girl**$_i$ played with **which boy**$_j$, she$_i$ defeated him$_j$.')

(Dayal 1996: 197)

The pairs under consideration could thus be represented as $\langle g, f(g) \rangle$, where $f(g)$ is the boy assigned to the girl g. I will call this property the *dependency requirement*. It is hard to know for certain whether the dependency requirement holds in Hittite because we cannot test readings against native speaker judgments. The only way for us to decide for sure that Hittite did not have this restriction would be to find examples where an individual for the first Rel clearly associates with multiple representatives of a subsequent Rel. None of the examples in my sample make an indisputable case, although in the following examples a non-functional relationship may be possible:

(280) *'You are the shepherd of mankind. You (always/continually) judge the legal affairs of mankind.'*

kuiš   kuēz   dam[(mešḫanza)] [n]=an   zik=pat $^\text{d}$UTU   LUGAL
REL.NOM   REL.ABL   oppressed   CONN=him   you=FOC   Sungod king

ŠAMĒ   ḫuišnuške[ši]
heaven save.IMPF

'Whoever is oppressed by whatever, YOU alone, Sun-god, King of Heaven, (always/continually) save him.'

(KUB 36.83 i 14–15 (MH?/NS); Fuscagni 2014)

(281) kuit=kan   kuedani idālu uttar KAxU-az   uwan   kinun=a

REL.NOM=PTC REL.DAT evil   word mouth.ABL coming   now=CONTR

DINGIR.MEŠ apēz   idālauwaz uddanaz linkiaz   ḫurtiyaz išḫa[n]az

gods   that.ABL evil.ABL   word.ABL oath.ABL curse.ABL blood.ABL

išḫaḫruwaz parkuwāeš ašandu

tears.ABL   clean   be.3PL.IMP

'Whatever evil word comes from whoever's mouth, now let the gods be clean of that evil word, of oath, curse, blood, and tears.'

(KUB 30.31+ i 14–17 (?/NS); Ünal 2017)

In (280) the imperfective marking on the verb indicates pluractionality. We could interpret these multiple events of saving as distributed across different people, each saved a single time. However, an alternate interpretation would be that the events of saving in the CC pertain to a single person, and the universality of the RC means that we run this interpretation for all oppressed individuals. It seems to me that this latter interpretation is at least as likely, if not more so, given what we might expect about the behavior of a benevolent protector god.[5]

In (281) it seems a bit unusual to think that the speaker would assume that any given evil utterance would have a unique source. One can easily imagine a number of individuals who all speak the same blasphemy against the gods. To my ears, this example seems to have the flavor of an unconditional ("any evil word that comes out of anyone's mouth, no matter what"). If either of these interpretations of (280) or (281) hold up, then it would be reason to believe that Hittite lacks the dependency requirement.

---

5. It is also worth noting that the ablative in Hittite is number-indifferent, so *kuēz* in (280) could be either singular or plural. One might wonder if a collective plural reading would weaken the case made for a non-functional interpretation of the Rels. To me, a collective reading "you always save him (from the totality of his troubles)" seems less natural than a distributive reading "you always save him (from any trouble he might encounter)". I see nothing in context that can help us decide, so we must simply rely on our intuitions.

6.3 Previous approaches to deriving maximality

With a firm grip on the readings correlatives can have (in Hittite as well as cross-linguistically), let us turn to the question of how to derive maximality formally. Maximality in this context has two components: the RC denotes *all* individuals that meet its conditions, and the CC applies over all of these individuals as well. I will refer to these as "RC maximality" and "CC maximality" for short. In this section, I survey various approaches from the theoretical literature on correlatives, and I will detail my own approach in the next section.

6.3.1 Assigning properties to a maximal individual

Dayal (1996), building on the analysis in Srivastav 1991, analyzes correlatives as generalized quantifiers binding the correlate, which she treats as a variable:

(282) a. jo   laRkii khaRii   hai vo   lambii hai
          REL girl   standing is   DEM tall   is

          'The girl who is standing, she is tall.'

(Dayal 1996: 188)

b.

$$IP$$

$$\lambda P.P(\sigma x_i(stand(x_i) \wedge girl(x_i)))(\lambda x_i.tall(x_i))$$

$$= \lambda x_i.tall(x_i)(\sigma x_i(stand(x_i) \wedge girl(x_i)))$$

$$= tall(\sigma x_i(stand(x_i) \wedge girl(x_i)))$$

CP

$$\lambda Q\lambda P.P(\sigma x(stand(x) \wedge Q(x)))(girl)$$

$$= \lambda P.P(\sigma x_i(stand(x_i) \wedge girl(x_i)))$$

IP

$$tall(x_i)$$

vo$_i$ lambii hai

NP

$$girl$$

jo laRkii$_i$

C'

$$\lambda Z\lambda Q\lambda P.P(\sigma x(Z(x) \wedge Q(x)))(\lambda x_i.stand(x_i))$$

$$= \lambda Q\lambda P.P(\sigma x(\lambda x_i.stand(x_i)(x) \wedge Q(x)))$$

$$= \lambda Q\lambda P.P(\sigma x(stand(x) \wedge Q(x)))$$

$$C^0_{+wh}$$

$$\lambda Z\lambda Q\lambda P.P(\sigma x(Z(x) \wedge Q(x)))$$

IP

$$stand(x_i)$$

t_i khaRii hai
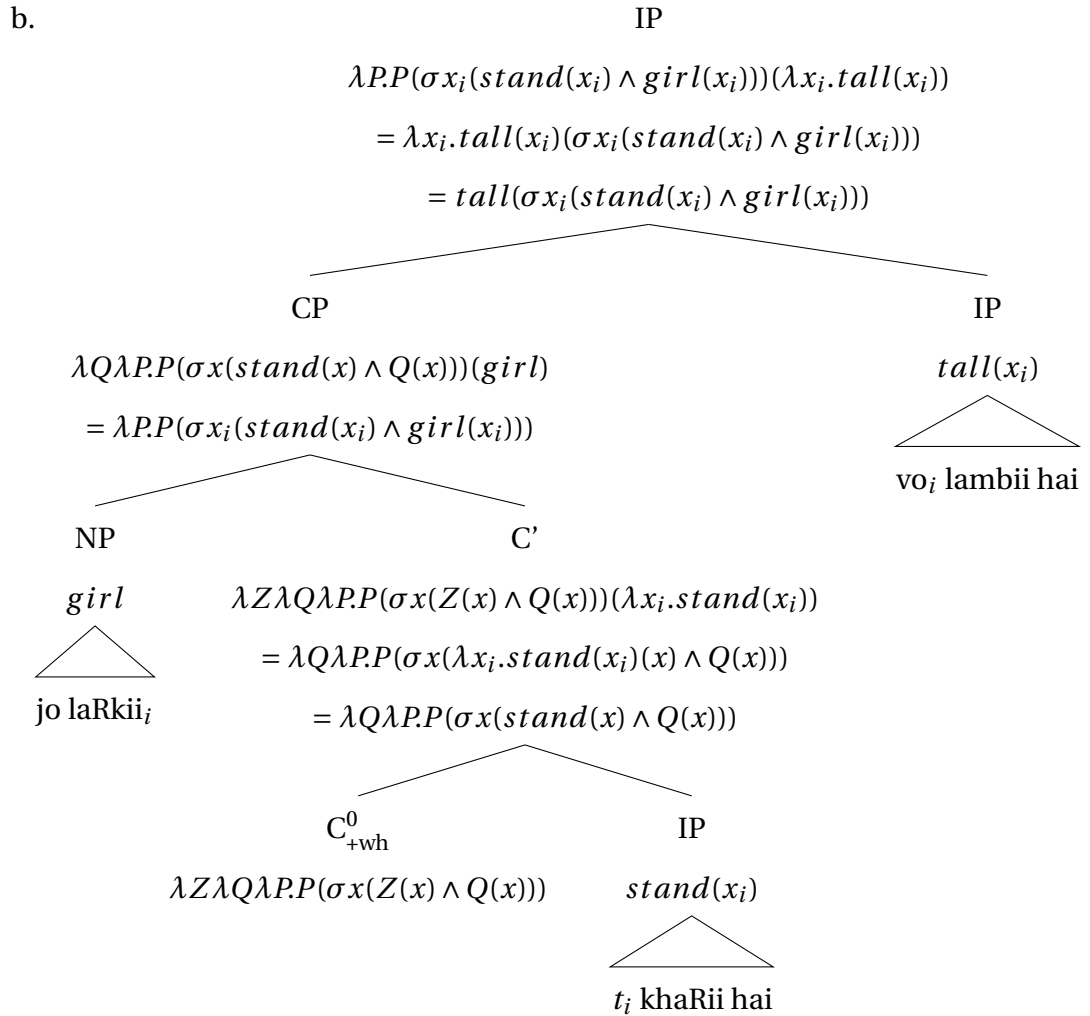
Quantification is effected by a *wh*-operator in the RC's C^0 head. This operator combines with two property-denoting arguments (the Rel's nominal head and the RC's predicate) to identify the unique maximal individual with those properties, and the RC denotes the set of properties of that individual. In (282b), the sigma operator maps a property (or conjunction of properties) to the unique maximal individual satisfying the property.

In order to account for multiple correlatives, Dayal upgrades the *wh*-operator to accommodate additional relativized properties. The functional dependence between the first Rel and the others (see section 6.2.5) is captured by a function f that ranges over the property of the first Rel:

(283) $\lambda X \lambda Y \lambda Z \lambda R \exists f'[f' = \iota f[dom(f) = Y \wedge \forall y[Z(f(y))] \wedge \forall y \in Y[X(y)(f)]]$

$$\wedge \forall y \in Y[R(y, f'(y))]]$$

The interpetation of a multiple correlative would be as follows:

(284) ⟦Which girl played with which boy⟧

$$= \lambda R \exists f'[f' = \iota f[dom(f) = girl \wedge \forall y[boy(f(y))] \wedge \forall y \in girl[play(y, f(y))]]$$

$$\wedge \forall y \in girl[R(y, f'(y))]]$$

This can be used for single correlatives as an equivalent formulation, taking f to be a zero-place function (i.e., its value is constant), so there is no domain:

(285) $\lambda R \exists f[f = \sigma y[stand(y) \wedge girl(y)] \wedge R(f)]$

This account generates maximality through the definition of its functions. In the single-correlative versions in (282b) and (285), RC maximality comes out of the sigma operator, which by definition outputs a maximal individual; this individual is directly plugged into the CC expression, yielding CC maximality. In (283) maximality of the first Rel comes from picking a dependency function f whose domain is defined as the set Y corresponding to the first Rel, and universal quantification is used to make sure that this first-Rel maximality transfers to all of the other properties, including the CC. It is worth observing that RC maximality (specifically, the first Rel), CC maximality, and the dependency requirement are all simultaneously baked into the definition of the C head.

6.3.2 A maximalization function

Grosu and Landman (1998), Grosu (2002), and Gajewski (2008) derive maximalization through the use of a function Max (written MAX in Grosu and Landman 1998 and Grosu 2002) which maps a set of elements onto the singleton set containing just its maximal element. For example: $Max(\{a, b, c, a + b, a + c, b + c, a + b + c\}) = \{a + b + c\}$. This Max function is applied to a formula that has undergone abstraction of the variable corresponding to the Rel. The set resulting from Max contains a single element which maximizes the referents for the Rel variable(s), giving RC

maximality. This single, maximal element is then passed along to the CC which applies the CC predicate and thus ensures CC maximality. The accounts listed here share these elements, and thus both achieve RC and CC maximality using the same tools. Where their approaches differ is when Max is applied and specifically what triggers it.

6.3.2.1   Triggered by the C head

Grosu and Landman ([1998](#)) identify correlatives as one of their "third-kind" relatives which have maximalizing semantics, though they only specify that it applies at the CP level. Grosu ([2002](#)) is more specific: he identifies three operations required to interpret a maximalized RC and attributes them to features on the C head of the RC: [REL], [PRED], and [DEF]. [REL], present in all RCs, creates a free variable within the proposition denoted by the IP. [PRED], which is included in restrictive and maximalizing RCs, prompts abstraction over that variable. Maximalizing RCs have a third feature [DEF] which triggers maximalization. The application of these operations is shown in ([287](#)) for the RC in ([286](#)):

(286)   Which girls are standing, they are tall.

(287)   CP
                    $\{\sqcup\{x : girl(x) \wedge stand(x)\}\}$

              Max $\{x : girl(x) \wedge stand(x)\}$

                    (abstraction)   IP
                              $girl(x) \wedge stand(x)$

                         which girls are standing
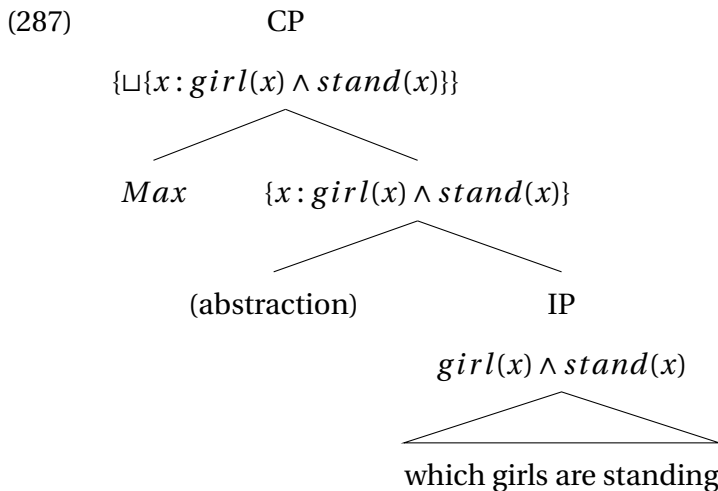
Here, the symbol $\sqcup$ applied to a set represents the sum of individuals in that set.

Grosu's proposal is similar to Dayal's ([1996](#)) in identifying the C head as the element responsible for maximalization. They differ in that Grosu assumes that the head triggers an operation
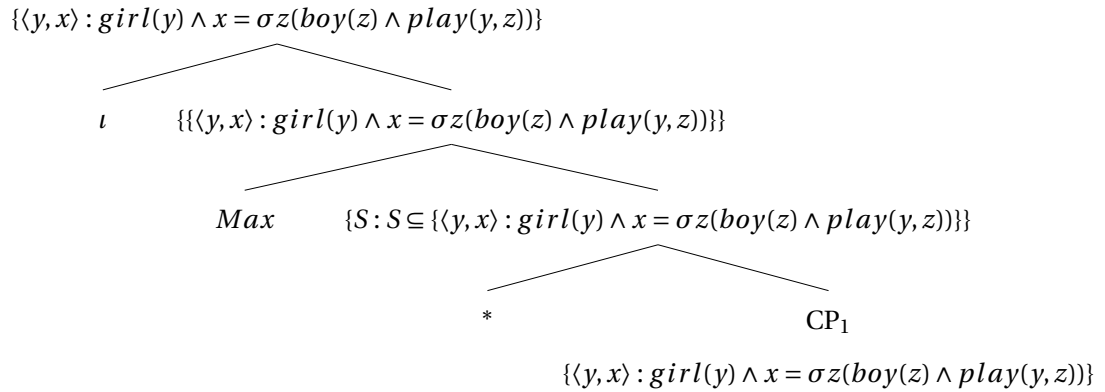
based on a feature it has, while Dayal builds maximalization directly into the denotation of the head.

6.3.2.2 Triggered by the Rel

Gajewski ([2008](#)) proposes an alternate derivation based on Jacobson's ([1995](#)) derivation of free relatives. Unlike the above accounts, Gajewski proposes that the Rels trigger maximalization, not the C head of the RC. Thus Max is applied once for each Rel, which effects both the maximalizing over the first Rel and the dependency requirement.

