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Wh-words in Hittite: A Study in Syntax-Semantics and Syntax-Phonology Interfaces.

A dissertation submitted in partial satisfaction

of the requirements for the degree

Doctor of Philosophy in Indo-European Studies

by

Mattyas Georges Charles Huggard

2015

ABSTRACT OF THE DISSERTATION

Wh-words in Hittite: A Study in Syntax-Semantics and Syntax-Phonology Interfaces.

by

Mattyas Georges Charles Huggard

Doctor of Philosophy in Indo-European Studies

University of California, Los Angeles, 2015

Professor H. Craig Melchert, Chair

This dissertation provides the first unified account for the distribution and interpretation of *wh*-words in Hittite as indefinites, interrogatives and relativizers. Based on cross-linguistic comparanda, Hittite *wh*-words display the typical behavior of indefinite polarity items, and are prosodically deficient. As such, I argue that the surface positioning of *wh*-words in Hittite involves the syntax-semantics interface, and the syntax-phonology interface.

The non-standard word order of indefinites in Hittite is attributed to two factors. For an existential interpretation, Hittite *wh*-words must remain within the [vP] and are bound by the Rule of Existential Closure. For a presuppositional interpretation, indefinites undergo Quantifier Raising to IP. The final surface position of indefinites is determined by the syntax-phonology interface to satisfy prosodic restrictions: *wh*-words in Hittite are subject to Prosodic Inversion at Spell Out.

As an interrogative, I argue that the *wh*-form consists of a phonologically null determiner [$_D$ $\varnothing_{[+wh]}$] plus the Hittite *wh*-word *kui-*. Hittite *wh*-in situ is triggered by an intonational Q-morpheme, and is underspecified as [Q:], enabling it to license both yes-no questions and *wh*-questions, as in modern French. Based on experimental evidence from living languages, I propose that the accentual nature of *wh*-words in Hittite interrogatives is the outcome of

the stress assignment by the intonational Q-morpheme.

Finally, I offer the first alternative analysis to Held's (1957) account of Hittite correlative clauses. I demonstrate that preposed "indeterminate" correlatives represent *wh*-conditional clauses, as in Mandarin Chinese, Serbo-Croatian, and early Latin. The accented nature of the *wh*-word in *wh*-conditionals is derived from the stress assignment by contrastive Focus. I show that the peculiar distribution of the *wh*-word in "determinate" preposed correlatives resembles that of indefinites: the *wh*-word is bound by the rule of Existential Closure and may be subject to Prosodic Inversion at Spell Out. I show that postposed correlatives may be restrictive or non-restrictive, and that Middle Hittite and New Hittite texts also exhibit embedded relative clauses.

The dissertation of Mattyas Georges Charles Huggard is approved.

Stephanie Jamison

Hilda Koopman

Brent Vine

H. Craig Melchert, Committee Chair

University of California, Los Angeles

2015

To my family

Contents

Symbols and Abbreviations

*	Reconstructed as, ungrammatical	∀	Universal; for all
∃	Existential; there exists	¬	Negation; not
∅	Phonologically null morpheme	=	Clitic boundary
<	derives/develops from	>	becomes/develops into
[...]	encloses material lost in text break	[(...)]	encloses material restored from a duplicate
<...>	encloses material accidentally omitted by the scribe	≪...≫	encloses material to be omitted
!	non-standard or errant sign in original text	1	First person
2	Second person	3	Third person
ABL	Ablative case	ACC	Accusative case
ACD	Antecedent Contained Deletion	ACT	Active voice
ADV	Adverb	AOR	Aorist
ASP	Aspect	AUX	Auxiliary

C	Common gender; complementizer	CHD	Chicago Hittite Dictionary
Cat. De agri.	Cato the Elder, *De agri cultura*	*Cic. parad.*	Cicero, *Paradoxa stoicorum ad M. Brutum*
Cic. phil.	Cicero, *Philippics*	CL	Clitic; Classifier
CNJ	Conjunction	CNTR	Contrastive
COND	Conditional Mood	CONN	Connective particle
CLuv	Cuneiform Luvian	DAT	Dative case
DEM	Demonstrative	DISJ	Disjunction
ERG	Ergative	f	Feminine gender
FOC	Focus	FUT	Future
GEN	Genitive case	H	Laryngeal; High tone
HLuv	Hieroglyphic Luvian	Hitt	Hittite
IE	Indo-European	*Il.*	Iliad
IMP	Imperative mood	INDF	Indefinite
INF	Infinitive	INST	Instrumental case
IRR	Irrealis	ITER	Iterative aspect
LF	Logical Form	LOC	Locative case
Lyc	Lycian	Lyd	Lydian
m	Masculine gender	MID	Middle voice
MH	Middle Hittite	MP	Medio-Passive voice
MS	Middle Script	n	Neuter gender

N-	Non-	NEG	Negation
NH	New Hittite	NOM	Nominative case
NS	New Script	OBL	Oblique case
OH	Old Hittite	OPT	Optative Mood
OS	Old Script	PA	Proto-Anatolian
Pal	Palaic	PCP	Participle
PERF	Perfect tense	PF	Phonological Form
PIE	Proto-Indo-European	PL	Plural
Pl. La.	Plato, *Laches*	*Plaut. Capt.*	Plautus, *Captivi*
Plaut. Rud.	Plautus, *Rudens*	*Plaut. Men.*	Plautus, *Menaechmi*
Plaut. Mer.	Plautus, *Mercator*	*Plaut. Most.*	Plautus, *Mostellaria*
Plaut. Pers.	Plautus, *Persa*	*Plaut. Stich.*	Plautus, *Stichus*
PN	Personal name	PRES	Present tense
PRO	Null Pronominal	PST	Past tense
PTCL	Particle	PVB	Pre-Verb
Q	Interrogative particle; place holder	QR	Quantifier Raising
QUOT	Quotative particle	REFL	Reflexive
REL	Relativizer	RV	Ṛg Veda
SG	Singular	SUBJ	Subjunctive Mood
SUPL	Superlative	*Ter. Eun.*	Terence, *Eunuchus*
TOP	Topic	VN	Verbal Noun

VOC	Vocative case	WH	Interrogative

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Chapter 1

Goals, Background, and Questions

1.1 Global view

The primary focus of this dissertation is to provide a unified account for the distribution and interpretation of the *wh*-form *kui-* in Hittite. At all stages of the language, the Hittite stem *kui-* may be interpreted as an interrogative, an indefinite, or a relativizer in correlated constructions. From a diachronic point of view, *kui-* is the Hittite reflex of Proto-Indo-European (PIE) *k^wi-/*k^wo-*, traditionally reconstructed as an interrogative when accented, and an indefinite when unaccented. Within the field of Indo-European (IE) linguistics, any formal analysis of the syntax of indefinites in the ancient IE languages is next to null, and the syntax of interrogative clauses has also not received much attention. Relative clauses, however, have been an enduring topic and heatedly debated ever since the beginning of IE studies. Remarkably, however, no line of inquiry has to date sought to provide an explanation for the contrast in accentuation of the form, nor has anyone sought to determine the exact nature of the reflex of *k^wi-/*k^wo-* in the ancient IE languages.

Therefore, this dissertation is the first body of work that seeks to determine the linguistic properties of *kui-* as a single vocabulary item, and to explain how these properties–morpho-syntactic and prosodic–interact in a given environment to give rise to its interpretation as an indefinite, interrogative and relativizer. Given that a text corpus is the end product of linguistic computation, the analysis offered in this dissertation is unique compared to

any previous accounts in that it takes into consideration the syntax-phonology and syntax-semantics interfaces to account for the surface distribution of elements observed in the corpus.

1.1.1 The Indefinite-Interrogative Connection

Cross-linguistically, that some indefinite pronouns are formally identical to interrogative pronouns is uncontroversial. Some examples of such languages are given below (from Haspelmath 1997: 170):

(1) a. Classical Greek

tís	*tis*	*poũ*	*pou*
who?	someone	where?	somewhere

    b. Mandarin

shei	*shei*	*shenme*	*shenme*
who?	someone	what?	something

    c. Hopi (Uto-Aztecan)

hak	*hak*	*haqam*	*haqam*
who?	someone	where?	somewhere

    d. Newari (Sino-Tibetan)

su	*su*	*chu*	*chu*
who?	someone	what?	something

    e. Dyirbal (Pama-Nyungan)

wanya	*wanya*	*minya*	*minya*
who?	someone	what?	something

    f. Khmer (Austro-Asiatic)

qwəy	*qwəy*	*naa*	*naa*
what?	something	where?	somewhere

(Examples from Haspelmath 1997: 170)

In terms of disambiguation, several strategies are available. In Mandarin, for example, only tonal differences on the *wh*-word disambiguate the two sentences in (2). Rising tone indicates a question, and falling tone indicates a statement (Frei 1940: 14).