Below, I adapt Gajewski's derivation in tree format (split in two due to size, and using set notation instead of lambda notation):

(288)

$$CP_1$$
$$\{\langle y,x \rangle : girl(y) \wedge x = \sigma z(boy(z) \wedge play(y,z))\}$$

NP_1 $\{\langle y,x \rangle : x = \sigma z(boy(z) \wedge play(y,z))\}$

girl

which girl

1 $\{x : x = \sigma z(boy(z) \wedge play(g(1),z))\}$

Max CP_2
$$\{x : boy(x) \wedge play(g(1),x)\}$$

NP_2 $\{x : play(g(1),x)\}$

boy

which boy

2

C   IP
$$play(g(1),g(2))$$

t_1 played with t_2

246

$$\{\langle y, x \rangle : girl(y) \wedge x = \sigma z(boy(z) \wedge play(y, z))\}$$

ι $\{\{\langle y, x \rangle : girl(y) \wedge x = \sigma z(boy(z) \wedge play(y, z))\}\}$

Max $\{S : S \subseteq \{\langle y, x \rangle : girl(y) \wedge x = \sigma z(boy(z) \wedge play(y, z))\}\}$

$*$ CP$_1$

$$\{\langle y, x \rangle : girl(y) \wedge x = \sigma z(boy(z) \wedge play(y, z))\}$$
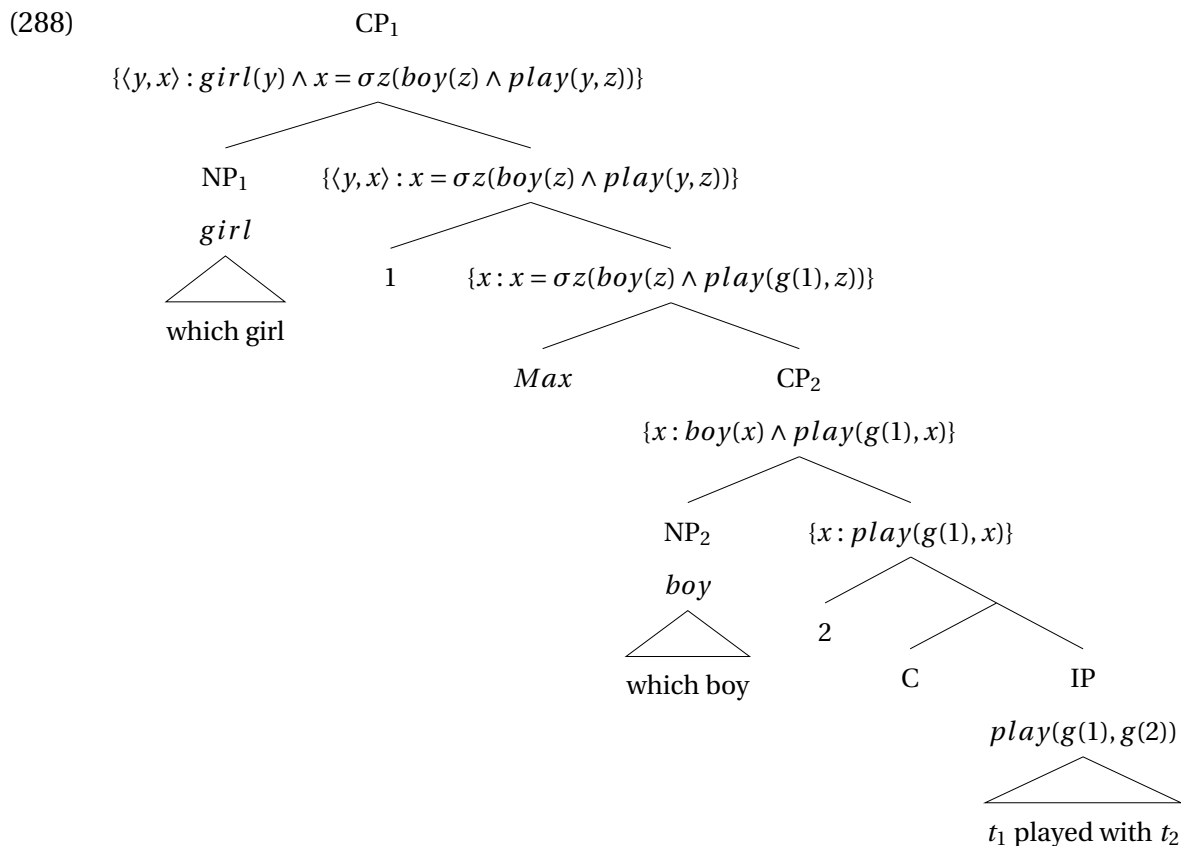
The traces left behind by the movement of the Rel NPs receive indices 1 and 2, and *g* represents the assignment function. For each Rel, there is a process of abstraction, yielding a set of individuals (or, as the case may be, ordered tuples), and then maximalization on that set via Max, which returns a set containing the maximal individual. The application of Max yields a set with a single member, which Gajewski uses to capture the dependency requirement.

To get the universal reading, Gajewski applies a pluralization operator * before the last Max step. This operator takes the abstracted set of tuples (in (288), ordered pairs) and maps it to the set of its subsets (i.e., its power set). This ensures that Max is operating on a partially ordered set (ordered by set inclusion) and will be able to find a maximum; otherwise, if it were just operating on a set of tuples, it would be undefined unless there were only one tuple — the definite reading. The maximum that Max outputs is the full set of tuples, giving us the maximality associated with the universal reading. The need for the * step means that definite correlatives and universal correlatives are derivationally distinct from one another.

Assigning abstraction and maximalization to the individual Rels has a drawback for application to Hittite. In chapter 5 we saw that the Rel has the same form of a bare indefinite. We cannot assume that this morpheme in its indefinite use is maximalizing, so we would be forced to separate the Rel from the indefinite despite the equivalent form. Moreover, Gajewski is forced to apply a round of pluralization (*) to the highest Rel before maximalization in order to achieve a universal reading. To make this happen, the grammar must know to compute which Rel is highest and interrupt the Rel's abstraction-and-maximalization process, and the resulting deriva-

247

tion has a Duke-of-York quality, turning a set into its power set and then back again.
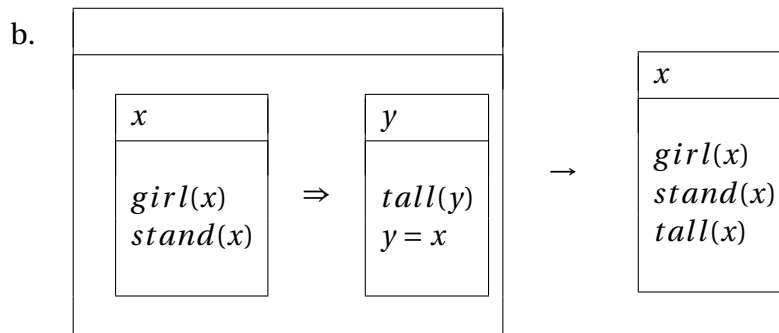
6.3.3   Maximality via a conditional

According to Belyaev and Haug (2020), the universal reading is the fundamental reading of *wh*-correlatives, as opposed to demonstrative-based correlatives, which are fundamentally definite. They model the basic semantics of *wh*-correlatives as a conditional[6], which they express in DRT:

(289)   a.   Which girl played with which boy, she defeated him.

b.

$$
\boxed{\;\boxed{\begin{array}{l} x, y \\ \hline \\ girl(y) \\ boy(x) \\ play(y,x) \end{array}} \;\Rightarrow\; \boxed{\begin{array}{l} a, b \\ \hline \\ defeat(a,b) \\ a = y \\ x = b \end{array}}\;}
$$
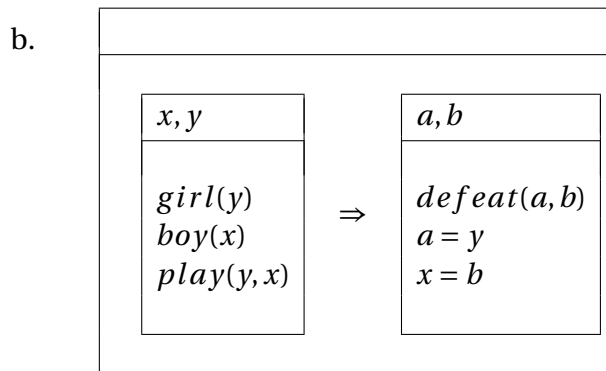
Belyaev and Haug derive the definite reading from the conditional formulation secondarily:

(290)   a.   Which girl is standing, she is tall.

b.

$$
\boxed{\;\boxed{\begin{array}{l} x \\ \hline \\ girl(x) \\ stand(x) \end{array}} \Rightarrow \boxed{\begin{array}{l} y \\ \hline \\ tall(y) \\ y = x \end{array}}\;} \;\rightarrow\; \boxed{\begin{array}{l} x \\ \hline \\ girl(x) \\ stand(x) \\ tall(x) \end{array}}
$$

They identify two pivot scenarios that would allow a reanalysis. In the first, there is only one possible referent (unique cases), meaning that only one referent/situation satisfies the left-hand side of the conditional. The other scenario is that of plurals, because quantifying a predicate

---

6. Or a conditional-like relation — they hedge on whether it should be a true (universal) conditional or more loosely generic.

over the members of a group is equivalent to applying the predicate to the group (with a distributive reading). In both cases, universal quantification is essentially vacuous, and the conditional version is equivalent to a non-conditional version.

Maximality in this approach is produced as a result of the conditional, which has inherent universal quantification. This can be shown explicitly in the following definition from Asher and Lascarides 2003: 48 (not the exact same framework, but the important part is the same):

(291) $(w,f)[\![K_\alpha \Rightarrow K_\beta]\!](w',g)$ iff

$$(w,f) = (w',g) \wedge$$

$$\forall h \forall w''[(w,f)[\![K_\alpha]\!](w'',h) \rightarrow \exists k \exists w''' \text{ such that } (w'',h)[\![K_\beta]\!](w''',k)]$$

The definition uses universal quantification on all possible contexts (w'',h) to find those that verify K_α (the RC). It also stipulates that K_β (the CC) must be satisfied for each of the successful (w'',h). Thus, the conditional inherently takes care of both RC and CC maximality by linking the two clauses together under the scope of universal quantification.

6.4   Maximality in my approach

6.4.1   RC maximality

Let us now see how maximality is derived in the SDRT approach that I proposed in chapter 5. RC maximality in my approach is derived from two aspects of the definition of ref, repeated here:

(292) $(w,f)[\![ref]\!]([\![K(x_1,\ldots,x_n)]\!]) = \{\langle a_1,\ldots,a_n \rangle : \exists h \exists w'' \text{ such that }$

(a) $(w,f)[\![K(x_1,\ldots,x_n)]\!](w'',h)$

(b) $a_i = h(x_i)$ for each i

(c) $\forall k[h(x_i) < k(x_i) \text{ for some } i \rightarrow \neg(w,f)[\![K(x_1,\ldots,x_n)]\!](w'',k)]\}$

The first is that individuals are maximized with respect to the partial order on A_M, thanks to condition (c) of the definition. This encodes the fact that plural-referring Rels refer to the maxi-

mal group satisfying the conditions. Singular Rels map to atomic individuals, on the assumption that no summed individual will satisfy the RC's DRS conditions.

In choosing an assignment h that maximalizes the individual mapped to each variable, my approach is similar to those of Grosu and Landman 1998, Grosu 2002, and Gajewski 2008. The similarity is stronger in the case of Grosu and Landman 1998 and Grosu 2002 because maximalization is applied to the RC as a whole. In those approaches, Max is applied to the CP of the RC. In mine, the maximalization of individuals is handled by choosing the right input assignment to feed to the DRS representing the whole RC. All Rel variables are maximalized at the same time when picking the assignment. This contrasts with Gajewski's approach, which applies Max once for each Rel.

The second aspect deriving RC maximality is the fact that ref is defined as producing a set. Set definition is inherently maximal: a set contains *all* elements that meet its defining conditions. If there are multiple (locally) maximal individuals that satisfy the DRS, then ref will collect all of them. This will capture, for instance, that a singular universal RC (e.g., *whoever makes a purchase*) may cover multiple distinct atomic individuals, depending on the world. For example, say that in a given world, John and Bill each made a purchase. Then ref would output {**John**, **Bill**}, since both meet the criteria (note that **John**+**Bill** would not be valid because the Rel is singular and would not map to a summed (plural) individual).

My approach, like Gajewski's, yields a set of tuples as the denotation of a multiple correlative. His account uses a pluralization operator * to achieve this, whereas my ref function is directly defined as a set. He does not discuss single-Rel universals, but as far as I can tell, these cases would use the * operator as well, and give the same result that my approach gets. Neither Grosu and Landman (1998) nor Grosu (2002) discuss universal or multiple correlatives, and it is not fully clear what denotation their approaches would produce.

6.4.2 CC maximality

Recall that CC maximality refers to the fact that the CC is applied to every referent that the RC refers to. This is guaranteed by the universal quantification over the ref set in the definition of HT, repeated here:

(293) $(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

(a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists w''$ such that

    (i) $h(x_i) = a_i$ for each i

    (ii) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h) \wedge (w'', h)[\![K_\beta]\!](w', g)$

(b) $\exists \langle y_1, \ldots, y_j \rangle \in U_\gamma^j \exists F$ such that $F(x_1, \ldots, x_n) = \langle y_1, \ldots, y_j \rangle$ for some j,

    where either $\gamma = \beta$ or β outscopes γ

Condition (a) quantifies over all elements of the ref set. For each of these elements (either an individual or a tuple of individuals), there is an assignment h that maps the Rel variables in the RC to the ref element in question and makes for a successful output context for the RC's DRS. This context is then passed directly on to the CC, and the output context from the CC is required to be the overall output context for the HT relation, i.e., for the construction as a whole. This means that for the construction to yield an output context, the CC must yield that output context for every element of the ref set. Thus, CC maximality holds.

It is worth clarifying one point with respect to set-member frame relatives such as (294):

(294) MÁŠ.GAL.HI.A=ya=wa=šši kuiēš tūriyanteš nu=kan   *ANA* 1 MÁŠ.GAL KUN
goats=also=QUOT=him   REL   harnessed CONN=PTC on   1 goat   tail
arḫa mauššanza
off   fallen

'Also the goats which are harnessed for him, the tail on one goat has fallen off.'

(KUB 5.7 Vo 27–28 (pre-NH/NS); García Trabazo 2002: 620–622)

The RC refers to a group of goats, which will be represented in the ref set by a single individual **goat$_1$+...+goat$_n$**. This is the only member of the ref set, so when HT performs universal quantification, it is the whole summed individual that condition (a) of (293) checks, not the constituent parts. CC maximality in this case does not mean that the CC is true for each goat in each group, but that it is true for each group of goats (in this case, there is only one group). Thus, there is no problem that the CC expressly applies to a single goat: CC maximality obtains as long as the CC is valid when checked in the context of the whole group.

6.5 Capturing the readings

We have now seen how my semantic model derives maximality in correlative constructions in the abstract. Let us now turn our attention to how the different readings are manifested.

6.5.1 Definite reading

A correlative is definite if its referent is mutually and unambiguously identifiable. Consider an example like (295a), whose RC has the DRS in (295b):

(295)   a.   *'My father made Maraššanta a tablet, and Maraššanta has it.'* [10 more clauses]

^{m}Maraššantaš=ma   kuit   *ṬUPPU*   ḫarzi   n=at   uezzi   mān   udai
Maraššanta=CONTR   REL   tablet   has   CONN=it   goes   if   brings
n=at   le   dattari
CONN=it   PROH   is.accepted

'The tablet which Maraššanta has, if he proceeds to bring it, let it not be accepted.'

(Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

b.

m, x
$marassanta(m)$ $tablet(x)$ $have(m, x)$

In the process of interpreting the construction, we test input contexts (w, f) against the DRS of the RC, and only those that pass the test will proceed to the CC and stand a chance of being in the output of the whole construction. Given an input context (w, f) in our current information state, we check to see which individuals in A_M satisfy the conditions of the RC. The ref set is the collection of these individuals — the possible referents of the RC. In the case of (295a), we are looking for the individuals that are viable values for x, i.e., those which make $tablet(x)$ and $have(m, x)$ true in w. Suppose the input information state is something like the following, where only the individual $\textbf{tablet}_\textbf{m}$ appears in both $I_M(tablet)(w_i)$ and $I_M(have)(w_i)$ for every i (i.e., Maraššanta has just the one tablet, in every world):

(296)

w_1 $I_M(tablet)(w_1) = \{\textbf{tablet}_\textbf{m}, \dots\}$ $x \mapsto \textbf{tablet}_\textbf{m}$
$I_M(have)(w_1) = \{\langle \textbf{Maraššanta}, \textbf{tablet}_\textbf{m}\rangle, \dots\}$

w_2 $I_M(tablet)(w_2) = \{\textbf{tablet}_\textbf{m}, \dots\}$ $x \mapsto \textbf{tablet}_\textbf{m}$
$I_M(have)(w_2) = \{\langle \textbf{Maraššanta}, \textbf{tablet}_\textbf{m}\rangle, \dots\}$

w_3 $I_M(tablet)(w_3) = \{\textbf{tablet}_\textbf{m}, \dots\}$ $x \mapsto \textbf{tablet}_\textbf{m}$
$I_M(have)(w_3) = \{\langle \textbf{Maraššanta}, \textbf{tablet}_\textbf{m}\rangle, \dots\}$

$\vdots$

In each world in the input information state, the same individual is chosen for x, namely $\textbf{tablet}_\textbf{m}$. That is, the ref set is $\{\textbf{tablet}_\textbf{m}\}$ for every input context. Since there is no other competing possibility, the referent of the RC is unambiguously identifiable to both speaker and hearer, and so the RC is definite. An input context (w, f) passes the RC test if it can be extended to h such that $h(x) = \textbf{tablet}_\textbf{m}$, and all successful outputs from the RC test (and thus also from the whole construction) will be those where the assignment functions extends f in this manner.

6.5.1.1 Identifiability depends on discourse context

The above description relied crucially on the assumption that there is one individual across all worlds in the information state that is unambiguously identifiable by both interlocutors as satisfying the RC conditions. If this is indeed the case, then the RC, as a referring expression, will have a definite reading. The information state in (296), where only **tablet_m** matches the RC conditions in each world, is an idealized case; it is certainly possible, but it does not necessarily reflect every situation. How do we know when a single individual will be selected by both interlocutors for all worlds in a less idealized information state? That necessarily depends on the particular discourse situation. In the case of (295a), we learned in the preceding context that Maraššanta was given a tablet by the speaker's father (who was then the king). Given the recent previous mention, it is reasonable to assume that this referent is still salient in the discourse, and will be perceived as the most likely candidate by the hearer. (We can assume that the speaker knows which tablet he is referring to; what matters more is that he is confident in his hearer's ability to identify this tablet as his intended referent.) The RC would be an *anaphoric definite* in L. Becker's (2021) taxonomy.

In other situations, identifiability may depend on other factors. For example, in (297) the referent of the RC is the land belonging to the city of Tarḫuntašša:

(297)   KUR ^{URU.d}U-tašša=tta kuit peḫḫun n=at   katta tuel=pat NUMUN-anza

land Tarḫuntašša=you REL I.gave   CONN=it down your=FOC descendant

ḫarzi

holds

'The land of Tarḫuntašša, which I have given to you, only YOUR descendant will hold it.'

(Bo 86/299 ii 97–98 (NH); Otten 1988: 20)

The participants are members of the Hittite royal lineage (the speaker is king Tudḫaliya IV, and the addressee is his cousin), so as a political territory within the Hittite state, the land of

Tarḫuntašša is inherently identifiable by them both.

Other referents may be identifiable by virtue of being physically present in the discourse situation, as in (298).

(298) namma   kī   kuit *ṬUPPU* tuk   ^mAla[(kšan)du (iyan)]ūn
       furthermore this   REL   tablet   you.DAT   Alakšandu   I.made

       n=e=tta=kkan   MU.KAM-ti MU.KAM-ti peran   3=Š[(Ú ḫalziša)n]du
       CONN=it=you=PTC yearly   before thrice   read.3PL.IMP

       'Furthermore, this tablet which I made for you, Alakšan[du], let the[m] read it be-
       fore you three times yearly.'

       (KUB 21.1 iii 73–74 (NH); Goedegebuure 2014: 520)

This example comes from a treaty tablet evidently given to Alakšandu, and the RC refers to
the treaty tablet itself, namely the very tablet on which it is inscribed. The referent is securely
identifiable because the RC is pointing to the tablet (indicated by the demonstrative *kī* with
deictic function), which would be physically present when the tablet was read to the addressee.

6.5.1.2 Plurals

The above examples involve singular reference, for which identifiability (if it exists) is straight-
forward because there is only one individual that works. In the case of plurals, as in (299), there
are multiple individuals who meet the conditions set by the RC.

(299) nu=mu   MUŠEN.ḪI.A kue uppešta n=at   arḫa ḫ[ar]ranteš eš[er]
       CONN=me   birds   REL you.sent CONN=they spoiled   were

       'The birds which you sent to me, they were spoiled.'

       (AT 125 11–12 (NH); Hoffner 2009: 373)

This is where maximalization is crucial. The individuals that meet the RC conditions make up a
partially ordered set through summing, and there is a unique maximal individual that is the sum

of all of them. Since the RC refers to a maximal individual, the interlocutors can both identify it, and thus the RC is semantically definite.

6.5.1.3 Accommodating identifiability

Definiteness requires *mutual* identifiability. What if the context does not provide a mechanism for the hearer to identify the speaker's intended referent? The speaker may choose to use a definite referring expression so that the hearer will *accommodate* the existence of an identifiable referent and assign it to the given variable. L. Becker (2021: 70) classifies these as *establishing definites*. The following is an example of establishing definite correlative:

(300) *'The next year I went to Mt. Ašḫarpaya.'*

nu=za	ᴴᵁᴿ·ˢᴬᴳAšḫarpayan	kuiš	ᵁᴿᵁGašgaš	ešan	ḫarta	nu	*ŠA* KUR
CONN=REFL	Mt. Ašḫarpaya	REL	Kaška	settled	had	CONN	of land

ᵁᴿᵁPalā	KASKAL.MEŠ	karaššan	ḫarta
Pala	roads	cut	had

'The Kaška(-tribe) which had settled Mt. Ašḫarpaya, they had cut off the roads of the land of Pala.'

(KBo 3.4 iii 39–40 (NH); Götze 1967: 76)

This is the first mention in this text of Mt. Ašḫarpaya, so we can be assured that the Kaškeans who settled there are new information in the text. The audience of this passage must accommodate the fact that there is a group of Kaškeans who settled the area by constructing a mental representation of this Kaškean group. In doing so, the audience is now on the same page with the speaker and the referent is identifiable by both participants. Importantly, the accommodation of the referent is a pragmatic repair strategy. The audience cannot identify a referent for the RC, but the speaker has used a definite expression, with the implication that *he* is treating it as identifiable and expects the audience to be able to identify it. The audience accommodates an identifiable referent so as to alleviate the mismatch.

Above, I said that the individual linked to a definite referring expression should be identifiable *in all worlds* in the current information state. In the case of an establishing definite, this is by no means guaranteed. One could imagine that a reader of (300) could be entertaining possible worlds where there were no Kaškeans who had settled Mt. Ašḫarpaya.[7] Part of the accommodation process is to discard any worlds where the stated situation does not hold, at which point all *remaining* worlds should agree on a single identifiable individual meeting the conditions of the RC. (If accommodation does not succeed, or if there is still not just a single individual, then the hearer will perceive a problem with the speaker's use of a definite expression, and would presumably seek clarification as a repair strategy ("Which Kaška tribe?").)

6.5.2 Unknown-identity reading

The unknown-identity reading involves a *specific indefinite* referent: there is a specific individual that satisfies the RC conditions, but it is not mutually and unambiguously identifiable because as far as the interlocutors are concerned, there are multiple possibilities for which individual it could be.

(301)   *'If there is lots of dying in the land, and if some god of the enemy has caused it, I do*
        as follows: . . . And they speak to him as follows:'

kuiš=wa   DINGIR-*LUM* KUR LÚ.KÚR kī   ÚŠ-an i[(y)]an ḫarzi nu
REL=QUOT   god   land enemy   this plague caused has   CONN

kāša kūn UDU.NÍTA ḫaršanallantan tuk *ANA* DINGIR-*LIM* takšulanni
here this ram   crowned   you to   god   in.reconciliation

ūnnummen
we.drove

' "Whichever god of the enemy land has caused this plague, we have driven (from) here this crowned ram for you, the god, in reconciliation." '

(HT 1 ii 24–27 (?/NS); Görke 2013a)

---

7. To be sure, modern readers would have no reason to suspect *a priori* that Kaškeans had settled Mt. Ašḫarpaya.

In contrast to establishing definites, where the speaker knows which referent it is and thinks that the hearer can successfully accommodate it, here the speaker presumably does not know.[8]

In our dynamic model, the multiplicity of options for the correct individual is reflected in the possible worlds that are contained in the input information state. Like with establishing definites, the information state will contain multiple contexts (w, f) that do not all agree in the relevant conditions. In some of these w, it is individual A; in others, it is individual B, and so on. For example, the input information state for (301) would be something like this:

(302) $\quad w_1 \quad I_M(cause)(w_1) = \{\langle \mathbf{god_1}, \mathbf{plague} \rangle, \ldots\} \quad x \mapsto \mathbf{god_1}$

$\quad\quad\quad w_2 \quad I_M(cause)(w_2) = \{\langle \mathbf{god_2}, \mathbf{plague} \rangle, \ldots\} \quad x \mapsto \mathbf{god_2}$

$\quad\quad\quad w_3 \quad I_M(cause)(w_3) = \{\langle \mathbf{god_3}, \mathbf{plague} \rangle, \ldots\} \quad x \mapsto \mathbf{god_3}$

$\quad\quad\quad \vdots$

Similarly to the definite case, the ref set has only one individual for any given (w, f) — it is just that different (w, f)'s will have different individuals as the one. Across the whole information state, there are thus multiple possibilities for the referent, so no one referent is unambiguously identifiable, making the RC indefinite. The fact that the ref set has just one member in each world is what makes the RC a *specific* indefinite, giving it the unknown-identity reading.

Aside from the lack of identifiability, interpretation proceeds just as in the definite case. Each context is tested against the RC and CC conditions using its particular choice for the individual in question, and all successful contexts are passed to the output information state (with the assignment extended as needed). Of course, any input contexts (w, f) where the conditions of the RC and CC were not satisfiable will obviously not make it through.

---

8. One could imagine a possible scenario where the speaker does indeed know, but acts like the referent is unidentifiable, as if projecting into the hearer's perspective.

6.5.3 Universal reading

6.5.3.1 Multiple situations per world

The universal reading is defined by the fact that it generalizes over situations that satisfy the RC. For example, in (303) the construction generalizes over a number of circumstances where the father (King Šuppiluliuma) found an enemy detachment and destroyed it. The reference in each circumstance is to a single detachment and portrays a single find-and-destroy episode, but this is generalized across all applicable situations.

(303) *'The Kaškean enemy which my father found in the heart of the territory, it became (= divided into) twelve detachments. And the gods went before my father,'*

nu=kan	uni	$^{\text{LÚ}}$KÚR	$^{\text{URU}}$Gašgan	ERIN.MEŠ ŠU-*TI*	kuin$_i$	kuwapi
CONN=PTC	that	enemy	Kaškean	detachment	REL	REL.where

damašket	[n]=an$_i$=kan	kuwašket
caught.IMPF	CONN=it=PTC	destroyed.IMPF

'and whichever$_i$ of those enemy Kaškean detachments he caught wherever, he destroyed it$_i$.'

('For any detachment d, location l such that he caught d in l, he destroyed d.')

(KBo 14.3 iii 17–19 (NH); Del Monte 2009: 18)

This generalization means that the *ref* set may contain multiple elements (depending on the world), in contrast to the other readings where there was only a single element. Thus, the individuals that satisfy the RC may not only vary between worlds in the input information state, but there may even be multiple individuals in a single world, as in the following example information state for (303):

(304) w_1 $I_M(catch)(w_1) = \{\langle \mathbf{det}_1, \mathbf{loc}_1 \rangle\}$ $\langle x_1, x_2 \rangle \mapsto \langle \mathbf{det}_1, \mathbf{loc}_1 \rangle$

   w_2 $I_M(catch)(w_2) = \{\langle \mathbf{det}_2, \mathbf{loc}_2 \rangle\}$ $\langle x_1, x_2 \rangle \mapsto \langle \mathbf{det}_2, \mathbf{loc}_2 \rangle$

   w_3 $I_M(catch)(w_3) = \{\langle \mathbf{det}_1, \mathbf{loc}_1 \rangle, \langle \mathbf{det}_2, \mathbf{loc}_2 \rangle\}$ $\langle x_1, x_2 \rangle \mapsto$

   $\langle \mathbf{det}_1, \mathbf{loc}_1 \rangle, \langle \mathbf{det}_2, \mathbf{loc}_2 \rangle$

$\vdots$

The universal reading is therefore indefinite, since a single referent is not identifiable across all worlds (and sometimes not even within a given world).

The definitions of ref and HT are built in such a way as to allow for the possibility of multiple individuals in a given world. ref is defined by taking the set of RC-satisfying individuals; if there is more than one, the set will include them all. The definition of HT quantifies over the whole ref set, applying the CC to them as well. Significantly, each of the qualifying individuals is evaluated by HT separately, capturing the sense of generalizing over individual situations rather than treating all referents as a unified group. (Recall that in section 6.2.4 I mentioned the generalizing vs. grouping treatment to distinguish between the flavors of "universality" belonging to the universal vs. plural-definite readings.)

In fact, there is a small problem with the definition of HT we have used so far, repeated here:

(305) $(w, f) \llbracket HT(\alpha, \beta) \rrbracket (w', \mathbf{g})$ iff

   (a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f) \llbracket ref \rrbracket (\llbracket K_\alpha(x_1, \ldots, x_n) \rrbracket) : \exists h \exists w''$ such that

      (i) $h(x_i) = a_i$ for each i

      (ii) $(w, f) \llbracket K_\alpha(x_1, \ldots, x_n) \rrbracket (w'', h) \wedge (w'', h) \llbracket K_\beta \rrbracket (w', \mathbf{g})$

   (b) $\exists \langle y_1, \ldots, y_j \rangle \in U_\gamma^j \exists F$ such that $F(x_1, \ldots, x_n) = \langle y_1, \ldots, y_j \rangle$ for some j,

      where either $\gamma = \beta$ or β outscopes γ

The problem is with relating the ultimate output assignment g to the output of the CC for each of the members of the ref set. There was no problem for the previous readings because there was only one individual in the ref set for any given world. But now we must consider cases

where there are multiple elements in the *ref* set. Let us illustrate with (303). Consider world w_3 from the sample information state in (304), where Šuppiluliuma found and destroyed two detachments **detachment₁** and **detachment₂**. According to condition (a.ii) of the definition above, the output assignment function after applying the CC test is said to be the function g, which extends the input assignment f by assigning values for new variables in the RC and CC. The critical variables for us are the Rel variable x_1 for the detachment in the RC and the anaphoric variable y_1 in the CC. When we check conditions (a.i) and (a.ii) against **detachment₁**, we extend f to g by setting new values $g(x_1) =$ **detachment₁** and $g(y_1) =$ **detachment₁**. When we check the conditions against **detachment₂**, we will set $g(x_1) =$ **detachment₂** and $g(y_1) =$ **detachment₂**. These two assignments are different, but there is no problem as long as we keep them separate. But the definition above does not keep them separate! It equates the overall output assignment of HT to these output assignments without distinction, creating a contradiction.