(2)   a.   *Ta ba shenme shu diu le?*
            S/he ACC WH   book throw ASP
            'What books did s/he throw away?'

       b.   *Ta ba shenme shu diu le.*
            S/he ACC WH   book throw ASP
            'S/he threw away some book.'

<div align="right">(Examples from Haspelmath 1997: 171, originally from Tsai 1990: 41)</div>

In Indo-European languages such as Classical Greek and Modern German, disambiguation is achieved by syntactic differences and/or prosodic means. In Classical Greek, the interrogative pronoun is focused[1] and bears stress, whereas the indefinite pronoun must cliticize to the preceding word, and hence cannot be clause initial.

(3)   a.   *tís   ẽlthen*
            WH-NOM.SG came
            'Who came?'

       b.   *ẽlthen tis.*
            came   WH-NOM.SG
            'Someone came.'

For Modern German, which data I discuss more explicitly in Chapter 3, the indefinite remains low in the clause for an existential reading, whereas the interrogative undergoes *wh*-movement:

(4)   a.   *Wer   kommt da?*
            WH-NOM comes   here
            'Who is coming?'

---

[1] For further details on the syntactic analysis of Classical Greek interrogatives, see Roberts and Roussou 2003: 161–7.

b. *Da kommt wer.*
here comes WH-NOM

'Someone is coming.'

1.1.2 The IE Relative Problem

Prior to the discovery of Hittite and other Anatolian languages, Delbrück (1888: 24) made the observation that interrogative and relative pronouns generally occupy the first position in the clause in ancient Indo-European (IE) languages. Because of this observation, scholars have assumed that all ancient IE languages are WH-move languages, and have proposed to reconstruct PIE as a WH-move language as well. Concerning relative clauses, many bodies of work have been generated within the field of IE linguistics, and different conclusions have been proposed concerning the status of such clauses in PIE. The source of contention lies in that some daughter languages employ the reflex of PIE *H_io (Greek (*hós*), Indo-Iranian (Skt *yá-*), Phrygian, Slavic and Celtic), while others employ the reflex of the PIE interrogative/indefinite *k^wi-/*k^wo- (Anatolian, Italic, Tocharian, Germanic, Balto-Slavic; see Fortson 2010: 144–5), and furthermore the distribution does not seem to reflect a dialectal difference in the parent language. The four main hypotheses in the field are:

(i) *H_io is the original IE relative pronoun, and *k^wi-/*k^wo- as a relative pronoun is an innovation made separately by some languages. This stance is shared by Delbrück (1900), Hirt (1937), and Gonda (1954, 1955).

(ii) *k^wi-/*k^wo- is the original IE relative pronoun, and *H_io is an innovatory form. This view is supported by Sturtevant (1930), Hahn (1946, 1949, 1964), and Szemerényi (1980).

(iii) PIE did not have relative clauses, and the competing relative clause markers (and others, such as the use of demonstrative *that* in English, and its cognates in Germanic) reflect post-PIE innovations. This is the position adopted by Windisch (1869), Porzig

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(1923, 1954), Monteil (1963) and Kurzova (1981), among others.

(iv) PIE had both $*k^w i$-/$*k^w o$- and $*H\underset{\smallfrown}{i}o$ as relative pronouns; Schmitt-Brandt (1973), Haudry (1973, 1979), Chr. Lehmann (1980: 164–165), Hettrich (1988) have reached this conclusion, along with Hajnal (1997: 58–64), who argues that the two pronouns had different functions: $*k^w i$-/$*k^w o$- was used in restrictive relative clauses, but $*H\underset{\smallfrown}{i}o$ in non-restrictive (appositive) relative clauses.

Regardless of which relativizer was employed, scholars do agree that the oldest reconstructible function of $*H\underset{\smallfrown}{i}o$ or $*k^w i$-/$*k^w o$- was not as a relative pronoun, and in terms of syntactic structure, Kiparsky (1995: 155) notes that relative clauses in early Latin, Vedic Sanskrit and Hittite, and by inference PIE, were adjoined correlatives and not embedded. For $*H\underset{\smallfrown}{i}o$, it has been commonly explained as a thematic derivative from the PIE deictic root $*Hi/ei$-.

Since the Anatolian sub-branch does not show any reflexes of this root in the formation of relative clauses, interrogatives or indefinites, I will not discuss it any further. As for PIE $*k^w i$-/$*k^w o$-, govin that all daughter languages of PIE retain both its interrogative and indefinite value, there are two possible pathways of grammaticalization within the daughter branches that developed the use of $*k^w i$-/$*k^w o$- as a relative pronoun:

(i) its use as a relative originated out of its indefinite value.

(ii) its use as a relative originated out of its interrogative value.

In the 19th century, it was the general opinion that the relative value emerged from the interrogative value. Scholars relied on parallels in modern languages, such as English *who* or *which* and similar instances in Romance languages. In the mid twentieth century, Hahn (1946, 1949) put forth the proposal that the use of $*k^w i$-/$*k^w o$- as a relative pronoun could be better explained if its use as an indefinite was taken as the starting point. Her proposal gained popularity for a certain period, but the common opinion nowadays has

returned to the interrogative value as being the source of the relative value (Luján, 2009). As Luján (2009) points out, the arguments for the evolution from interrogative to relative, or from indefinite to relative have relied mainly on logical and semantic grounds, and from those perspectives both proposals would seem to be equally acceptable, hence Luján's aim was to analyze whether there was any evidence in favor of either of these two alternative hypotheses. Although Luján provides a convincing account for the grammaticalization of the relative value of *$k^w i$-/*$k^w o$- from its interrogative value, he does not provide any alternative hypothesis from the perspective of the indefinite value of *$k^w i$-/*$k^w o$-, and bases his analysis entirely on typological grounds outside of Indo-European.

I most certainly agree that typological considerations are extremely beneficial in the investigation of extinct languages, however it is my opinion that it is premature to discuss the grammaticalization of *$k^w i$-/*$k^w o$- from either the indefinite value or interrogative value for *all* of the IE languages, especially since the linguistic properties of indefinites in the various branches of ancient IE languages have yet to be investigated. In this thesis, I am not concerned with any deep reconstruction, and thus make no claims concerning the status of relative clauses in PIE, nor am I concerned with providing an account for the development of relative clauses for all branches of archaic IE languages that employ the reflex of PIE *$k^w i$-/*$k^w o$- as a relative pronoun. I restrict my investigation of *kui-* to the various synchronic stages of Hittite in its use as an indefinite, interrogative and relative pronoun[2], with support from the other Anatolian languages, and I concern myself with diachronic issues mainly within the Anatolian branch: from PIE to Proto-Anatolian (PA), and from Proto-Anatolian to Hittite and other Anatolian languages, with marginal remarks on possible reconstructions for PIE under the stipulation of further research.

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[2]I will thus not discuss the grammaticalization of this stem as a complementizer introducing subordinate clauses.

1.2 Theoretical Assumptions

In this section I will present my working assumptions regarding the language faculty and the organization of the grammar. Concerning the language faculty, I follow the premises of the Minimalist Program (MP) set out by Chomsky (1995) that continues a generative grammar viewpoint. Broadly speaking, the language faculty involves a computational system that feeds into two components of the mind: the articulatory–perceptual system and the conceptual–intentional system. The computational system of human language interacts with these systems through two distinct interface levels, the Phonological Form (PF) and the Logical Form (LF). As for the architecture of grammar, I adopt a form of Distributed Morphology (DM) (Halle & Marantz 1993, 1994). DM is a theory that advocates an organization of the grammar in which morphology manipulates the output of the syntactic component, and feeds the phonological level. There is no lexicon in the traditional pre-syntactic sense of the word. Instead, 'lexical' processes such as word-formation and affixation take place either in the syntax or in one of several levels of Phonological Form (PF). Thus the input to syntax is not phonologically-realized segments, but rather syntactic terminals housing morphosyntactic features. Given below in (5) is a simplified sketch:

(5)

$$
\begin{array}{ccc}
 & \text{Narrow Syntax} & \\
 & \diagup \qquad \diagdown & \\
\text{PF} & & \text{LF} \\
\text{Morphological Operations} & & \Downarrow \\
\text{Vocabulary Insertion/linearization} & & \text{Interpretation} \\
\text{Building of Prosodic Domains} & & \\
\Downarrow & & \\
\text{Phonology} & &
\end{array}
$$
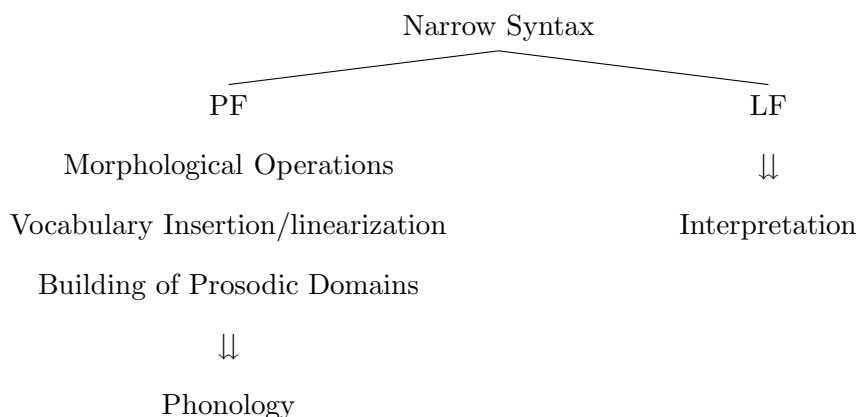
1.2.1 Elements of Grammar

Under such a view, a vocabulary item is a relation between a phonological string and information about where that piece may be inserted. Vocabulary items provide the set of phonological signals available in a language for the expression of abstract morphemes. It is relevant to note here that the phonological content of a vocabulary item may be any phonological string, including zero or 'null' (∅). The featural content or context of insertion may be similarly devoid of information. A morpheme is considered as a syntactic/morphological terminal node and its content, but does not refer to the phonological expression of that terminal, which is provided as part of a vocabulary item. Morphemes can be viewed as the atoms of morphosyntactic representation. The content of a morpheme active in syntax is composed of syntactico-semantic features drawn from a set made available by Universal Grammar. Regardless of which particular version of DM is pursued, three core properties define the theory of DM: Late Insertion, Underspecification, and Syntactic Hierarchical Structure All the Way Down.

As mentioned above, syntactic categories are purely abstract, having no phonological content. Only after syntax are phonological expressions (vocabulary items) are inserted in a process referred as Spell-Out. This is the hypothesis of *Late Insertion*.

Underspecification of Vocabulary items refers to the concept that phonological expressions do not necessarily need to be fully specified for the syntactic positions where they can be inserted. In many instances, default signals are inserted where no more specific form is available (hence represented as ∅).

Elements of both syntax and of morphology are understood as discrete entities, and hence DM is considered to be a piece-based approach to grammar. The result from these premises is that these elements of syntax and morphology enter into the same type of constituent structures. This is known as *Syntactic Hierarchical Structure All the Way Down*.

Spell-Out, also called Vocabulary Insertion, is taken to involve the association of phono-

logical pieces (vocabulary items) with abstract morphemes. Halle (1992) analyzes Spell-Out as the rewriting of a place-holder 'Q' in a morpheme as phonological material. In the unmarked case, the relation between vocabulary items and morphemes is one-to-one, but several factors may disrupt this relation (Noyer 1997), including Fission of morphemes and local displacements of Vocabulary items by Morphological Merger.

1.2.2 Merge, Agree and Move

Thus the smallest elements are feature bundles, or morphemes[3]. The syntactic system takes these morphemes as its input and gives a series of syntactic objects as its output. A derivation will begin with the operation Select, which introduces an item into the derivation, followed by the re-application of Select to introduce a second item. Now the syntax can Merge, or Adjoin these two items to form a new syntactic object. Once a syntactic operation has applied, we have a step in the derivation.

(6) a. Step 1: Select X

b. Step 2: Select C

c. Step 3: Merge (X, C)
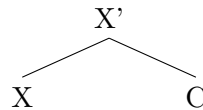
We now have a single syntactic object, so Select applies again, furnishing a new element into the derivation. At this point we may Merge or Adjoin this new element with our old syntactic object:

(7) a. Step 4: Select S

b. Step 5: Merge (X', S)

---
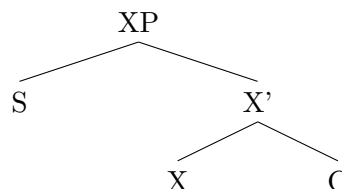
[3]In DM, there is no lexicon, hence a lexical item is meaningless. One speaks of f-morphemes (the equivalent to the functional or "closed-class" category) as opposed to l-morphemes, which are always "idioms" (Marantz 1995, 1997). Examples of idioms include: "cat": (a furry animal); "(the) veil": (vows of a nun); "(rain) cats and dogs": (a lot).

Select applies again, and we may Merge or Adjoin a new element into the hierarchy. For expository purposes, let it be Adjoin:

(8) a. Step 6: Select A

    b. Step 7: Adjoin (XP, A)

```
              XP
          ╱        ╲
         A          XP
                 ╱      ╲
                S        X'
                      ╱      ╲
                     X        C
```
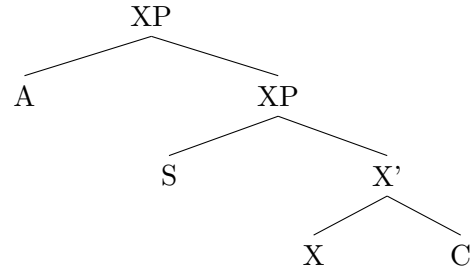
As illustrated above, the operation Merge builds up tree-like structures, in which morphemes are put into a syntactic relationship. The most fundamental syntactic relationship between two nodes is that of sisterhood. In (6), the nodes C and X are said to be in a sisterhood relationship and are immediately dominated by the same mother node X'. A second important syntactic relation that holds between nodes in a tree is the relation of *c-command* (an abbreviation of constituent-command). This relationship of c-command is defined in the following way:

(9) A node α **c-commands** a node β if, and only if:

    a.   either β is α's sister, or

    b.   α's sister contains β.

Consider the following tree in (10) to illustrate:

(10) a. Node α c-commands node β, but nothing else.

    b. Node ζ c-commands nodes ε, γ, and δ.

    c. Node ε c-commands nodes ζ, α, and β.

```
                    η
              ╱          ╲
             ζ            ε
          ╱    ╲        ╱    ╲
         α      β      γ      δ
```
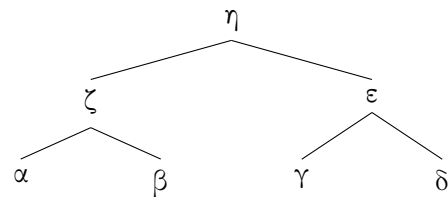
In (10), because β is α's sister, α c-commands node β, but nothing else since β doesn't contain any other nodes in this tree. However, the node ζ c-commands its sister node ε, and also all nodes contained within ε, which in this tree are γ, and δ. Likewise, ε c-commands

10

nodes ζ, α, and β. Finally, the node η does not c-command anything, nor is it c-commanded by anything since it contains all the other nodes and has no sister.

I assume the Universal Base hypothesis, namely that all languages follow the same universal blueprint as represented in (11).

(11)

```
                          XP
                  _____/_____
              Adjunct              XP
                           _____/_____
                       Specifier            X'
                                      _____/_____
                                     X              Complement
                                    Head
```
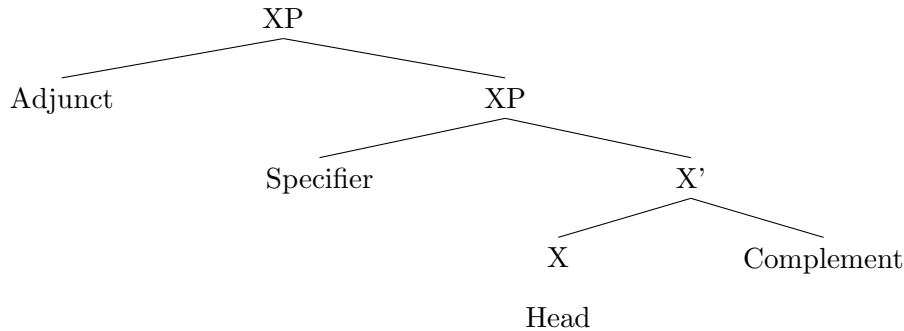
Kayne (1994) argues that movement of syntactic constituents is always leftward, which leads to the conclusion that functional heads and specifiers of functional projections are always on the left side in a syntactic tree structure. Thus I do not take the position that languages have "mixed" heads – for example, that the CP domain is head initial and the vP domain is head final, as some have posited for Dutch embedded clauses, or by extension for Hittite. I assume that the universal order is Specifier-Head-Complement. The various surface orders in the world's languages must then be thought of as the result of leftward movements of the subject, object, and verb, to other positions within the syntactic derivation. For SOV languages, this implies that the surface order of meaningful elements is derived by overt movement of the subject and the object, and possibly the absence of overt verb movement to a position to the left of the object. I will address this issue when dealing with specific assumptions concerning Hittite syntax.