To resolve this issue, we will need to revise our definition of HT to distinguish the overall output assignment from each of the CC outputs for the separate members of the *ref* set. I believe there is conceptual merit to this. While we are inside our generalizing frame, we are considering each sub-situation on its own, and our reference is thus to a discrete member of the *ref* set, because the referent is identifiable within the sub-situation. However, once we hop out of the generalizing frame (at the end of the HT interpretation), we can now only discuss these referents as a group. It is infelicitous to refer to a single one of the members of the *ref* set, as we can no longer unambiguously identify a referent because we have multiple options.

The revised definition of HT that I propose is the following, with changes in bold:

(306)   Revised definition of HT:

$(w, f) [\![HT(\alpha, \beta)]\!] (w', g)$ iff

(a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f) [\![ref]\!] ([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists k \exists w''$ such that

    (i) $h(x_i) = a_i$ for each i

    (ii) $(w, f) [\![K_\alpha(x_1, \ldots, x_n)]\!] (w'', h) \wedge (w'', h) [\![K_\beta]\!] (w', \mathbf{k})$

(b) $\mathbf{g} = \bigcap \mathbf{k}$

(c) $\exists \langle y_1, \ldots, y_j \rangle \in U_\gamma^j \exists F$ such that $F(x_1, \ldots, x_n) = \langle y_1, \ldots, y_j \rangle$ for some j,

    where either $\gamma = \beta$ or β outscopes γ

The individual output assignments from the CC are no longer equated to g. Instead, they are labeled k, and the overall output g is the intersection of all of these k. This means that any referents introduced within the RC and CC that do not vary are maintained in the output of HT. (For example, if the CC had instead told us that each detachment had gone to hiding in a cave and they had all converged there, we would want to be able to continue reference to that cave.) What does not survive are the referents that vary across the sub-situations: these are where the k differ, and so they will not be included in the intersection. These varying referents will not be able to be referred to later (except in aggregate), so their assignment values must not be included in g.[9]

Note that the revised definition still works for the non-universal readings. Since there is only one element in the ref set in those cases, there is only one k, so $g = \bigcap k = k$. This gets us what we want for those cases: the referent of the RC can continue to be referred to since there are no competing referents in a given world.

The revised definition also fixes another problem of the old definition. Suppose that in a given context (w, f), the RC is not true, so the ref set is empty. In this context, there would be a problem using the RC as a referring expression: the referent does not exist. This amounts to presupposition failure. To resolve this, we would either need to say that the truth of the con-

---

9. In actuality, the definition in (306) would not allow us to refer to the Rel referents as a group after we have finished the generalization. To patch up this gap, we need a more robust system of tracking variable assignments with respect to plurals, such as that proposed by Asher and Wang (2003). I will not pursue the details here.

struction is undefined in such a context, or accommodate the presupposition by constructing a referent as described in section 6.5.1.3. However, under the old definition of HT, the universal quantification in condition (a) would be vacuously true, which would actually permit *any* (w', g) to be a valid output context — clearly a problematic result. The problem in the old definition was restricting the possible outputs g in condition (a), *under* the universal quantification. In the new definition, this problem is resolved because g is specified as the intersection of the k under quantification. If the ref set is empty, then this will make g undefined. The only way to yield a valid output is to accommodate a referent so that the ref set is not empty.

6.5.3.2 Veridicality and modality

Example (303) exemplifies a generalization in a realis context: the hunting-down of detachments was a historical action by the speaker's father, and the construction generalized over sub-actions of hunting down individual detachments. It is also possible for universal correlatives to portray a hypothetical scenario:

(307) [(kui)]š=za ^{LÚ}ḫippari   ḫāppar   iezzi   n=aš=kan   ḫāpparaz
       REL=REFL   *ḫippara*-man purchase makes   CONN=he=PTC purchase.price.ABL
       [šame]nzi
       withdraws

   'Whoever/Anyone who makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.'

(KBo 6.2 ii 51–52 (OH/OS); Hoffner 1997: 58)

All of the constructions we have seen so far in this section have been *veridical*, meaning that the truth of the RC and CC are entailed by the construction. For instance, the truth of example (299) entails that the addressee sent birds to the speaker and that those birds were spoiled. By contrast, the validity of the whole construction in (307) does not entail that there actually is anyone who makes a purchase from a *ḫippara*-man. The construction provides a punishment for anyone who *does*, but it is not assumed that such a person actually exists.

What are the predictions of our semantic model with respect to veridicality? The important part comes from condition (a.ii) of the definition of HT in (306), which I repeat here:

(308) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h) \wedge (w'', h)[\![K_\beta]\!](w', k)$
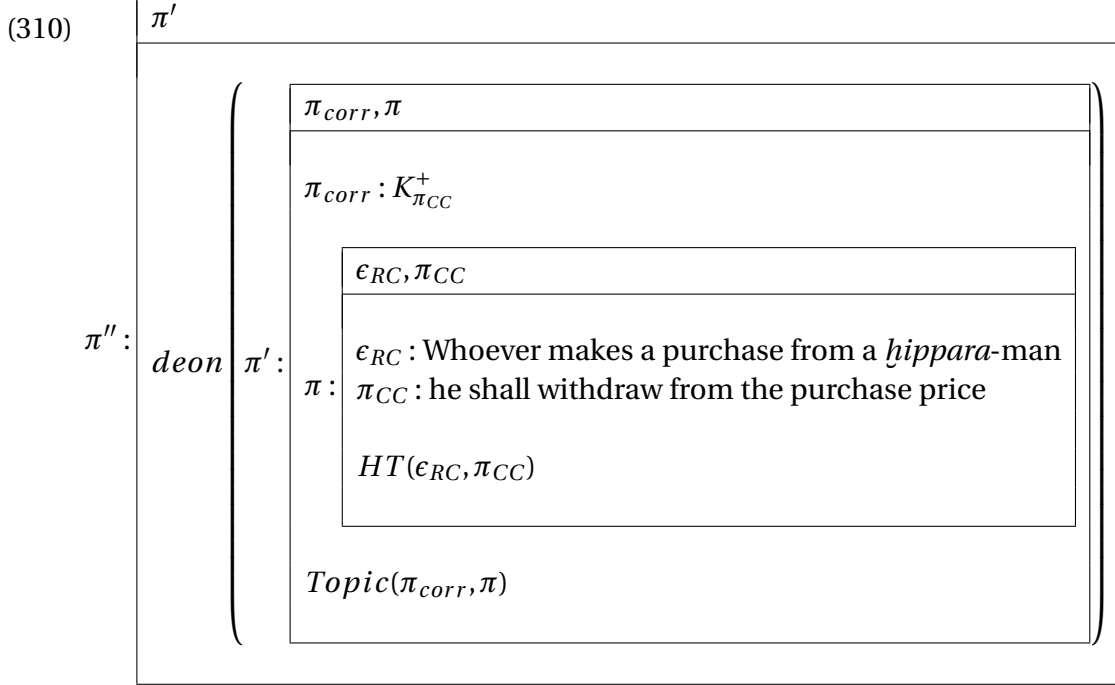
$HT(\alpha, \beta)$ holds if and only if α and β are both true. This means that HT is a veridical relation. So how do we account for non-veridical examples? Note that examples like (307) involve modality of some kind. In (307), it is deontic modality (befitting the construction's provenance in a legal text); in other hypothetical cases, it might be epistemic modality. Though we do not necessarily see an overt marker of modality (e.g., on the verb), we can recognize from context that a modal reading is involved.

Formally, we can treat the whole construction as within the scope of a modal operator — I will use a cover symbol *mod* to generalize over types of modality. We can define the semantics of such an operator as follows (extending the definition in Asher and Lascarides 2003: 48):

(309) $(w, f)[\![mod(K)]\!](w', g)$ iff $(w, f) = (w', g) \wedge$

$$\forall w''[wR_{mod}w'' \rightarrow \exists k \exists w''' \text{ such that } (w'', g)[\![K]\!](w''', k)]$$

Here, R_{mod} is a relation that defines modal accessibility between worlds: a world w'' is *mod*-accessible from w if and only if $wR_{mod}w''$. Importantly, the modal operator as defined above is non-veridical: the modality holds true in w if K is true in all worlds w'' that are *mod*-accessible to w, but the output world of the *mod* operator is the same as the input, as indicated by the condition $(w, f) = (w', g)$. K itself is not entailed in w, we just need to know that it is true in the accessible worlds.

To model a hypothetical correlative construction, we need to permit modal operators to apply not just to clausal DRSs, but also to larger constituents. Then we can scope *mod* over the correlative construction as a whole (i.e., over the level of the discourse topic that contains the correlative construction). The structure of (307) would be the following, using *deon* for deontic modality:

(310)

$$\pi'' : \begin{array}{|l|} \hline \pi' \\ \hline deon \; \pi' : \left(\begin{array}{|l|} \hline \pi_{corr}, \pi \\ \hline \pi_{corr} : K^+_{\pi_{CC}} \\[4pt] \quad \begin{array}{|l|} \hline \epsilon_{RC}, \pi_{CC} \\ \hline \epsilon_{RC} : \text{Whoever makes a purchase from a } \textit{ḫippara}\text{-man} \\ \pi : \; \pi_{CC} : \text{he shall withdraw from the purchase price} \\[6pt] HT(\epsilon_{RC}, \pi_{CC}) \\ \hline \end{array} \\[6pt] Topic(\pi_{corr}, \pi) \\ \hline \end{array} \right) \\ \hline \end{array}$$

At the interpretive level, we would have the following:

(311) $(w, f) [\![K_{\pi''}]\!] (w', g)$

$\Rightarrow (w, f) [\![deon(K_{\pi'})]\!] (w', g)$

$\Rightarrow (w, f) = (w', g) \wedge$

   $\forall w'' [w R_{deon} w'' \rightarrow \exists k \exists w''' \text{ such that } (w'', g) [\![Topic(\pi_{corr}, \pi)]\!] (w''', k)]$

$\Rightarrow (w, f) = (w', g) \wedge$

   $\forall w'' [w R_{deon} w'' \rightarrow \exists k \exists w''' \text{ such that } (w'', g) [\![HT(\epsilon_{RC}, \pi_{CC})]\!] (w''', k)]$

The modal layer shifts us into modally accessible worlds in which to evaluate the basic content of the correlative construction. The veridicality of HT is confined to these modal-shifted worlds, and so it does not percolate up to the input context (w, f), allowing us to obtain a non-veridical reading.

6.5.4 Summary

In this section, I showed how the various readings of correlatives are derived in the semantic model I have proposed. Definite and unknown-identity readings emerge when the RC only

refers to a single individual (single or plural, depending on the Rel) in a given input context, i.e., the ref set has a single element. If the same individual is identifiable as this referent in all possible input contexts, then the reading is definite. What makes an individual identifiable in this way depends on context, and in the case of establishing definites, it may only be identifiable after a process of accommodation by the hearer.

If there is a single referent but a single individual is not identifiable across all worlds, then the referent is not identifiable and we have the unknown-identity reading: a specific referent, but one whose identity could vary depending on the possible world we are considering.

If there are potentially multiple possible referents even within a single world (i.e., the ref set can be something other than a singleton), then we have the universal reading, which generalizes over multiple sub-situations of each world. Some of these universal correlatives have a non-veridical hypothetical interpretation, which we can accommodate by scoping a layer of modal-shifting over the otherwise veridical HT.

6.6   Correlatives and conditionals

As noted in section 6.2.3.1, there is a well-noted similarity between correlatives and conditionals (see Lipták 2009b: 26 for references). The similarity is particularly strong in hypothetical universal correlatives:

(312) [(kui)]š=za ᴸᵁ́ḫippari   ḫāppar   iezzi n=aš=kan   ḫāpparaz
       REL=REFL *ḫippara*-man purchase makes CONN=he=PTC   purchase.price.ABL

       [šame]nzi
       withdraws

As universal RC: 'Whoever/Anyone who makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.'

As conditional: 'If anyone makes a purchase from a *ḫippara*-man, he shall withdraw from the purchase price.'

(KBo 6.2 ii 51–52 (OH/OS); Hoffner 1997: 58)

In both readings, the dependent clause introduces a situation and the independent clause describes a second, related eventuality. In this example, the second eventuality prescribes a legal consequence of the situation portrayed in the first clause.

Based on this similarity, some scholars have treated correlatives *as* conditionals. Arsenijević (2009) argues on the basis of Serbo-Croatian that correlatives are a subtype of conditional with an "extreme non-specific expression" (the Rel). Similarly, Huggard (2015) argues that Hittite universal correlatives are conditionals. Belyaev and Haug (2020) propose that *wh*-correlatives are fundamentally universal and have the basic underlying semantics of a conditional:

(313)

x		y
$P(x)$	$\Rightarrow$	$y = x$ $Q(y)$
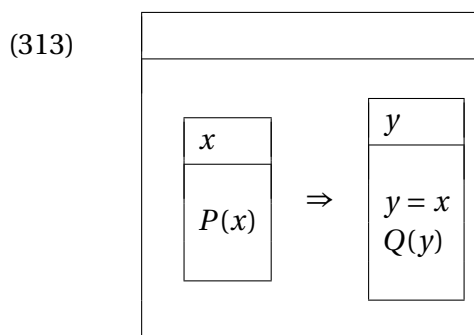
They argue that this reflects a diachronic origin of *wh*-correlatives in paratactic conditionals (e.g., "Someone makes a purchase from a *ḫippara*-man, (and) he shall withdraw from the purchase price").

6.6.1 Issues

I believe there are some flaws with equating correlatives and conditionals. First, correlatives are referring expressions that refer to individuals. Conditionals, if they are referential at all, seem to refer to worlds or situations (Bhatt and Pancheva 2006). Though there may be close overlap — since an individual can be identified by virtue of a situation they are in — these are not identical.

Second, while hypothetical correlatives are easily paraphrased as a conditional, other types do not submit as easily to a conditional paraphrase. Consider a definite correlative:

(314)   *'My father made Maraššanta a tablet, and Maraššanta has it.'* [10 more clauses]

ᵐMaraššantaš=ma   kuit   *ṬUPPU* ḫarzi   n=at   uezzi mān udai   n=at
Maraššanta=CONTR   REL   tablet   has   CONN=it goes if   brings CONN=it
le   dattari
PROH   is.accepted

'The tablet which Maraššanta has, if he proceeds to bring it, let it not be accepted.'

(Bo 86/299 ii 2–3 (NH); Otten 1988: 14)

The most direct conditional paraphrase would be something like "If Maraššanta has a tablet, if he proceeds to bring it, let it not be accepted." We already know that he has a tablet, so this paraphrase would be restating something that is already presupposed, a problem already noticed by Garrett (1994: 44–45). It is true that the truth conditions of basic material implication would judge this as a consistent statement — since the protasis is known to be true, the rest of the construction is judged true — but in natural language, a conditional with an already established protasis usually sounds odd. We might try a different rendering which explicitly encodes a definite reading for the referent: "If x is the tablet that Maraššanta has, if he proceeds to bring it, let it not be accepted." Though it avoids the presupposition issue, it introduces an equational force to the RC that is not obviously warranted.

The same problem occurs with unknown-identity correlatives:

(315) *'If there is lots of dying in the land, and if some god of the enemy has caused it, I do*
       as follows: . . . And they speak to him as follows:'

kuiš=wa	DINGIR-*LUM*	KUR	LÚ.KÚR	kī	ÚŠ-an	i[(y)]an	ḫarzi	nu
REL=QUOT	god	land	enemy	this	plague	caused	has	CONN

kāša	kūn	UDU.NÍTA	ḫaršanallantan	tuk	*ANA*	DINGIR-*LIM*	takšulanni
here	this	ram	crowned	you	to	god	in.reconciliation

ūnnummen
we.drove

' "Whichever god of the enemy land has caused this plague, we have driven (from)
here this crowned ram for you, the god, in reconciliation." '

(HT 1 ii 24–27 (?/NS); Görke 2013a)

As a conditional, this would read "If some/any god of the enemy land has caused this plague,
. . . ." Whoever utters these words in a ritual context surely assumes that some god of the enemy
is behind the plague, they just do not know which god it might be. The conditional paraphrase
fails to reflect this presupposition.

A third issue arises from the veridicality of conditionals versus that of correlatives. Condi-
tionals are basically non-veridical. Consider the following (dynamic) definition of conditional
semantics from Asher and Lascarides 2003: 48:

(316) $(w, f)[\![K \Rightarrow K']\!](w', g)$ iff

$(w, f) = (w', g) \wedge$

$\forall h \forall w''[(w, f)[\![K]\!](w'', h) \rightarrow \exists k \exists w''' \text{ such that } (w'', h)[\![K']\!](w''', k)]$

The input and output contexts are declared to be the same, and the worlds w'' and w''' where
the protasis and apodosis are satisfied are not necessarily the same as the input or output world
of the conditional construction as a whole. This reflects the fact that a conditional can be taken
as valid even if it portrays a hypothetical scenario which has not occurred (and may never). The

269

non-veridicality of conditionals lines up perfectly well with hypothetical correlatives, but it cannot capture the entailments seen with, e.g., definite correlatives. The CC of a definite correlative is generally understood to be asserted, which would not be directly captured in a conditional formulation.

6.6.2 Truth-conditional overlap

Can we explain the perceived similarity between correlatives and conditionals without equating the two? Consider the definition of my proposed HT relation:

(317)   Revised definition of HT:

$(w, f)[\![HT(\alpha, \beta)]\!](w', g)$ iff

(a) $\forall \langle a_1, \ldots, a_n \rangle \in (w, f)[\![ref]\!]([\![K_\alpha(x_1, \ldots, x_n)]\!]) : \exists h \exists k \exists w''$ such that

   (i) $h(x_i) = a_i$ for each i

   (ii) $(w, f)[\![K_\alpha(x_1, \ldots, x_n)]\!](w'', h) \wedge (w'', h)[\![K_\beta]\!](w', k)$

(b) $g = \bigcap k$

(c) $\exists \langle y_1, \ldots, y_j \rangle \in U_\gamma^j \exists F$ such that $F(x_1, \ldots, x_n) = \langle y_1, \ldots, y_j \rangle$ for some j,

   where either $\gamma = \beta$ or β outscopes γ

In condition (a.ii), the RC and CC (which fill in the labels α and β) are linked by $\wedge$, not by a conditional operator $\Rightarrow$. If we compare the combinatorial truth conditions of material conditionals ($\Rightarrow$) and logical conjunction ($\wedge$), we see that they overlap:

(318)

p	q	$p \Rightarrow q$	$p \wedge q$
1	1	1	1
1	0	0	0
0	1	1	0
0	0	1	0

Conditionals and conjunction have the same truth outcomes in the part above the dashed line,

the part where the first clause p is true. It is only where p is false that the two operators diverge.

I suggest the following explanation for the similarity. As a referential expression, a correlative comes with a presupposition that its referent exists. Since the RC is what characterizes the referent, we are presupposing the truth of the RC conditions, landing us by default squarely in the top half of the above truth table. In an interpretation defined by HT as above, we do not consider circumstances where the RC conditions are false, because we are only checking the truth of the RC and CC for the possible referents of the RC. Thus, we judge the correlative construction true only on the basis of positive examples; within this scope, correlatives defined on logical conjunction have the same truth conditions as conditionals.

6.6.3 Summary

Some correlatives are very similar in meaning to conditionals. However, we should not equate the two, because the two constructions have different referential properties, and because not all correlatives are easily or justifiably taken as conditionals. The perceived similarity between the two construction types comes from the fact that the truth conditions are identical in scenarios where the first clause is true. In correlatives, we essentially presuppose that the first clause is true by virtue of using it in a referential expression, restricting ourselves interpretively to this overlap zone.

6.7 Conclusion

I have shown that the maximalizing semantics of correlatives results in multiple distinct readings: definite, universal, and unknown-identity (the latter two of which are both indefinite). These readings are distinguished in my semantic model by the membership of the ref set that defines the possible referents of the RC in a given context. In definite RCs, the set contains one individual which does not vary across worlds. In unknown-identity RCs, the individual varies but the set remains singleton. In universal RCs, the set membership may vary depending on the world, possibly including multiple sub-situations in each world.

The HT relation that defines the correlative construction is veridical, so correlative constructions are veridical by default. Some universal RCs are non-veridical, referring to hypothetical scenarios. To capture this in my model, the construction is embedded within the scope of a modal operator that shifts to other worlds before evaluating the validity of the correlative construction. Thus, HT remains veridical but the overall interpretation is not. These hypothetical correlatives are easily paraphrased as conditionals. This has led some to analyze correlatives *as* conditionals or to define their semantics in terms of conditional operators. The supposed equivalence does not extend to all readings, so a unified treatment is misguided.

CHAPTER 7

Conclusion

7.1   Summary of results

The guiding question underlying this dissertation was: how do the individual clauses in a correlative construction interact with one another in the grammar? I approached this question from an interface-oriented perspective, looking at correlative constructions from the perspectives of syntax, semantics, pragmatics, and discourse. The goal was a holistic model of the interclausal relations in correlative constructions in Hittite. To achieve this goal, I broke the problem down into four parts:

1. the structural relationship between the RC and the correlate

2. the semantic relationship between the RC and the correlate

3. the structural relationshp between the RC and the CC

4. the semantic relationship between the RC and the CC

Parts 1 and 2 were covered in chapter 3, part 3 in chapter 4, and part 4 across chapters 5 and 6.

Chapter 2 identified three subtypes of correlatives: basic single correlatives, multiple correlatives, and frame relatives. These types differ in the number of Rel NPs in the RC and the number of correlates in the CC. Basic single correlatives, the prototypical type, have a single Rel NP and a single correlate that is coreferent with the RC. Frame relatives likewise have a single Rel NP, but there is no coreferent correlate. In some cases there is a pseudo-correlate in the CC which stands in some bridging relation with the RC referent, while in others there is no correlate. Mul-

tiple correlatives have multiple Rel NPs; there can be as many correlates as Rel NPs, but it is often the case that at least one Rel NP goes unmatched. These three types of RC constructions are justifiably treated together as correlative constructions because they share multiple properties that are broadly taken as characteristic of correlatives. The most fundamental of these properties is a topic-comment structure for the construction: the RC activates a referent that serves as a topic for further comment in the CC. Second, all three types have maximalizing semantics that allow both definite and universal readings. Finally, single and multiple correlatives can be additively joined to make a composite referent, indicating that they share a referential function and are constituents of the same kind. These similarities warrant a unified treatment, and recognition of the subtypes shapes the kind of formal model that we need.

Chapter 3 addressed the RC's syntactic and semantic relationship with the correlate. I concluded that the relation is one of discourse anaphora rather than something more restrictive like variable binding. Two key observations led to the conclusion that the correlate is a discourse anaphor. The first observation is that the correlate can be any type of NP available for discourse anaphora: null pronouns, clitic pronouns, tonic pronouns, and lexical NPs. Moreover, the distribution of these forms *as correlates* is fully explained by Hittite-wide principles governing their distribution as anaphoric elements *in general*: null and clitic pronouns are distributed primarily based on the CC predicate's argument structure, and tonic pronouns and lexical NPs are licensed by information-structural prominence (e.g., focus and contrastive topic) or by pragmatic concerns. Significantly, there are no special restrictions on the form of the correlate that are attributable to the correlative construction. The second observation indicating that the correlate is a discourse anaphor comes from frame relatives, where there is either a pseudo-correlate or no correlate. Bridging relations are common in cross-sentential anaphora (e.g., *I bought a car. The engine is loud.*), and sentences may be linked semantically without an anaphor (e.g., *I'm buying a car. I live too far from my office.*). Taking these observations together, the correlate is syntactically distributed exactly like a discourse anaphor with no additional restrictions, and it can be indirectly related to the RC or omitted entirely, just like a discourse anaphor. The simplest conclusion from these observations is that the correlate is a discourse anaphor. If it were something more directly tied to the RC, like a bound variable, we would ex-

pect strict coreference (i.e., no frame relatives), and we might expect more restriction on its syntactic form (as we see in Hindi, where the correlate must be a demonstrative).

Chapter 4 focused on the syntactic relationship between the RC and the CC. I divided the investigation into two sub-questions: how does the RC get to its position at the left edge of the CC, and what is the relation of that position to the CC? Regarding the first question, there are two competing approaches: base-generation and movement. I showed that base-generation is the better approach for Hittite. A movement approach, in which the RC starts as part of a constituent with the correlate, is not well suited to Hittite: a correlate-adjacent starting point is impossible for multiple correlatives and frame relatives, and is not compatible with the correlate's nature as a discourse anaphor. Moreover, there is evidence suggesting that Hittite correlatives do not display locality effects, furthering weakening the basis for movement. Having demonstrated that the RC is base-generated in its surface position, I turned to the question of what that position is. I argued that Hittite correlatives are hanging topics in the form of a free RC, and are paratactically juxtaposed beside the CC, not syntactically integrated into it, an approach which can and should be extended to all peripheral dependent clauses in Hittite. The RC is connected to the CC in the hierarchical discourse structure through rhetorical relations. Conceiving the RC and CC as discourse constituents easily explains syntactic facts like the presence of discourse connectives in the CC, and straightforwardly accommodates the variety of complex, multi-clausal correlative constructions found in Hittite, including — and especially — ones where a correlate-less independent clause splits the RC and the CC. In this task, the paratactic approach performs better than integrative approaches.

Chapter 5 presented a formal model of the semantics of the RC and of the correlative construction. The model is based on Segmented Discourse Representation Theory, a dynamic semantic framework that formalizes the link between discourse constituents via rhetorical relations. I interpret a correlative as a referential expression with a privileged variable (or variables) representing the Rel NP(s). The function ref is used to turn the propositional formula behind the RC into a referential expression whose semantic value is the set of individuals that the RC refers to. The topic-comment structure of the correlative construction is embodied in the HT

275

rhetorical relation that applies the conditions of the CC to the individuals collected by ref. The use of a dynamic framework fits nicely with my proposal that the RC is not syntactically integrated: the individual clauses are syntactically distinct pieces that can be parsed into the discourse structure dynamically one after the other. The formalization of rhetorical structure lets us explain proleptic correlatives, in which a subordinator or connective with semantic relation to the CC appears syntactically in the RC, as a result of pragmatic pressure to signal rhetorical structure early.

Chapter 6 looked at one particular, characteristic aspect of the semantics of correlatives: maximality. A correlative refers to the maximal individual or set of individuals that satisfy its conditions. This maximal reference can have a definite reading or an indefinite reading. Indefinite correlatives can either be universal, covering all individuals in all possible situations matching the RC conditions, or they can have an "unknown-identity" reading, referring to a specific individual that is not identifiable. I showed how maximal interpretation is reflected in the mechanics of the semantic model proposed in chapter 5. The ref function chooses a maximal individual as the referent of the RC, and universal quantification in the definition of HT assures that the CC applies to all individuals that the RC refers to. The particular reading a correlative has in a given information state depends on the nature of the ref set across all input contexts: definite if there is only one individual who is the same across all inputs, unknown-identity if there one individual per context but multiple possibilities, and universal if there are potentially multiple referents (and therefore situations) for a given context. I showed that the universal reading can have a hypothetical character, in which case the construction is not veridical; to account for this, I assumed that the construction as a whole is modally shifted. Finally, I showed that the much-discussed similarity between correlatives and conditionals is due to a partial truth-condition overlap, but that not all correlatives have a viable conditional equivalent, meaning that the two construction types should not be equated.

7.2 Directions for future research

7.2.1 Typology of correlatives

I have argued that Hittite correlative constructions are paratactic discourse structures without syntactic integration between the clauses. There are similar proposals elsewhere in the literature: Lipták (2009a) argues that Hungarian correlatives are hanging topics, and Belyaev and Haug (2020) argue that *wh*-correlatives originate in paratactic conditionals. Thus, it may well be that Hittite is not alone in treating correlative constructions chiefly as discourse structures. However, based on the work of scholars like Dayal (1996) and Bhatt (2003), it seems that there is a distinct syntactic connectivity in Hindi correlatives. This difference forces us to consider that not all languages may build their correlative constructions in the same way. That is, some languages may use discourse association to link the topic and comment halves of the construction, while other languages may require the syntax to also get involved in linking the clauses together. More empirical and comparative work is needed to establish what kinds of structures are typologically observable, and how differences in structural relation may be linked with differences in, for example, the presence of a matching requirement or a demonstrative requirement for the correlate.

7.2.2 Structure of correlatives in diachrony

The question about integration versus non-integration in the context of correlatives is part of a larger discussion on the relationship between parataxis and hypotaxis (i.e., clause subordination). It is an old idea (cf., e.g., Delbrück 1900: 413) that hypotaxis develops from earlier parataxis. As far as I am aware, the dominant view in the literature is that correlative constructions derive from sequences of independent clauses which have grammaticalized into a dependent-independent construction. Hahn (1946) and Huggard (2015) argue that Hittite correlatives were originally independent sentences involving existential indefinites. (Huggard claims that this is the synchronic situation as well, while it is unclear whether Hahn intended the same claim.) Belyaev and Haug (2020) argue that *wh*-correlatives are diachronically rooted in paratactic conditionals. However, these proposals are not focused on the external structure

277

of the construction: Belyaev and Haug are focused on semantics, while Hahn and Huggard are focused on the word order properties of the Rel in Hittite. I have argued that Hittite correlatives are *synchronically* paratactic. If we assume that the construction has grammaticalized from an earlier sequence of independent sentences, then my claim implies that a paratactic structure can persist even after the first sentence grammaticalizes into a relative clause (i.e., a dependent clause). This would complicate the diachronic picture of dependent-clause constructions. It is not simply a matter of two-sentence paratactic sequences becoming dependent-independent hypotactic structures: grammaticalization as a dependent clause need not entail a change in syntactic connectivity.

It should also be noted that the two diachronic proposals mentioned above differ strongly with respect to which reading of Hittite correlatives would be historically "primary". Under Hahn's account, correlatives derive from existential sentences, which would first yield a definite reading. Under Belyaev and Haug's account, correlatives derive from conditionals, which would make the universal reading the first step. These differing origin stories make very different predictions about the diachronic pathways of correlative semantics, though neither rigorously characterizes the shift from propositional to referential semantics. It is unclear to me which prediction is to be preferred, but I hope that a more precise model of the referential semantics of correlatives, like the one I have proposed, can lead to future insights that may help us decide.