The morpho-syntactic features present on the functional heads of phrases, and of particular morphemes may be interpretable, or uninterpretable; and valued, or unvalued. One way to check and value these features is by the operation of Agree:

(12)   In a configuration

$$X[F:val] \ldots Y[u F:\ ]$$

where . . . represents c-command, then F checks and values uF, resulting in:

$$X[F:val] \ldots Y[\text{—} u F:\ val]$$

Take for instance the head T of the Tense Phrase (TP), which bears a tense feature. Let us assign the value [past] to that tense feature. Now the head of the vP, v, bears an uninterpretable tense feature which is unvalued. T universally c-commands v, and in languages such as English for which main verbs do not raise to T, the checking operation assigns a value to the tense feature of little v, as well as checks it (all uninterpretable features must be checked before Spell-Out). This is thus represented as follows:

(13) $T[\text{tense:past}] \ldots v[u\text{tense:}\ \ ] \rightarrow T[\text{tense:past}] \ldots v[\text{—} u\text{tense:past}]$

Another way requires moving a chunk leftward and re-merging it higher up into the derivation for the features to be checked in a Specifier-Head relationship in the case of phrasal movement, or the merging of the lower head with the higher head in the case of head movement. This is viewed as a consequence of strong features, represented by an asterisk after the relevant feature, and for which checking must be local, in a sisterhood relationship, leaving a trace of Y behind.

(14)

$$X[uF^*] \ldots Y[F] \rightarrow X[\text{—} uF^*]\ Y[F] \ldots t_{Y[F]}$$

or

$$X[F] \ldots Y[uF^*] \rightarrow X[F]\ Y[\text{—} uF^*] \ldots t_{Y[F]}$$

To employ a concrete example, French is a language in which main verbs raise. The difference between English and French main verb behavior can be attributed to a difference in feature strength. Hence for English (and every human language) the head of TP bears

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a tense feature, which we will assign the value [past] in the present illustration. In French, the uninterpretable tense feature which is unvalued on the head v is strong, and requires the head v to be re-merged with the head T in TP:

(15) T[tense:past] ... v[$u$tense*:   ] → T[tense:past]v[~~$u$tense:past~~] ... t$_v$

The main diagnostic to know whether raising takes place when T checks tense on little v, is the relative position of the main verb with respect to negation. Under the premise that the universal hierarchy within the IP layer is TP > NegP > vP, (see (19) below), then if the main verb comes *after* negation, no raising has taken place. This is the case for modern English:

(16) a. *Enkidu barked not without reason.

  b. Enkidu did not bark without reason.

If main verbs raised to T in modern English, then a sentence like (16a) would be expected to be grammatical. However, it is not: a negated main verb requires the use of the auxiliary do (do-support) as shown in (16b).

In French, however, the main verb comes *before* the negation *pas*[4], indicating that the tense features on little v require to be in a local configuration with the tense features on T, as shown in (17a).

(17) a. *Enkidu n' aboyait   pas sans raison.*
       Enkidu   PTCL bark-PST.3SG NEG without reason
       'Enkidu did not bark without reason.'

  b. *Enkidu (ne) pas aboyait   sans raison.*
       Enkidu   PTCL NEG bark-PST.3SG without reason

An example such as (17b) is ruled out and ungrammatical in French as the tense features on little v are not in an appropriately local configuration with the tense features on T.

---

[4]The true marker of negation in French is *pas*, although formal French also requires an extra negative element *ne/n'*, which precedes the main verb.

1.2.3 Hierarchy of the Clause

The architecture of the clause can be thought of as divided into three main syntactic domains, the lowest one is headed by V, next is an inward oriented layer, i.e. the Inflectional layer, and on top is the outer layer, or C layer which links the clause either to the immediately dominating clause or to the discourse:

vP/VP domain

The lowest layer, where arguments are first merged into the representation. What has emerged from a number of works on phrase structure (see Koopman and Sportiche 1985, Larson, 1988, Chomsky 1991 among many others), is the *vP-Internal Subject Hypothesis*: the subject of a sentence is base generated within the verb Phrase projection (the *v*P). This is linked to the idea that the verb phrase consists of two parts: a 'little' *v*, which is responsible for assigning the Agent-role, and a 'big' V, which assigns Theme and Goal roles. This leads to the conclusion that in all languages the derivation of a sentence starts out with a *v*P structured as in (18):

(18)

```
                    vP
            ┌───────┴───────┐
        SUBJECT             v'
                    ┌───────┴───────┐
                    v               VP
                            ┌───────┴───────┐
                    INDIRECT OBJECT         V'
                                    ┌───────┴───────┐
                                    V           DIRECT OBJECT
                                  VERB
```
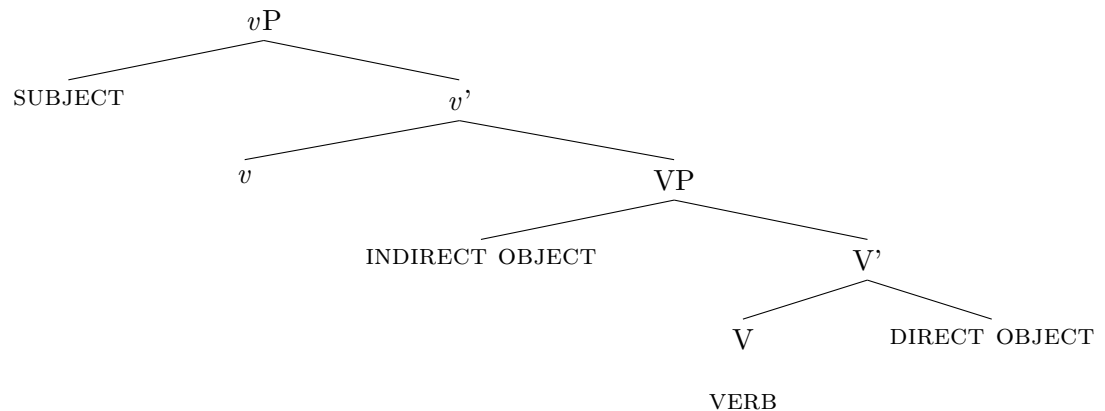
IP domain

The domain where subjecthood is established with movement of the subject from its base generated position of [Spec, vP] to [Spec, IP] in some languages, or [Spec, AgrSP]

in others. Pollock (1989) initiated research on a more fine-grained architecture of IP, splitting it into separate projections for Tense, aspect, mood, agree (AgrS(ubject) and AgrO(bject)), and negation. This is also where Quantificational Raising (QR) occurs, and is further discussed in Chapter 3.

(19)

```
                    AgrSP
                  /      \
                        AgrS'
                       /     \
                   AgrS°      TP
                            /    \
                                  T'
                                /    \
                              T°      AgrOP
                                     /    \
                                         AgrO'
                                        /     \
                                    AgrO°      NegP
                                              /    \
                                                   Neg'
                                                  /    \
                                              Neg°      vP
```

Expanded IP: [$_\text{AgrSP}$ [$_\text{TP}$ [$_\text{AgrOP}$ [$_\text{NegP}$ [$_\text{vP}$]]]]]

CP domain

Also known as the "Left Periphery" of the clause, it is the domain to which *wh*-elements move in *wh*-move languages, as well as Topicalized and Focused elements. Also expressed in this domain are complementizers, and clause-type particles. Rizzi (1997) argues for the decomposition of CP into ForceP (illocutionary force), TopP (topical material), FocP (focused material) and Fin(ite)P. FinP is mainly motivated by the fact that complementizers are sensitive to the finiteness or non-finiteness of the selected IP and certain inflectional morphemes which may be spelled out at C.