7.2.3 Indo-European reconstruction

The study of Hittite correlatives is of particular interest to Indo-Europeanists, as the reconstruction of relative clauses in Indo-European is a very fraught debate (see Probert 2015: 21–54 for an overview of the issues). One point that seems to be broadly accepted is that Proto-Indo-European (PIE) likely had correlatives, since they are found in all of the earliest attested daughter branches: Anatolian (e.g., Hittite), Greek, Indo-Iranian (Sanskrit, Avestan), and Italic (e.g., Latin). The structural properties of correlatives in the daughters are thus highly relevant to the reconstruction of correlatives for PIE. I have argued that Hittite correlatives are paratactic.

In chapter 4, I commented that Davison's (2009) "symmetric adjunction" proposal for Sanskrit correlatives was isomorphic to — and could probably be reframed as — my proposed paratactic structure. It remains to be seen whether such a structure could fit correlatives in Greek and Italic.

Complicating this picture, however, is the fact that Anatolian and Italic use a different lexical item as the Rel than Indo-Iranian and Greek do, making any PIE reconstruction less secure. If we derive Hittite correlatives from a two-sentence sequence, then either they no longer constitute evidence for reconstructing correlatives for PIE, or we must project that grammaticalization to PIE or pre-PIE already. Moreover, if the Rels are completely different between Hittite and Sanskrit, does that make their structural similarities epiphenomenal? Or is the paratactic structure inherited in spite of lexical replacement in one branch or another?

7.2.4 Relation between syntax and discourse

The results of this dissertation also raise questions about the way that semantic relationships between clauses are manifested in hierarchical structure. We know that two sentences can be semantically linked without any syntactic relationship between them. Their structural connection occurs at the discourse level only. I have argued that this situation also applies to dependent clauses in Hittite. This implies a particular division of labor in Hittite between syntax and discourse: the syntactic assembler is responsible for forming clauses, but its job mostly stops there.[1] In general, individual clauses are passed on to the discourse and semantic parts of the grammar, which must work together to situate the clauses in hierarchical structure. Thus, the purview of the syntactic component of the grammar, under this hypothesis, is rather more limited than is often assumed in the theoretical literature, and is more limited than we find in languages that involve more hypotaxis. I believe that it would be profitable to critically evaluate the extent of the syntactic component in the use of language.

---

1. The exception being embedded free RCs and externally-headed RCs, which were discussed in chapter 2.

APPENDIX A

Data samples

A.1 Correlatives

A spreadsheet containing the data used for this study can be found at the following link: https://doi.org/10.17605/OSF.IO/UJ23S

A.2 Hanging topics

Note: The following list of hanging topics is by no means complete. I have not treated any texts comprehensively. This list simply contains the examples that have come to my attention by various means.

A.2.1 Normal hanging topics

(319) *'A plague occurred in front of [...]. [... X]-atta and Aliwanatti went from the city of [...] to Šugaziya in emergency(??).'*

ᵐH̬uidudduwalliš n=an ᵁᴿᵁŠallašna ašašer
H̬uidudduwalli CONN=him in.Šallašna they.settled

'(As for) H̬uidudduwalli, they settled him in the city of Šallašna.'
'They gave (him) to H̬ilanani.'

(HKM 113 Vo 14–15 (MH/MS); Del Monte 1995: 131)

(320) *'Ḫuzziya became king, and Telipinu had Ištapariya, his (= Ḫuzziya's) sister of first rank, ⟨as wife⟩. Ḫuzziya wanted to kill them, and the matter became known, and Telipinu exiled them.'*

§ 5   ŠEŠ.MEŠ=*ŠU*   nu=šmaš   É.MEŠ   taggašta
   5   brothers=his   CONN=them   houses   fashioned

'(As for) his (= Ḫuzziya's) five brothers, he (= Telipinu) fashioned houses for them.'

<div align="right">(KBo 3.1 ii 13 (OH/NS); Gilan 2015: 146)</div>

(321) *'As for Šuppiuman and Marašša, they set up a barber's chair high (for them). They seated one in front of his unit, and they seated the other in front of (his) unit, so that they could call at night: "Place (some chariot-fighters) on the chariots!" As for their young charioteers, Išputaš-Inara manages them_i.'*

GI-an   ᴳᴵˢUMBIN   ḫašḫaššuar   ᴳᴵˢPAN!   appātar   n=uš_i   apāš
of.arrows   wheel   polishing.N   bow   holding.N   CONN=them.C   he
annanut
trained

'The wheel-polishing of arrows, the holding of the bow, HE (instead of Šuppiuman and Marašša) trained them_i.'

'One he trained (further), and others the father of the king gave to Nakkili, Chief of the Cupbearers, others he gave to Huzzi, Chief of the Heralds, yet others to Kizzu, Chief of the Bodyguards, in order to make them skilled.'

<div align="right">(KBo 3.34 ii 29 (OH/NS); Goedegebuure, forthcoming: 14)</div>

(322) *'Afterward because(?) my father was in the land of Ḫurri, while he fought with the*
       Ḫurrian lands and hesitated, many enemies rose up from Kaška behind (him) and
       pressed the land of Ḫatti. One land they destroyed, another they occupied and held.'

nu   KUR ^{URU}Tūmmanna kuit   *PANI* *ABI=YA*   ēštat   nu
CONN   land Tumanna   because before father=my remained CONN

^{URU}Tūmmannan URU-an namma=ya   kuiēš URU.DIDLI.ḪI.A BÀD
Tummanna   city   further=also which cities   fortified

wedanteš ešer n=aš   LÚ.KÚR ^{URU}Kaškaš ḫarnikta   namma=aš=za
built.up were CONN=them enemy   Kaška   destroyed further=them=REFL

ešantat=pat
occupied=FOC

'Because the land of Tummanna remained on my father's side, the city of Tum-
manna, and also the further fortified cities which had been built up, the Kaškaean
enemy destroyed them and, further, occupied them, too.'

(KBo 5.8 ii 14–18 (NH); Götze 1967: 152)

(323) *'Because the land of Tummanna remained on my father's side, the city of Tum-*
manna, and also the further fortified cities which had been built up, the Kaškaean
enemy destroyed them and, besides, possessed them, too.'

ᵐḪūtupianzan=ma DUMU.LUGAL DUMU ᵐZidā GAL ᴸᵁ*MEŠEDI* ᵐZidāš
Ḫutupianza=CONTR prince   son   Zida chief bodyguard Zida

kuiš *ANA ABI=YA*   ŠEŠ=*ŠU*   ēšta nu   *ABU=YA*   uni ᵐḪutupiyanzan
REL to   father=my brother=his was CONN father=my that Ḫutupianza

DUMU ᵐZidā GAL *MEŠEDI*   *INA* KUR ᵁᴿᵁPalā watarnaḫta
son   Zida chief bodyguard in   land Pala   ordered

'(As for) Ḫutupianza, prince, son of Zida, chief of the bodyguard, the Zida who was
brother to my father, my father ordered that Ḫutupianza, son of Zida, chief of the
bodyguard, into the land of Pala.'

(KBo 5.8 ii 18–22 (NH); Götze 1967: 152)

(324) ᵐḪatiptaš ᵐŠūnupa[šši]š ᵐQānuš ᵐPizziziuš ᵐPiruwīs ᵐKuri[ya]lliš ᵐTimittiš
Ḫatipta   Šunupašši   Qanu   Pizziziu   Piruwi   Kuriyalli   Timitti

ᵐTūttuš ᵐDādaš ᵐKāšqa[š ᵐT]ūttuš 9 LÚ.MEŠ ᵁᴿᵁTešenippa nu
Tuttu   Dada   Kašqa   Tuttu 9 men   Tešenippa   CONN

kē=a   *QATAMMA* [li]nker
these=too thus   swore

'(As for) Ḫatipta, …, (and) Tuttu, (and) nine men of Tešenippa, these too swore the
same way.'

(KBo 8.35 ii 25–28 (MH/MS); Gerçek 2012: 237)

(325) ᵐPīyaš ᵐŠunupaššiš 5 LÚ.MEŠ katti=šmi ᵁᴿᵁTalmaliyaš nu=za linkiya
Piya Šunupašši 5 men with=them of.Talmaliya CONN=REFL oath

takšulaš uttar kattan *QATAMMA*=pat daiēr
of.treaty word under thus=FOC they.put

'(As for) Piya, Šunupašši, (and) five men with them of Talmaliya, they put the word of the treaty under oath for themselves just the same way.'

(KBo 8.35 ii 30–31 (MH/MS); Gerçek 2012: 237–238)

(326) ᵐH̬ateptaš 5 L[(Ú)].MEŠ katti=šši ᵁᴿᵁYah̬rišša nu=za takšulaš [(uttar
H̬atepta 5 men with=him Yah̬rišša CONN=REFL of.treaty word

l)]i[(nkiy)a katt]an *QATAMMA*=pat daiēr
oath under thus=FOC they.put

'(As for) H̬atipta (and) five men with him from Yah̬rissa, they put the word of the treaty under oath for themselves just the same way.'

(KBo 8.35 ii 32–33 (MH/MS); Gerçek 2012: 238)

(327) ᵐŠunailiš ᵐPaldū DUMU ᵐAtittaš DUMU ᵐKazzipirri ᵐŠunaili DUMU
     Šunaili   Paldu son of.Atitta son Kazzipirri Šunaili son

ᵐPīpellu[š?] ᵐŠun[ail]i DUMU ᵐPiggapazzuwi ᵐH̬azzinaš ᵐH̬imu[il]iš DUMU
of.Pipellu   Šunaili son Piggapazzuwi H̬azzina   H̬imuili   son

ᵐ[Da]tīli ᵐKippuruwaš LÚ.MEŠ ᵁᴿᵁŠadduppa nu=za   l[inkiya] kattan
Datili   Kippuruwa   men   Šadduppa   CONN=REFL oath   under

kiššan daiēr
thus   they.placed

'(As for) Šunaili, Paldu son of Atitta, son of Kazzipirri, Šunaili son of Pipellu, Šu-
naili son of Piggapazzuwi, H̬azzina, H̬imuili son of Datili, (and) Kippuruwa, men
of Šadduppa, they put themselves under oath as follows.'

                    (KBo 8.35 iii 1–5 (MH/MS); Gerçek 2012: 238–239)

(328) kē=wa   idālawēš [x-]ešiyanteš EME.H̬I.A iššišta=ma=aš
     these=QUOT   evil   ??   tongues made=CONTR=them

ᶠZiplantawi[yaš]
Ziplantawiya

'These evil [x] tongues, Ziplantawi[ya] has made them.'

                    (KBo 15.10 i 13–14 (MH/MS); Görke 2013b)

(329) ᵈIŠTAR DINGIR-LIM=aš=mu
     Ishtar goddess=she=me

'(As for) Ishtar, she is my goddess.'

                    (KUB 1.1 iv 74 (NH); Otten 1981: 28)

(330) *'Telipinu came angry. He thunders with lightning. Below, he attacks the dark earth.*
Kammarušepa saw him. She stirred the eagle's wing [...] and stopped him.'

karpiš   n=an   araet
anger   CONN=it.ACC   stopped.3SG

'(His) anger, she stopped it.'

<div align="right">(KUB 17.10 iii 1 (OH/MS); Rieken et al. 2012)</div>

(331) *'Those who attacked from the outside, they took it for themselves. From there they*
began to [put pressure on(?)] it. Ḫantili established a forward position against them.
The first Labarna and Ḫattušili did not let them across the river Kummešmaḫa.'

URUTiliyura=kan   URU-ri   šer   nu=kan   LÚUKU.UŠ   LÚ*KARTAPPU*=ya
Tiliyura=PTC   city.LOC concerning CONN=PTC soldier   charioteer=and

ŠA LÚ.MEŠ URUKašga   URU-ri   šarā   lē   iyantari
of   men   Kaška   city.LOC up   PROH come.3PL

'Regarding the city of Tiliura, let not a soldier or charioteer of the Kaškean people
come up into the city.'

<div align="right">(KUB 21.29 ii 6–8 (NH); González Salazar 1994: 161)</div>

(332) *'When I destroyed Aššuwa, I [came] back to Ḫattuša and I brought to Ḫattuša 10,000*
       (newly) allegiant troops, 600 chariot-fighters and chariot-drivers.'

ᵐSUM.ᵈLAMMA ᵐ[K]uggullin [*Ù* ᵐMala?]zitin *ŠA* ᵐSUM.ᵈLAMMA ᴸᵁ́kaenan
Piyamakurunta Kuggulli   and Malaziti   of   Piyamakurunta in-law

nu   apūšš=a   [ᵁᴿᵁKÙ.BABBAR-ši uw]atenun
CONN them=too to.Ḫattuša   I.brought

'(As for) Piyamakurunta, Kuggulli, [and Mala]ziti, in-law of Piyamakurunta, them
too I brought [to Ḫattuša].'

(KUB 23.11 ii 36'–38' (MH/NS); Carruba 1977: 160)

(333) *'You judge the case of the dog and the pig.'*

šuppalann=a   ḫanneššar išš[i]t   kuiēš *ŪL* memiškanzi apātt=a
of.animals=also case   with.mouths REL   not speak   that=also

ḫan[n]attari
you.judge

'The case also of animals who do not speak with mouths, you judge that too.'

(KUB 31.127+ i 43–44 (OH/NS); Rieken, Lorenz, and Daues 2017a)

(334) ᵈ*IŠTAR*-iš liliwanza n=aš=(š)ta   ᵁᴿᵁNinuaz   SÚR.DÙ.Aᴹᵁˢᴱᴺ IGI-anda
       Ishtar   swift   CONN=she=PTC   from.Nineveh falcon   facing

pāit
went

'(As for) swift Ishtar, she went from Nineveh to meet the falcon.'

(KUB 41.8 + 251/w ii 45–46 (pre-NH/NS); Otten 1961: 124)

A.2.2 kuid=a hanging topics

On this type of hanging topic, see Goedegebuure, forthcoming.

(335) *'In Kuššar the father of the king found a stone in a* [tun]ink-*bread. They went and fanned a fire on a mountain in an e[mpty place], and maltreated the baker.'*

kuid=a	[andan(?)	pašši]lan	šallin	š=an	ḫattanner	š=an
as.for=CONTR	inside	stone	large	CONN=it	they.struck	CONN=it

šami[nuer]
they.made.disappear

'As for the [peb]ble [inside (the bread) (?)] being large, they crushed it and so [made] it disappear.'

(KBo 3.34 i 2–4 (OH/NS); Goedegebuure, forthcoming: 26–27)

(336) *'The king took Išputaš-Inara (the potter!), (and) Šuppiuman and Marašša. The latter two (lit. they) were the overseers of the chariot-fighters. But he made* HIM *(= Išputaš-Inara), surprisingly, their chief. He always runs test-runs at night, so that they could find mistakes.'*

kuid=a	ᵐŠuppiumni	ᵐMarašša=ya	*pro*	ᴳᴵˢŠÚ.A	ᴸᵁŠU.I	parku	ier
as.for=CONTR	Šuppiuman	Marašša=and		chair	barber	high	they.made

'As for Šuppiuman and Marašša, they set up a barber's chair high (for them).'
'They seated one in front of his unit, and they seated the other in front of (his) unit, so that they could call at night: "Place (some chariot-fighters) on the chariots!" '

(KBo 3.34 ii 24–25 (OH/NS); Goedegebuure, forthcoming: 13)

(337) kuid=a   ^{LÚ.MEŠ}KUŠ₇ āmmiyantuš=šmuš   n=uš   ^mIšputašinaraš

as.for=CONTR charioteers   young=their   CONN=them   Išputaš-Inara

maniyaḫḫeškezzi
manages

'As for their young charioteers, Išputaš-Inara manages them.'

(KBo 3.34 ii 27–28 (OH/NS); Goedegebuure, forthcoming: 13–14)

(338) *'But (as for) the wood piles, one set is placed at the king's feet and one set is placed at the queen's feet. Then I say to the figure: "Take the king's and queen's woe, pain, and their anxieties." Then with the brush I single out a cop, (still) wrapped around their finger(s).'*

kuit=a   anda   ḫalkiaš=a   ZÌZ.ḪI.A-š=a   ḫaršārr=a   nu

as.for=CONTR together of.barley=CONTR of.emmer=and heads=also CONN

apatt=a   GÌR=*ŠUNU*   kitta
that=also   foot=their   is.placed

'Now, as for the heads of barley and emmer combined also, that too is placed at their feet.'

(KBo 17.3+ iv 29 (OH/OS); Goedegebuure, forthcoming: 20)

(339) *'The princes, princesses, grandees, and the distinguished visitors who sit before the king, they make them stand, and the staff-bearers lead them out (of the assembly hall).'*

kuit=a   LÚ.MEŠ   GIŠ ^dINANNA.ḪI.A   Ù   ^{LÚ.MEŠ}ALAN.ZU₉

as.for=CONTR   men   lyre   and   performers

^{LÚ.MEŠ}ḫalliyaries   *pro*   andurza   *AŠAR=ŠUNU*=pat   ḫarkanz[i]

cantors   inside   place=their=FOC   hold.3PL

'As for the lyre players and the performers (and) the cantors, they just keep their positions inside (the assembly hall).'

(KBo 20.61+34.185 i 6–8 (OH/MS); Goedegebuure, forthcoming: 12)

(340) *'Thus say the gods to the priest, Mr. Taḫpurili: "When we go to the Stormgod of Nerik, where shall we sit?" §Thus says the priest, Mr. Taḫpurili: "How would you (all) sit on the basalt-throne?" So, like a priest they will cast for themselves the lot. The "priest" that holds (the lot of) Zalinu shall sit on the basalt-throne set above the spring. § All the gods enter. They cast for themselves the lot.'*

nu   DINGIR.MEŠ-naš   dapiaš   *ŠA* ^{URU}Kāštama   ^dZašḫapūnāš   šall[(iš)] §

CONN   gods.DAT   all.DAT   of   Kaštama   Zašḫapuna   great

kuit=a   ^dZalinuišaš   DAM=*ZU*   ^dTazzuwašiš   šašanza=šiš   kē   3 LÚ.MEŠ

as.for=CONTR   Zalinuiša   wife=his   Tazzuwaši   lover=his   these 3 men

INA ^{URU}Tanipiya   ašanzi

in   Tanipiya   are

'Zašḫapuna is the greatest among all the gods of Kaštama. § As for Zalinuiša, his wife, (and) Tazzuwaši his concubine, these three "persons" will stay (lit. will be) in Tanipiya.'

(KUB 12.66 iv 18'–23' (OH/NS); Goedegebuure, forthcoming: 22)

(341)   *'But when the king se[nt?] Šanku (as a representative?) of the throne, [they] kept the grain and wine. [H]e (=Šanku? the king?), surprisingly, [remained] quiet.'*

§   [kui]t=a   šumaš=a   ᵐAlluwamna   ᶠḪara[pšeki=ya]
    as.for=CONTR   you.ACC=CONTR   Alluwamna.VOC   Ḫarapšeki.VOC=and

[nu=šm]aš   *QADU* DUMU.MEŠ=*KUNU* arḫa   šue[t]
CONN=you.ACC   with   sons=your   away   he.pushed

'[As fo]r you, Alluwamna (and) Ḫara[pšeki, he] banish[ed] you along with your children.'

(KUB 26.77 i 10–11 (OH/NS); Goedegebuure, forthcoming: 24)

REFERENCES

Alexiadou, Artemis, Elena Anagnostopoulou, and Martin Everaert. 2004. "Introduction." In *The Unaccusativity Puzzle: Explorations of the Syntax-Lexicon Interface,* edited, with an introduction, by Artemis Alexiadou, Elena Anagnostopoulou, and Martin Everaert, 1–21. Oxford: Oxford University Press.

Arsenijević, Boban. 2009. "{Relative {conditional {correlative clauses}}}." In *Correlatives cross-linguistically,* edited by Anikó Liptak, 131–156. Language Faculty and Beyond: Internal and External Variation in Linguistics 1. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/lfab.1.06ars.

Asher, Nicholas. 2004. "Discourse Topic." *Theoretical Linguistics* 30:163–201. https://doi.org/10.1515/thli.2004.30.2-3.163.

———. 2008. "Troubles on the right frontier." In *Constraints in Discourse,* edited by Anton Benz and Peter Kühnlein, 29–52. Amsterdam: John Benjamins Publishing Company. https://doi.org/10.1075/pbns.172.02ash.

Asher, Nicholas, and Alex Lascarides. 2003. *Logics of Conversation.* Cambridge: Cambridge University Press.

Asher, Nicholas, and Linton Wang. 2003. "Ambiguity and Anaphora with Plurals in Discourse." Edited by Robert B. Young and Yuping Zhou. *Semantics and Linguistic Theory* 13:19–36. https://doi.org/10.3765/salt.v13i0.2879.

Barsacchi, Francesco G. 2017. *Le feste ittite del tuono: Ediziona critica di CTH 631.* Studia asiana 12. Florence: Firenze University Press.

Becker, Kristina. 2014. *Zur Semantik der hethitischen Relativsätze.* Hamburg: Baar-Verlag.

Becker, Laura. 2021. *Articles in the World's Languages.* Berlin: De Gruyter.

Beckman, Gary. 2015. "Bathing the Goddess (CTH 714)." In *Marbeh Ḥokmah: Studies in the Bible and the Ancient Near East in Loving Memory of Victor Avigdor Hurowitz,* edited by S. Yona, E. L. Greenstein, M. I. Gruber, P. Machinist, and S. M. Paul, 43–63. Winona Lake, IN: Eisenbrauns.

Beckman, Gary, Trevor Bryce, and Eric Cline. 2011. *The Ahhiyawa Texts.* Writings from the Ancient World 28. Atlanta: Society of Biblical Literature.

Belyaev, Oleg, and Dag Haug. 2014. "Pronominal Coreference in Ossetic Correlatives and the Syntax-Semantics Interface." In *Proceedings of the LFG14 Conference,* edited by Miriam Butt and Tracy Holloway King, 89–108. CSLI Publications.

———. 2020. "The genesis and typology of correlatives." *Language* 96 (4): 874–907. https://doi.org/10.1353/lan.2020.0065.

Benincà, Paola, and Cecilia Poletto. 2004. "Topic, Focus, and V2: Defining the CP Sublayers." In *The Structure of CP and IP: The Cartography of Syntactic Structures, Volume 2,* edited by Luigi Rizzi, 52–75. Oxford Studies in Comparative Syntax. Oxford: Oxford University Press.

Benz, Anton, and Peter Kühnlein. 2008. "Constraints in discourse: An Introduction." In *Constraints in Discourse,* edited by Anton Benz and Peter Kühnlein, 1–26. Amsterdam: John Benjamins Publishing Company.

Bhatt, Rajesh. 2003. "Locality in correlatives." *Natural Language and Linguistic Theory* 21:485–541. https://doi.org/10.1023/A:1024192606485.

Bhatt, Rajesh, and Roumyana Pancheva. 2006. "Conditionals." In *The Blackwell Companion to Syntax,* edited by Martin Everaert and Henk van Riemsdijk, 1:636–687. Malden, MA: Blackwell Publishing. https://doi.org/10.1002/9780470996591.ch16.

Bittner, Maria. 2001. "Topical Referents for Individuals and Possibilities." *Semantics and Linguistic Theory* 11:36–55. https://doi.org/10.3765/salt.v11i0.2854.

Brosch, Cyril. 2016. "Genus- und Numerusinkongruenzen im Hethitischen — Willkür oder Regel?" *Die Sprache* 51 (1): 60–82.

Büring, Daniel. 2003. "On D-trees, beans, and B-accents." *Linguistics and philosophy* 26:511–545.

Cardinaletti, Anna, and Michal Starke. 1999. "The typology of structural deficiency." In *Clitics in the Languages of Europe,* edited by Henk van Riemsdijk, 145–234. Berlin, New York: Mouton de Gruyter. https://doi.org/10.1515/9783110804010.257.

Carruba, Onofrio. 1977. "Beiträge zur mittelhethitischen Geschichte I.: Die Tuthalijas und die Arnuwandas." *Studi Micenei ed Egeo-Anatolici* 18:137–174.

Chrzanowska, Anna, ed. 2016. *Ritual des Ašḫella gegen eine Seuche in der Armee (CTH 394).* www.hethiter.net/:%20CTH%20394.

Cinque, Guglielmo. 1997. "'Topic' Constructions in some European Languages and 'Connectedness'." In *Materials on Left Dislocation,* edited by Elena Anagnostopoulou, Henk van Riemsdijk, and Frans Zwarts, 93–118. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/la.14.08cin.

———. 2008. "Two Types of Nonrestrictive Relatives." Online, edited by O. Bonami and P. Cabredo Hofherr. *Empirical Issues in Syntax and Semantics,* no. 7, 99–137. http://www.cssp.cnrs.fr/eiss7/.

Clark, Herbert H. 1977. "Bridging." In *Thinking: Readings in Cognitive Science,* edited by P. N. Johnson-Laird and P. C. Wason, 411–420. Cambridge: Cambridge University Press.

Davison, Alice. 2009. "Adjunction, features and locality in Sanskrit and Hindi/Urdu correlatives." In *Correlatives cross-linguistically,* edited by Anikó Lipták, 223–262. Language Faculty and Beyond: Internal and External Variation in Linguistics 1. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/lfab.1.10dav.

Dayal, Veneeta. 1995. "Quantification in correlatives." In *Quantification in natural languages,* edited by Emmon Bach, Eloise Jelinek, Angelika Kratzer, and Barbara H. Partee, 179–205. Studies in Linguistics and Philosophy 54. Dordrecht: Kluwer Academic Publishers.

———. 1996. *Locality in WH Quantification.* Dordrecht: Kluwer.

Del Monte, Giuseppe F. 1995. "I testi amministrativi da Maşat Höyük/Tapika." *Orientis Antiqui Miscellanea* 2:89–138.

———. 2009. *Le gesta di Suppiluliuma.* L'opera storiografica di Mursili II re di Hattusa 1. Pisa: Edizioni Plus - Pisa University Press.

Delbrück, Berthold. 1900. *Vergleichende Syntax der indogermanischen Sprachen.* Vol. 3. Strassburg: Trübner.

Dinçol, Ali M. 1989. "Ein hurro-hethitisches Festritual: (Ḫ)išuwaš." *Belleten* 53 (206): 1–50.

Dowty, David. 1991. "Thematic proto-roles and argument selection." *Language* 67 (3): 547–619.

Fuscagni, Francesco, ed. 2014. *Ein Flussritual der Ammā, ^{MUNUS}ŠU.GI des Sonnengottes, für die Reinigung des Ritualherrn (CTH 456.2.1).* www.hethiter.net/:%20CTH%20456.2.1.

———, ed. 2017. *Rituale der Ayatarša, Wattitti und Šušumaniga (CTH 390).* www.hethiter.net/: %20CTH%20390.

Gajewski, Jon. 2008. "On the Semantics of Hindi-Urdu Multiple Correlatives." *Linguistic Inquiry* 39 (2): 327–334.

García Trabazo, José Virgilio. 2002. *Textos religiosos hititas: Mitos, plegarias y rituales.* Madrid: Editorial Trotta.

Garrett, Andrew. 1990a. "Hittite Enclitic Subjects and Transitive Verbs." *Journal of Cuneiform Studies* 42 (2): 227–242. https://doi.org/10.2307/3515906.

———. 1990b. "The Syntax of Anatolian Pronominal Clitics." Ph.D. dissertation, Harvard University.

———. 1994. "Relative clause syntax in Lycian and Hittite." *Die Sprache* 36 (1): 29–69.

———. 1996. "Wackernagel's Law and Unaccusativity in Hittite." In *Approaching Second: Second Position Clitics and Related Phenomena,* edited by Aaron Halpern and Arnold M. Zwicky, 85–133. Chicago: University of Chicago Press.

Gerçek, Nebahat İlgi. 2012. "The Kaška and the Northern Frontier of Ḫatti." Ph.D dissertation, University of Michigan.

Gilan, Amir. 2015. *Formen und Inhalte althethitischer historischer Literatur.* Heidelberg: Universitätsverlag Winter.

Giorgi, Alessandra. 2015. "Discourse and the syntax of the left periphery: Clitic Left Dislocation and Hanging Topic." In *Discourse-oriented Syntax,* edited by Josef Bayer, Roland Hinterhölzl, and Andreas Trotzke, 229–250. Amsterdam: John Benjamins. https://doi.org/10.1075/la.226.10gio.

Goedegebuure, Petra. 2013. "Hittite Noun Phrases in Focus." In *Proceedings of the 24th Annual UCLA Indo-European Conference,* edited by Stephanie W. Jamison, H. Craig Melchert, and Brent Vine, 27–45. Bremen: Hempen.

———. 2014. *The Hittite Demonstratives: Studies in Deixis, Topics and Focus.* Studien zu den Boğazköy-Texten 55. Wiesbaden: Harrassowitz Verlag.

———. Forthcoming. "Old Hittite *kuid=a* 'but as for', introducing contrastive topics in left-dislocation." In *Proceedings of the 10th International Congress of Hittitology, Chicago, August 28–September 1, 2017,* edited by Petra Goedegebuure, Theo van de Hout, and Robert Marineau. Chicago: The Oriental Institute of the University of Chicago.

González Salazar, Juan Manuel. 1994. "Tiliura, un ejemplo de la política fronteriza durante el imperio hitita (CTH 89)." *Aula Orientalis* 12:159–176.

Görke, Susanne, ed. 2012. *Das Bauritual CTH 413.1.* www.hethiter.net/:%20CTH%20413.1.

———, ed. 2013a. *Das Ritual des Uḫḫamuwa (CTH 410).* www.hethiter.net/:%20CTH%20410.

———, ed. 2013b. *Zwei Rituale zur Besänftigung von Sonnen- und Wettergott mit der Erwähnung von Ziplantawiya, Tuthaliya und Nikkalmadi (CTH 443).* www.hethiter.net/:%20CTH%20443.1.

Götze, Albrecht. 1967. *Die Annalen des Muršiliš.* 2nd ed. Darmstadt: Wissenschaftliche Buchgesellschaft.

Grosu, Alexander. 2002. "Strange relatives at the interface of two millennia." *Glot International* 6 (6): 145–167.

Grosu, Alexander, and Fred Landman. 1998. "Strange Relatives of the Third Kind." *Natural Language Semantics* (6): 125–170. https://doi.org/10.1023/A:1008268401837.

Güterbock, Hans Gustav, Harry A. Hoffner Jr., and Theo P. J. van den Hout, eds. 1989–. *The Hittite Dictionary of the Oriental Institute of the University of Chicago.* Chicago: The Oriental Institute of the University of Chicago.