(20)

ForceP

Force'

Force^o

Clause-type

morphemes

merge here

TopP*

Top'

Top^o

FocP

Foc'

Foc^o

TopP*

Top'

Top^o

FinP

Fin'

Fin^o

IP

Complementizers

merge here

Expanded CP: [$_{ForceP}$ [$_{TopP*}$ [$_{FocP}$ [$_{TopP*}$ [$_{FinP}$ [$_{IP}$]]]]]]

1.2.4 Phases and Spell Out

There is a growing body of literature which argues that phases are required to regulate syntax's interfaces with the semantic and phonological components. Consider a syntactic tree like the one below:

(21)

```
                    xP
                   /  \
                  x    yP
                      /  \
                     w    y'
                         /  \
                        y    ZP
                             |
                            z a
```

At certain points during the construction of this structure, the derivation is punctuated by the introduction of a phase head. The functional domains which correspond to phases are argued to be DP, vP and CP, but not IP[5]. What is crucial for present purposes is that phase heads initiate Transfer or Spell-Out, sending a chunk of the completed derivation to the semantic and phonological systems. Specifically, the complement of a phase head is the chunk that gets transferred, at the point when another phase head enters the derivation. Upon transfer, the spell-out domain (transferred chunk) is rendered opaque to further syntactic operations. This is formalized in the Phase Impenetrability Condition:
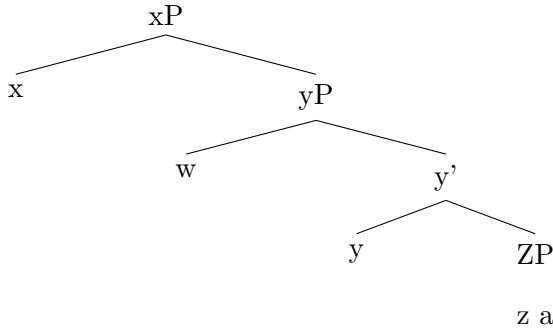
(22) Phase Impenetrability Condition

For [ZP Z . . . [HP α [H YP]]]]: The domain of H is not accessible to operations at ZP, but only H and its edge.

<div align="right">(Chomsky 2001)</div>

Typically, phase heads and non-phase heads alternate with one another, so the chunks being transferred are larger than a single terminal. For (21) above, let us assume that only Y and X are phase heads. The derivation proceeds as follows:

---

[5]In its original conception, only the vP in transitive and unergative verbs constitute phases. The vP in passives and unaccusative verbs are not phases. This topic is, however, currently under debate in the literature, and will not be discussed in this dissertation.

(23)   a.   Merge (z, a): a accessible to z.

       b.   Merge (y, zP): z, a accessible to y.

       c.   Merge (w, y'): y accessible to w.

       d.   Merge (x, YP): w, y accessible to x. zP transferred for Spell-Out.

Considering this mechanism of Spell-Out to occur in Phase chunks, I take it that the domain of cliticization is within a phase. Hence should a clitic be positioned by the syntax within a DP phase, Prosodic Inversion will occur within the DP; likewise, should the clitic be positioned within a vP phase, then Prosodic Inversion shall take place within the vP at Spell-Out[6].

1.2.5   Clitics, Morphological Merger and Prosodic Inversion

I follow the DM definition of a 'clitic', in that it is a behavior that an element may display, and not a primitive category. I employ the conventional terminology, namely that clitics are said to require a 'host' to 'lean' on. Clitics, or 'leaners' are understood as vocabulary items which cannot form Prosodic/Phonological words by themselves, but whose morphemes have no other special displacement properties. Hence their observed distribution depends on where in the syntactic derivation they are merged, and upon their surrounding environment when vocabulary insertion occurs during Spell-Out.

Morphological Merger is a principle of well-formedness between levels of syntax, which 'trades' a structural relation between two elements at one level of representation for a different representation at a subsequent level (Marantz, 1988: 261). It is most often called upon to express second-position effects when Merger applies to vocabulary items, and not morphemes[7]. This process is referred to as Local Dislocation, with the positioning of the

---

[6]Other syntactic phenomena explained by the PIC include successive cyclicity of *wh*-movement, DP islands and *wh*-island effects, as well as Subject Island and Adjunct Island effects (phases must be in a ϑ-position for Agree).

[7]Morphemes are morphosyntactic feature bundles that merge in the narrow syntax. As such, the merging of vocabulary items takes place in PF, when Vocabulary Insertion and Linearization occurs. See (5) above.

Latin enclitic conjunction *-que* as the prototypical example. Under this analysis, Latin *-que* is analyzed as a second position clitic which adjoins to the left of the zero level element to its right:

(24)   [[A-Q] [N-Q]] [CL [[A-Q] [N-Q]]]   Morphological-syntactic structure

       [[bon-um] [agricol-am]] [-que [[bon-um] [colon-um]]]   Vocabulary Insertion

       [[bon∗um] ∗[agricol∗am]]∗[[[bon∗um] ∗que] ∗[colon∗um]]]   Linearization

       good-ACC.SG farmer-ACC.SG good-ACC.SG-and cultivator-ACC.SG Local Dislocation

       'A good farmer and a good cultivator'   (Cat. *De. agr.* Praef. 2)

By hypothesis, Prosodic Inversion (Halpern 1995) can be viewed as a distinct species of Merger at the level of PF. For example, Schuetze (1994), expanding on Zec & Inkelas (1990), argues that the auxiliary clitic *je* 'is' in Serbo-Croatian is syntactically in C, but inverts with the following Prosodic Word by Prosodic Inversion at PF (parentheses below denote Prosodic Word boundaries):

(25)   je [[U ovoj sobi PP] klavir VP]   Syntactic structure

      je (U ovoj)(sobi)(klavir)   Parse into Prosodic Words

      ((U ovoj)+je)(sobi)(klavir)   Prosodic Inversion

      In this AUX room piano

      'In this room is the piano'

Since *u ovoj* 'in this' does not form a morpho-syntactic constituent, the positioning of the clitic *je* 'is' cannot be stated in such terms of constituency. Embick & Izvorski (1995) argue that syntactic explanations cannot account for this pattern.

In this thesis, I will not distinguish between Local Dislocation and Prosodic Inversion as distinct devices in the mapping to PF, but will treat them as the same.

1.3 Hittite and the Anatolian IE languages

1.3.1 Historical and philological background to the Anatolian texts

Now extinct, the Anatolian sub-branch consists of Hittite, Luwian, Lycian, Palaic, Lydian, and Carian, the last four surviving only in fragments. Archaeological excavations in Boğazköy, Turkey, led by Hugo Winckler and Theodore Makridi in 1906 uncovered the royal archives of the capital city of the Hittites, Hattuša (Hoffner and Melchert, 2008: 1). Most of the Anatolian languages were unknown up to that time, as were the linguistic affiliations of Lycian and the undeciphered language of the hieroglyphic texts that turned out to be Luwian, both known from the 19th century. These initial excavations brought forth approximately 10,000 texts written on clay tablets, and subsequent excavations have yielded about 20,000 more, though not all have been published. The texts, which date from approximately the seventeenth to the thirteenth centuries B.C.E. (Late Bronze Age), were composed in a cuneiform script known from the study of Akkadian. They were written primarily in Hittite, but also contained material in Akkadian, Palaic, Luwian, Sumerian, Hattic and Hurrian. Two tablets in the Hittite language, representing correspondences between the Egyptian pharaoh and the king of "Arzawa", were discovered decades earlier among the Armana archives, and it was the Norwegian scholar J.A. Knudtzon who first identified the language as being a previously unknown Indo-European language in 1902, but he met heavy criticism from specialists in Indo-European languages. It wasn't until the decipherment by the Czech Assyriologist Bedřich Hrozný (1915, 1917) who demonstrated that the language in the Arzawa texts and from Boğazköy were the same, and did in fact represent an IE language, that Hittite undisputedly was recognized as such (Hoffner and Melchert, 2008:1–2). The most up-to-date grammar of the Hittite language is currently Hoffner and Melchert 2008. The Hittite corpus contains a wide range of genres, and has been indexed by the French Hittitologist Emmanuel Laroche as *Catalogue des textes hittites* (Paris: Klincksieck, 1971; abbr. CTH) in the following manner:

- Historical Texts (CTH 1–220)

- Administrative Texts (CTH 221–290)

- Legal Texts (CTH 291–298)

- Lexical Texts (CTH 299–309)

- Literary Texts (CTH 310–320)

- Mythological Texts (CTH 321–370)

- Hymns and Prayers (CTH 371–389)

- Ritual Texts (CTH 390–500)

- Cult Inventory Texts (CTH 501–530)

- Omen and Oracle Texts (CTH 531–582)

- Vows (CTH 583–590)

- Festival Texts (CTH 591–724)

- Texts in Other Languages (CTH 725–830)

- Texts of Unknown Type (CTH 831–833)

From a philological analysis, three periods can be identified in the Hittite materials: Old Hittite (ca. 1650–1500 B.C.E.), Middle Hittite (1500–1350 B.C.E.), and New Hittite (ca. 1350–1200 B.C.E.). These stages are differentiated on linguistic and on paleographic grounds. The notational conventions used in text citations to date linguistic material various periods, and which I follow in this thesis, are the following:

OH: linguistic output from the Old Hittite period.   **OS:** script from the OH period.