Haegeman, Liliane. 1991. "Parenthetical adverbials: the radical orphanage approach." In *Aspects of Modern English Linguistics,* edited by S. Chiba, A. Ogawa, Y. Fuiwara, N. Yamada, O. Koma, and T. Yagi, 232–254. Tokyo: Kaitakusha.

———. 2012. *Adverbial Clauses, Main Clause Phenomena, and the Composition of the Left Periphery: The Cartography of Syntactic Structures, Volume 8.* Oxford Studies in Comparative Syntax. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199858774.001.0001.

Hahn, E. Adelaide. 1946. "The Origin of the Relative *kwi- kwo-.*" *Language* 22 (2): 68–85.

Hall, David P., and Ivano Caponigro. 2010. "On the semantics of temporal *when*-clauses." In *Semantics and Linguistic Theory,* edited by Nan Li and David Lutz, 20:544–563. Ithaca, NY: CLC Publications.

Held, Warren H., Jr. 1957. "The Hittite Relative Sentence." *Language* 33 (4): 7–52. https://doi.org/10.2307/522235.

Hoffmann, Inge. 1984. *Der Erlaß Telipinus.* Texte der Hethiter 11. Heidelberg: Winter.

Hoffner, Harry A., Jr. 1997. *The Laws of the Hittites: A Critical Edition.* Leiden: Brill.

———. 2009. *Letters from the Hittite Kingdom.* Edited by Gary M. Beckman. Atlanta: Society of Biblical Literature.

Hoffner, Harry A., Jr., and H. Craig Melchert. 2008. *A Grammar of the Hittite Language.* Winona Lake, IN: Eisenbrauns.

Huggard, Mattyas. 2011. "On *Wh*-(Non)-Movement and Internal Structures of the Hittite Preposed Relative Clause." In *Proceedings of the 22nd Annual UCLA Indo-European Conference,* edited by Stephanie W. Jamison, H. Craig Melchert, and Brent Vine, 83–104. Bremen: Hempen.

———. 2015. "*Wh*-words in Hittite: A Study in Syntax-Semantics and Syntax-Phonology Interfaces." Ph.D dissertation, University of California, Los Angeles.

Inglese, Guglielmo. 2016. *Subordination and Sentence Connectives in Old Hittite: A Corpus-based Study of Clause Linkage Strategies in Hittite.* Munich: LINCOM GmbH.

Inglese, Guglielmo, and Silvia Luraghi. 2020. "The Hittite periphrastic perfect." In *Perfects in Indo-European languages and beyond,* edited by Robert Crellin and Thomas Jügel, 377–410. Current Issues in Linguistic Theory 352. Amsterdam/Philadelphia: John Benjamins.

Inglese, Guglielmo, Giuseppe Rizzo, and Miriam Pflugmacher. 2019. "Definite referential null objects in Old Hittite: a corpus study." *Indogermanische Forschungen* 124 (1): 137–170. https://doi.org/10.1515/if-2019-0005.

Izvorski, Roumyana. 1996. "The Syntax and Semantics of Correlative Proforms." In *Proceedings of the North East Linguistic Society,* edited by Kiyomi Kusumoto, 26:133–147. Amherst, MA: Graduate Linguistics Students Association.

Jacobson, Pauline. 1995. "On the Quantificational Force of English Free Relatives." In *Quantification in Natural Language,* edited by Emmon Bach, Eloise Jelinek, Angelika Kratzer, and Barbara Partee, 451–486. Studies in Linguistics and Philosophy 54. Dordrecht: Springer. https://doi.org/10.1007/978-94-017-2817-1_15.

Kamp, Hans. 1981. "A Theory of Truth and Semantic Representation." In *Formal Methods in the Study of Language, Proceedings of the Third Amsterdam Colloquium,* edited by Jeroen Groenendijk, Theo M. V. Janssen, and Martin Stokhof, 277–322. Amsterdam: Mathematical Centre.

Kayne, Richard S. 1994. *The Antisymmetry of Syntax.* Cambridge, MA: MIT Press.

Kiparsky, Paul. 1995. "Indo-European origins of Germanic syntax." In *Clause Structure and Language Change,* edited by Ian Roberts and Adrian Battye, 140–167. New York/Oxford: Oxford University Press.

Kloekhorst, Alwin. 2014. *Accent in Hittite: A Study in Plene Spelling, Consonant Gradation, Clitics, and Metrics.* Studien zu den Boğazköy-Texten 56. Wiesbaden: Harrassowitz Verlag.

Lebrun, René. 1994. "Questions oraculaires concernant le nouveau déroulement de fêtes secondaires de printemps et d'automne = *CTH* 568." *Hethitica* 12:41–77.

Leung, Tommi Tsz-Cheung. 2009. "On the matching requirement in correlatives." In *Correlatives cross-linguistically,* edited by Anikó Liptak, 309–341. Language Faculty and Beyond: Internal and External Variation in Linguistics 1. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/lfab.1.13leu.

Lipták, Anikó. 2009a. "On the Correlative Nature of Hungarian Left-Peripheral Relatives." In *Dislocated Elements in Discourse: Syntactic, Semantic, and Pragmatic Perspectives,* edited by Benjamin Shaer, Philippa Cook, Werner Frey, and Claudia Maienborn, 398–430. New York: Routledge.

———. 2009b. "The landscape of correlatives: An empirical and analytical survey." In *Correlatives cross-linguistically,* edited by Anikó Lipták, 1–46. Language Faculty and Beyond: Internal and External Variation in Linguistics 1. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/lfab.1.02lip.

Lühr, Rosemarie. 2001. "Relativsätze im Hethitischen." In *Akten des IV. Internationalen Kongresses für Hethithologie, Würzburg 4.–8. Oktober 1999,* edited by Gernot Wilhelm, 333–346. Studien zu den Boğazköy-Texten 45. Wiesbaden: Harrassowitz Verlag.

Luraghi, Silvia. 2010. "Transitivity, intransitivity and diathesis in Hittite." *Indo-European Linguistics and Classical Philology* 14 (2): 133–154.

Lyutikova, Ekaterina, and Andrei Sideltsev. 2020. "On the syntax of argument clitics in Hittite." *Transactions of the Philological Society* 118 (1): 29–78. https://doi.org/10.1111/1467-968X.12166.

———. 2022. "Relative construction in Hittite: A corpus-based case study in syntax-prosody interface." *Journal of Historical Linguistics,* 1–86. https://doi.org/10.1075/jhl.22014.lyu.

Mahajan, Anoop. 2000. "Relative Asymmetries and Hindi Correlatives." In *The Syntax of Relative Clauses,* edited by Artemis Alexiadou, Paul Law, André Meinunger, and Chris Wilder, 201–229. Amsterdam: John Benjamins. https://doi.org/10.1075/la.32.06mah.

Melchert, H. Craig. 2013. "Agreement Patterns in Old and Middle Hittite." In *Grammatica et verba: Glamor and verve. Studies in South Asian, historical, and Indo-European linguistics in honor of Hans Henrich Hock on the occasion of his seventy-fifth birthday,* edited by Shu-Fen Chen and Benjamin Slade, 165–180. Ann Arbor, MI: Beech Stave Press.

———. 2016. "Relative Clauses in Anatolian." In *"dat ih dir it nu bi huldi gibu": Linguistische, germanistische und indogermanistische Studien Rosemarie Lühr gewidmet,* edited by Sergio Neri, Roland Schuhmann, and Susanne Zeilfelder, 287–295. Wiesbaden: Reichert.

Miller, Jared L. 2004. *Studies in the Origins, Development and Interpretation of the Kizzuwatna Rituals.* Studien zu den Boğazköy-Texten 46. Wiesbaden: Harrassowitz Verlag.

———. 2013. *Royal Hittite Instructions and Related Administrative Texts.* Writings from the Ancient World 31. Atlanta, GA: Society of Biblical Literature.

Montuori, Claudia, ed. 2017. *Quattro rituali antico-ittiti per la coppia reale (CTH 416).* www.hethiter.net/:%20CTH%20416.

Mouton, Alice, ed. 2012. *Rituel de Paškuwatti d'Arzawa (CTH 406).* www.hethiter.net/:%20CTH%20406.

Neu, Erich. 1974. *Der Anitta-Text.* Studien zu den Boğazköy-Texten 18. Wiesbaden: Otto Harrassowitz.

Otten, Heinrich. 1961. "Eine Beschwörung der Unterirdischen aus Boğazköy." *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 54:114–157.

———. 1981. *Die Apologie Hattusilis III: Das Bild der Überlieferung.* Studien zu den Boğazköy-Texten 24. Wiesbaden: Otto Harrassowitz.

———. 1988. *Die Bronzetafel aus Boğazköy: Ein Staatsvertrag Tutḫalijas IV.* Wiesbaden: Otto Harrassowitz.

Otten, Heinrich, and Vladimir Souček. 1965. *Das Gelübde der Königin Puduḫepa an die Göttin Lelwani.* Studien zu den Boğazköy-Texten 1. Wiesbaden: Otto Harrassowitz.

Probert, Philomen. 2006. "Clause boundaries in Old Hittite relative sentences." *Transactions of the Philological Society* 104 (1): 17–83. https://doi.org/10.1111/j.1467-968X.2006.00165.x.

———. 2015. *Early Greek Relative Clauses.* Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198713821.001.0001.

Puhvel, Jaan. 1984–. *Hittite Etymological Dictionary.* Berlin: Mouton.

Raman, Carol Faith Justus. 1973. "The Old Hittite Relative Construction." Ph.D dissertation, The University of Texas at Austin.

Reichmuth, Silvio. 2011. "Mita von Pahhuwa (CTH 146)." In *Hethitologie in Dresden: Textebearbeitungen, Arbeiten zur Forschungs- und Schriftgeschichte,* edited by Robert Fischer, Detlev Groddek, and Henning Marquardt, 111–146. Wiesbaden: Harrassowitz Verlag.

Rieken, Elisabeth. 2009. "Hethitisch *kāša, kāšma, kāšat(t)a*: drei verkannte deiktische Partikeln." In *Pragmatische Kategorien Form, Funktion und Diachronie,* edited by Elisabeth Rieken and Paul Widmer, 265–273. Wiesbaden: Reichert Verlag.

Rieken, Elisabeth, and Susanne Görke. Forthcoming. "On the Language of Hittite Festival Texts: Preposed Relative Clauses with Head Noun." In *Proceedings of the 10th International Congress of Hittitology, Chicago, August 28–September 1, 2017,* edited by Petra Goedegebuure, Theo van de Hout, and Robert Marineau. Chicago: The Oriental Institute of the University of Chicago.

Rieken, Elisabeth, Jürgen Lorenz, Anna Bauer, and Susanne Görke, eds. 2009. *CTH 345.I.3.1 - Das Lied von Ullikummi: Hethitische Version – Dritte Tafel.* www.hethiter.net/:%20CTH%20345.I.3.1.

———, eds. 2012. *CTH 324.1 - Erste Version des Telipinu-Mythos.* www.hethiter.net/:%20CTH%20324.1.

Rieken, Elisabeth, Jürgen Lorenz, and Alexandra Daues, eds. 2016a. *CTH 375.1 - Gebet Arnuwandas I. und Ašmunikkals an die Sonnengöttin von Arinna.* www.hethiter.net/:%20CTH%20375.1.

———, eds. 2016b. *CTH 376.1 - Hymnen und Gebete an die Sonnengöttin von Arinna.* www.hethiter.net/:%20CTH%20376.1.

———, eds. 2016c. *CTH 384.1 - Gebet der Puduḫepa an die Sonnengöttin von Arinna.* www.hethiter.net/:%20CTH%20384.1.

———, eds. 2017a. *CTH 372 - Hymne und Gebet an die Sonne (Šamaš).* www.hethiter.net/:%20CTH%20372.

———, eds. 2017b. *CTH 373 - Kantuzzilis Gebet an den Sonnengott.* www.hethiter.net/:%20CTH%20373.

———, eds. 2017c. *CTH 378.2 - Pestgebete Muršilis II.* www.hethiter.net/:%20CTH%20378.2.

———, eds. 2017d. *CTH 381 - Gebet Muwatallis II. an die Götterversammlung.* www.hethiter.net/:%20CTH%20381.

Rieken, Elisabeth, and David Sasseville. 2012. "Hethitisch *kuwapi UL, kattan išḫaššarwaḫḫ-* und KUB 21.38 Vs. 14'." *Altorientalische Forschungen* 39 (1): 124–129.

Roberts, Craige. 1998. "Focus, the flow of information, and universal grammar." In *The Limits of Syntax,* edited by Peter W. Culicover and Louise McNally, 109–160. Syntax and Semantics 29. Bingley, UK: Emerald Group Publishing. https://doi.org/10.1163/9789004373167_006.

———. 2012. "Information structure in discourse: Towards an integrated formal theory of pragmatics." *Semantics and Pragmatics* 5 (6): 1–69. https://doi.org/10.3765/sp.5.6.

Rooth, Mats. 1992. "A theory of focus interpretation." *Natural Language Semantics* 1:75–116.

———. 2016. "Alternative semantics." In *Oxford Handbook of Information Structure,* edited by Caroline Féry and Shinichiro Ishihara, 19–40. Oxford: Oxford University Press.

Schütze, Carson T. 2001. "On the Nature of Default Case." *Syntax* 4 (3): 205–238. https://doi.org/10.1111/1467-9612.00044.

Selkirk, Elisabeth. 2011. "The Syntax-Phonology Interface." In *The Handbook of Phonological Theory,* 2nd ed., edited by John Goldsmith, Jason Riggle, and Alan C. L. Yu, 435–484. Chichester: Wiley-Blackwell.

Shaer, Benjamin. 2009. "German and English Left-Peripheral elements and the 'Orphan' Analysis of Non-Integration." In *Dislocated Elements in Discourse: Syntactic, Semantic, and Pragmatic Perspectives,* edited by Benjamin Shaer, Philippa Cook, Werner Frey, and Claudia Maienborn, 366–397. New York: Routledge.

Sideltsev, Andrei V. 2016. "Hittite Anaphora: Two Case Studies." *Archiv Orientální* 84 (1): 75–104.

———. 2019. "Dual subordinator system in Hittite? Philology, Natural Interpretation and Typologically Relevant Data." *Historische Sprachforschung* 132:285–311.

———. Forthcoming(a). ""Clitic climbing" in Hittite." *Indo-European Linguistics,* https://doi.org/10.1163/22125892-bja10026.

———. Forthcoming(b). "Mismatch between syntax and prosody and complex sentence structure in Hittite." *Indo-European Linguistics,* https://doi.org/10.1163/22125892-bja10023.

Singer, Itamar. 2002. *Hittite Prayers.* Writings from the Ancient World 11. Atlanta: Society of Biblical Literature.

Srivastav, Veneeta. 1991. "The syntax and semantics of correlatives." *Natural Language and Linguistic Theory* 9:637–686. https://doi.org/10.1007/BF00134752.

Trameri, Andrea. 2022. *Purifying a House from Blood: A Hittite Ritual for the Ancient Gods (CTH 446).* Columbus, GA: Lockwood Press.

Ünal, Ahmet, ed. 2017. *Die zweite Tafel des Rituals von Kizzuwatna (CTH 479.2.1).* www.hethite r.net/:%20CTH%20479.2.1.

Wilhelm, Gernot, ed. 2014. *Vertrag Zidanzas II. (?) mit Pillija von Kizzuwatna (CTH25).* www. hethiter.net/:%20CTH%2025.

Yates, Anthony D. 2017. "Lexical Accent in Cupeño, Hittite, and Indo-European." Ph.D dissertation, University of California, Los Angeles.

———. 2022. "Motion verbs in Anatolian and Indo-European." Invited lecture, University of California, Los Angeles, February 22, 2022.