MH: linguistic output from the Middle Hittite period. **MS:** script from the MH period.

NH: linguistic output from the New Hittite period.   **NS:** script from the NH period.

Thus the sigla OH, MH, and NH refer to the date of the composition (Old, Middle and New Hittite) while OS, MS, and NS refer to the date of the manuscript (Old, Middle, and New Script)[8]. Hittite shows the typical features of an older Indo-European language: it is both synthetic, showing significant use of derivational suffixes to form words, and inflecting, marking the role of most words in a sentence by a system of endings. However, it was demonstrated soon after decipherment that Hittite contained a number of archaic features not found in other IE languages. Among the archaisms found in Hittite, which are now considered by many to be features of the protolanguage, are: laryngeal consonants (also in Palaic, Luwian and Lycian); the two gender system of animate and inanimate as opposed to the three-gender system of masculine/feminine/neuter common in the "classical" IE languages like Latin, Greek, and Sanskrit; the attestation of a large number of archaic neuter nouns with stems in r/n and vocalic ablaut, both seen in the alternation in the word for water between nominative singular *wadar* and genitive singular *wedenas*; a separate ḫi-conjugation; and many others. However, the lack of aspectual opposition between imperfective and perfective ("present" and "aorist"), and the presence of only two moods – the indicative and the imperative – likely do not reflect archaisms: the collapse of the reconstructed PIE verbal system in Anatolian is a by-product of particular sound changes that occurred from PIE to Proto-Anatolian.

Hittite texts were written by a professional class of scribes using a cuneiform syllabary, which was formed by pressing a wedge-shaped stylus into moist clay. The variety of cuneiform script used to write Hittite is that from Syria, and it is generally assumed that the nucleus of the first scribal school at Ḫattuša was composed of captive scribes who were using this syllabary and who were brought back to the capital city during king Ḫattušili I (ca. 1650–1600) military campaigns in North Syria. As far as writing conventions, the signs were

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[8]While later copies may accurately reflect the grammar of older periods, they may also contain errors and hypercorrections and need to be used with due caution.

written from left to right, and functionally were a combination of syllabic and logographic characters. Modern transliteration conventions have been set in place in order to distinguish what was syllabic from what was logographic in the following manner[9]:

(i) Hittite words are transliterated by writing the value of the individual signs, using lower-case italicized Latin letters, and connecting those belonging to a single word with hyphens (e.g. c.Nom.sg *ḫa-aš-šu-uš* 'king'). All examples in this thesis are not transliterated, but in broad transcription, meaning that the hyphens are removed and adjacent vowels are simplified (e.g.: c.Nom.sg *ḫaššuš* 'king');

(ii) Summerograms are transliterated using plain upper-case Latin letters. Sumerograms in Hittite texts usually do not provide the grammatical case of the noun or adjective, nor the voice, tense, or person of the verb (e.g., LUGAL 'king' can stand for nominative, accusative, dative/ablative, or genitive case). At times, however, scribes did provide inflectional endings as a phonetic complement: (e.g.: LUGAL-*uš* for c.Nom.sg *ḫaššuš*, LUGAL-*un* for c.Acc.sg *ḫaššun*, LUGAL-*i* for c.Dat-Loc.sg *ḫaššui*, 'king');

(iii) Akkadian words are transliterated using italic upper-case Latin letters (e.g.: *ŠARRU* for Hittite c.Nom.sg *ḫaššuš* 'king'). Unlike Sumerograms, Akkadograms indicate inflectional information in Akkadian (e.g.: Akk. Nom.sg *A-BU* for Hittite Nom.sg. *attaš* 'father', Akk. Acc.sg *A-BA* for Hittite Acc.sg. *attan*), although the Hittite scribes did not always use the Akkadian inflectional forms correctly;

(iv) Sumerian determinative usage is transliterated using superscript upper-case Latin letters, prefixed (e.g.: ^{URU}*Nerik* 'city of Nerik', with Sum. URU 'city') or suffixed (e.g.: *ḫaraš*^{MUŠEN} 'eagle', with Sum. MUŠEN 'bird') to the words they modify indicating in broad terms the semantic class that a noun belongs to.

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[9]For a much more detailed account of Hittite scribal orthographic conventions and phonology, see Hoffner and Melchert, 2008: 9–50.

Recent studies by Rizza (2007), Bauer (2011), Rieken (2011), and others have shown that some features of Hittite texts based on Hattic or Hurrian models show an artificial register, a "translationese" of some sort[10], that includes some non-native grammatical features. Therefore I will base no claims based solely on such material. Additionally, as I am concerned with the interaction of semantics, syntax and prosody in Hittite, I have also excluded overly fragmentary material from my analysis. All examples in this thesis are referenced according to the CTH indexation as well as the line citations of the published cuneiform autographs (for whose abbreviations see Hoffner and Melchert, 2008: xx-xxii.), thus allowing the reader to readily find the relevant passage in the corpus itself.

1.3.2 Grammar

Throughout this thesis, Hittite is the main Anatolian language that is under investigation, and I briefly review here the basic syntactic properties of the language for the reader who is unfamiliar with Hittite. Compared to other ancient IE languages, Hittite exhibits strict SOV order in pragmatically neutral clauses.

(26) a. LÚ ^{GIŠ}TUKUL ^{DUG}*teššummin* *āppa* *ēpzi*
      man weapon   cup-ACC.SG   PVB take-NPST.3SG
      'The weapon-man takes the cup back.'

(CTH 631.1.A: KBo 17.74 ii 30 (OH/MS))

    b. LUGAL-*uš* *3-ŠU* *aiš=šet*   *ārri*
      king-NOM.SG   thrice mouth-ACC.SG=his wash-NPST.3SG
      'The king washes his mouth three times.'

(CTH 416.1.A: KBo 17.1 i 15 (OH/OS))

A characteristic feature of Anatolian languages, and thus of Hittite, is the widespread use of sentential clitics, which are attached to the first accented word in a clause (optionally with the additive focus geminating clitic -*a*-/-*ya*-, or contrastive non-geminating -*a*-/-*ma*-),

---

[10]A form of Hittite "Yoda-speech" if I may say so.

or to a sentence initial connector (*nu* at all stages of Hittite; *šu* and *ta* only in OH). When they cooccur, these clitics appear in a fixed sequence:

(1) the quotative particle *-wa(r-)*;

(2) the dative-accusative pronouns of the first *-naš* and second-person plural *šmaš* and the dative of the third-person plural *šmaš*;

(3) the nominative and accusative third-person pronouns *-aš, -an, -at, -e, -uš*;

(4) the dative-accusative pronouns of the first (*-mu*)and second (*-ta*)singular, as well as the dative pronouns of the third person singular (*-še/i*)[11];

(5) the reflexive particle (*-za*); and (6) the local particles *-an, -ap(a), -(a)šta, -kan,* and *-šan.* Consider the following New Hittite excerpt in (27) to illustrate:

(27) *nu=mu*   *memier* *pāiweni=war=an=kan*   *kuennumeni nu=wa=tta*
      CONN=1OBL.SG say-PST.3PL go-NPST.1PL=QUOT=3ACC.SG=PTCL kill-NPST.1PL   CONN=QUOT=2OBL.SG
      SAG.DU-*an menaḫḫanda utumēni*
      head-ACC.SG   to   bring-NPST.1PL
      'They said to me: "We will go (and) kill him. We will bring his head to you." '

(*Regarding Urḫi-Tešub* CTH 85.1.A: KBo 6.29 24 ii 24–6 (NH))

The fact that no topicalized or focused elements ever surface to the left of the clitic chain[12], suggests that sentential clitics in Hittite cluster at the head of C (more precisely the head Force of ForceP). I assume that the sentence initial connector *nu*, as well as the OH connectors *ta* and *šu*, are sentential adverbs which adjoin at the level of C' (Force'):

---

[11]The pronouns of Slots 2 and 4 are mutually exclusive and never co-occur (Hoffner and Melchert, 2008: 411).

[12]Only left dislocated elements will surface to the left of *nu* and the clitic chain.

(28)　　　　　　　　　　　　　　[ForceP　[Force' *nu* [Force' Force CL=CL=CL ...

```
                    ForceP
                   /      \
                        Force'
                       /      \
                    Adv        Force'
                    nu        /      \
                          Force°      TopP
                        CL=CL=CL       ...
```
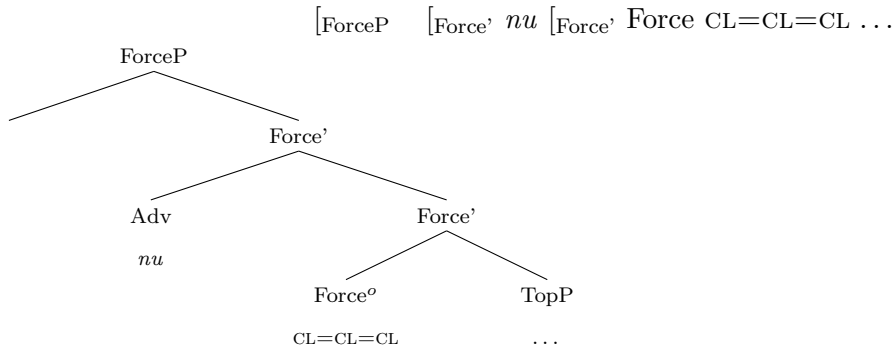
With respect to negation, clausal negation immediately precedes the verb, whether or not a preverb is present. In nominal sentences, it precedes the predicate noun, adjective, or adverb (Hoffner and Melchert, 2008: 406). Hence, I take negation to mark the left edge of *v*P.

(29)　(a)　<u>Without Preverb</u>

　　　　takku šumeš　　natta šaktēni
　　　　if　　　you-NOM.PL NEG　know-NPST.2PL

　　　　'If you do not know.'

<div align="right">(CTH 272: KBo 22.1 5 (OH/OS))</div>

　　(b)　<u>With Preverb</u>

　　　　nu=war=aš=mu　　parā ŪL peštēni
　　　　CONN=QUOT=them=me PVB　NEG give-NPST.2PL

　　　　' (someone says:)"and (if) you do not hand them back to me." '

<div align="right">(CTH 61.II.2.B: KUB 14.15 i 15 NH)</div>

　　(c)　<u>Negation in Nominal Sentence</u>

　　　　takku šaudišza　　natta ANŠE.KUR.RA.MAḪ-*aš*
　　　　if　　　weanling-NOM.SG NEG　stallion-NOM.SG

　　　　'If it is a weanling, it is not a stallion.'

<div align="right">(CTH 291: KBo 6.2 iii 27 (OH/OS))</div>

Past participles immediately precede the inflected auxiliary, and only indefinites may surface between the participle and its auxiliary. Hence under the assumption that all phrases are head initial, I take this descriptive observation to be indicative that in the derivation below the head T moves to the Specifier position of TP (as opposed to positing that TP is head final, but CP, DP and other phrases are head initial), subjects move to the specifier position of the Agr(ee)S(ubject) Phrase ([Spec, AgrSP]), and that direct objects move to the specifier position of the Agr(ee)O(bject) Phrase [Spec, AgrOP].

(30)　a.　*nu=mu*　　　DINGIR-*LUM ištamanan lagān　ḫark*
　　　　　 CONN=CL-1DAT.SG god　　　　ear-ACC.SG　turn-PCP have-IMP.2SG

　　　　'God keep your ear inclined to me!'

(CTH 377.A: KUB 24.1 i 16–17 (NH))

　　　b.　[CP[C' *nu* [*mu*i (C) ...[AgrSP DINGIR-*LUM*k [TP [AgrOP*A ištaman*j ...[*v*P t*k lagān* (*v*) [VP t*i* (V) t*j*]]]

　　　　ḫark t*A*]]]]]

Within the predicate, the relative ordering of direct object, indirect object, postpositional phrases, dative-locatives and adverbs has not yet been conclusively determined. Within noun phrases, genitive modifiers precede their head noun except for the genitive of measure. Demonstratives, numerals and adjectives precede the noun and any genitive modifier[13]. However, the universal quantifiers *ḫūmant-* 'all', and *dapiyant-* 'all', regularly follow their head noun.

(31)　*nu　uni*　　　*ŠA* ᴴᵁᴿ·ˢᴬᴳ*Ašḫarpaya* ᵁᴿᵁ*Gašgan zaḫḫiyanun*
　　　 CONN that-ACC.SG Mt.Asharpaya-GEN.SG　　Kaska-ACC.SG fight-PST.1SG

　　　'So I fought that Kaskaean (group) of Mt. Ašḫarpaya.'

(CTH 61.I.A: KBo 3.4 iii 44 (NH))

Deviations from the neutral SOV word order are due to various discourse factors. Topicalization and Focus are by far the most frequent, by which any constituent can be moved

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[13]The true Hittite word order is used even with a genitive written with the Akkadian possessive *ŠA* in (31). However, sometimes a genitive will appear after the head noun when it is written Akkadographically.

either to absolute initial position in the clause or to the position immediately following clause-initial conjunctions and any clitics dependent upon them. When these operations occur, usually the fronted constituent is marked by the topicalizing/ contrastive conjunction *-a/-ma*, but it may also occur without *-a/-ma*, as shown in the following examples in (32). Other factors include extraposition and left-dislocation (Hoffner and Melchert, 2008: 406).

(32) (a) *nu* É   ^d*IŠTAR* ^m*Dudḫaliyaš* DUMU=*YA tapardu*
          scconn house Ištar   Tudḫaliya-NOM.SG son=my   govern-IMP.3SG
          'The house of Ištar, let Tudḫaliya, my son, govern!.'

                                              (CTH 81.A: KUB 1.1 iv 77–78 (NH))

     (b) [*nu āššū*   EGIR-*pa pi*]*šten* *apāš*=*a*   *pitteyanza šumāš ēštu*
          CONN goods-ACC.PL PVB   give-IMP.2PL that-NOM.SG=CNTR fugitive-NOM.SG you-DAT.PL be-IMP.3SG
          'You shall give back the possessions, but the fugitive shall be yours.'

                                              (CTH 138: KUB 23.77 Ro 54 (MH/MS))

For a much more detailed descriptive account on Hittite grammar in general, the best reference to date is Hoffner and Melchert, 2008. Now that the basics of Hittite "regular" syntax have been exposed, the problematic distribution of the *wh*-word *kui-* may be better appreciated. As an interrogative, the *wh*-form precedes its head noun, as seen in (33):

(33) [*tue*]*ll*=*a* DUMU.MEŠ-*KA kuin*   *šagain*   *iyanzi*
      your=CJN   son-NOM.PL-your   WH-ACC.SG miracle-ACC.SG do-NPST.3PL
      'And what miracle can your sons perform?'

                                              (CTH 323.1.A: VBot 58 i 7 (OH/NS))

As an indefinite pronoun, it does not precede the direct object, but stays in the periphery of the finite verb, or surfaces post-verbally when there is nothing else within the clause:

(34) a. *nu=wa=mu   mān idālun   memian   kuiš   [memai]*
          CONN=QUOT=me if   evil-ACC.SG word-ACC.SG WH-NOM.SG tell-NPST.3SG

          'If anyone tells me a bad word.'

      b. *arḫa=wa parkunummi parkunuši=ma=za   ŪL kuit*
          PVB=QUOT clean-NPST.1SG   clean-NPST.2SG=CNTR=REFL neg WH-ACC.SG

          '(You must not say:)"I will completely clean up." However you (for your own benefit)
          do not clean anything.'

As an indefinite in Multiple Partitive correlated constructions, *kui-* is clause initial:

(35) *nu   kuit   KUR-TUM ḫarninker   kuit=ma=za   ešantat=pát*
       CONN WH-ACC.SG land   destroy-PST.3PL WH-ACC.SG=CNTR=REFL settle-PST.MID.3PL=just

       'Some lands they destroyed, some they only occupied.'

In "indeterminate" correlatives, *kui-* is generally clause initial and always precedes its head noun. In "determinate" correlatives, *kui-* is never clause initial and most frequently surfaces after its head noun:

(36) a. Preposed "indeterminate" correlative

          kuiš   IKRIBU   šarninkuwaš   n=an   šarninkanzi
          WH-NOM.SG votive-offering compensation-VN.GEN.SG CONN=CL-3ACC.SG give.compensation-NPST.3PL

          'Any votive offering which is of compensation, they will give it in compensation.'

b. Preposed "determinate" correlative

nu   IKRIBU^{ḪI.A}*=ma   kuieš   šarninkueš   n=aš*
CONN votive.offering-NOM.PL=CNTR WH-NOM.PL compensatory-VN.NOM.PL CONN=CL-3ACC.PL
šarninkanzi
give.compensation-NPST.3PL

'But the votive offerings that are of compensation, those they will give in compensa-
tion.'

(CTH 577.I: KBo 2.2 iv 7–8 (NH))

Just as for the indefinite pronoun, when there is nothing but the verb within the "deter-
minate" correlative, *kui*- surfaces post-verbally:

(37) a. 'And then, (during the competition) ten runners come, . . . '

nu   tarḫzi   kuiš   dan pedašš=a kuiš   nu=šmaš   II TUG^{ḪI.A}
CONN win-NPST.3SG WH-NOM.SG second place=and WH-NOM.SG CONN=them-OBL 2 cloth
ERÍN.MEŠ [*p*]*ianzi*
troop   give-NPST.3PL

'The one who wins and the one who is in second place, to them they give two uniforms.'

(CTH 627.1.j.D: IBoT 1.13 15–18 (pre-NH/NS))

b. 'If a man puts filth into a pot or a cistern, formerly they paid six half-shekels of silver.

paprizzi   kuiš   3 GÌN KUBBABAR pāi
sully-NPST.3SG WH-NOM.SG 3 half-shekels of silver   give-NPST.3SG

'The one who sullies, gives three half-shekels of silver.'

(CTH 291.I.a.A: KBo 6.2 i 56–57 (OH/OS))

1.4   Goals of this Dissertation

Now that I have laid out the outstanding problems within the field of IE linguistics concerning
relativization, the theoretical framework that will be employed, the basics of Hittite syntax

and the singular behavior of *kui-*, it is clear that the puzzling behavior of *kui-* extends beyond the environment of relative clauses and awaits to be solved as a whole.

In this dissertation, I hope to address a number of questions regarding the distribution of the Hittite *wh*-form *kui-*, by incorporating philological research and theoretical research in generative syntax and interface linguistics. The main questions that I will address in this dissertation are the following:

- What exactly *is* the nature of *kui-* in Hittite? Is it an interrogative? An indefinite? A polarity item? What are the morpho-syntactic features associated with it? What is its prosodic nature?

- How can we account for the peculiar distribution of *kui-* as an indefinite? Do other languages display the same behavior for indefinites as Hittite?

- What type of language is Hittite in terms of *wh*-movement?

- How can we account for *kui-* appearing as accented as an interrogative and as a relativizer in "indeterminate" correlatives, but unaccented and enclitic when functioning as an indefinite and as a relativizer in "determinate" correlatives? Are we dealing with two different vocabulary items, or one?

- The distinction between "indeterminate" and "determinate" correlatives is unique to Anatolian, and is not found in other daughter IE languages in which the reflex of PIE *$k^w i$-/*$k^w o$- is used as a relativizer. Is the paradigm of relativization proposed by Held (1957) for Hittite and extended to Proto-Anatolian by Garrett (1994) even correct?

- If indeed we are dealing with a single vocabulary item, how may its behavior, various functions, and varying interpretations be accounted for? What are the diachronic implications?

Chapter 2

The nature of *wh*-words in Hittite

2.1   Introduction

If the analysis proposed in this dissertation is on the right track, one crucial preliminary step is to ask what exactly is the nature of *wh*-words in the oldest attested Indo-European languages. This chapter addresses that very question for Hittite. As briefly mentioned in Chapter 1, bare *wh*-words in Hittite can be interpreted as indefinite NPs. I will examine here the environments in which *wh*-words in Hittite can be interpreted as interrogative, existential or universal. I will further discuss Cheng's (1991) analysis of *wh*-words as polarity items in *wh*-in situ languages such as Mandarin Chinese and Japanese, as well as in Multiple fronting languages such as Hungarian and Polish. Thus in the spirit of Cheng (1991), I suggest here that *wh*-words in Hittite must be decomposed into a *core* as well as a *wh*-part.

2.2   Lexical ambiguities of *wh*-words

Wh-words in Hittite can be interpreted as interrogative words, existential (∃) quantifiers and universal (∀) quantifiers. I will discuss the environments in which each reading arises in turn.

2.2.1 Interrogative Reading of *wh*-words

Wh-words are interpreted as interrogative when they are assigned stress[1], as shown in (38), and appear to be found in situ, in their base generated position:

(38) [*tue*]*ll=a* DUMU.MEŠ-*KA kuin   šagain   iyanzi*
     your=CJN   son-NOM.PL-your   WH-ACC.SG miracle-ACC.SG do-NPST.3PL
     'And what miracle can your sons perform?'

<div align="right">(CTH 323.1.A: VBot 58 i 7 (OH/NS))</div>

(39) *nu   šumeš   DINGIR.MEŠ kuēz   EGIR-pa taninumi*
     CONN you-ACC.PL god-ACC.PL   WH-ABL.SG again   establish-NPST.1SG
     'With what will I establish you gods again?'

<div align="right">(CTH 378.4.A: KUB 14.13 iv 5 (NH))</div>

In (38) and (39), the *wh*-word only has an interrogative reading; any other readings are unavailable.

2.2.2 *Wh*-words as Existential Quantifiers

Under affective contexts[2], bare *wh*-words in Hittite can be used as polarity items (PI). In this respect, Hittite is similar to living languages like Mandarin Chinese and Polish, and its relatives Latin and ancient Greek[3]. Cheng (1991) following Ladusaw (1979) assumes that a polarity item is an existential quantifier. In (40), I give a list of Hittite *wh*-words and the equivalent polarity/existential reading.

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[1]In its unaccented form, the Hittite *wh*-word *kui-* regularly follows the head noun. This is discussed in Chapter 3. The assignment of stress in clauses that are typed interrogative is discussed in Chapter 4.

[2]These contexts include the scope of n-words (negative particles, negative quantifiers), the antecedent of conditionals and questions among others.

[3]For the analysis of Latin *quis* as a PI, see Bertocchi, Maraldi & Orlandini 2009: 19–173; For the analysis of ancient Greek τις (*tis*) as a PI, see Roberts & Roussou 2003: 161–7.

(40) Interpretation of *wh*-words

Example	as a question word	as polarity items
kuiš	'who'	'anyone'
kuit	'what'	'anything'
kuedani	'to whom'	'to anyone'
kuwapi	'where'	'anywhere'
kuwapi	'when'	'anytime'

Wh-words are interpreted as existential quantifiers in the following contexts: under the scope of negation[4], whether under direct negation or under the scope of the particle *nek(k)u* in negative yes-no questions[5]; and in conditional clauses. I include as conditional clauses what have been traditionally termed "indeterminate" preposed correlative relative clauses, as this type of clause is semantically equivalent to a conditional clause (Garrett 1994: 44–45). In Chapter 5, I discuss in further detail this type of clause which I re-categorize as a *wh*-Conditional Correlative.

(41) *arḫa=wa parkunummi parkunuši=ma=za   ŪL kuit*
       PVB=QUOT clean-NPST.1SG clean-NPST.2SG=CNTR=REFL NEG WH-ACC.SG

(i) '(You must not say:)"I will completely clean up." However you (for your own benefit) do not clean anything.' (actual translation)

(ii)'What do you not clean for your own benefit?' (possible interpretation if taken out of context)

(CTH 19.II.A: KBo 3.1 + ii 43–44 (OH/NS))

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[4]Note that under the scope of negation, the bare *wh*-word can also have the interpretation of an interrogative if taken out of context, just as in Mandarin Chinese.

[5]Note that the force of the negator *nek(k)u* carries over to the second clause, just as it does for the ordinary negation *natta*. See CHD under *natta* and also *nekku* where (42) is cited.

(42) *ūk=za neku* DINGIR-*YA tuk   kuit   iy[(anu)]n nu   kuit   waštāḫḫun*
      I=REFL Q-YN god-my   you-DAT.SG WH-ACC.SG do-PST.1SG   CONN WH-ACC.SG sin-PST.1SG

(i) 'I haven't done anything against you, my God, have I? Or in anyway sinned, have I?'

(ii)'*What did I do against you or not? *What have I sinned or not?'

<div align="right">(CTH 374.2.A: KUB 36.75 ii 13–14 (OH/MS))</div>

(43) *nu=wa=mu   mān idālun   memian   kuiš   [memai]*
      CONN=QUOT=me if   evil-ACC.SG word-ACC.SG WH-NOM.SG tell-NPST.3SG

(i) 'If anyone tells me a bad word.'

(ii) '*Who should tell me a bad word?'

<div align="right">(CTH 147: KUB 14.1+ rev. 45 (MH/MS))</div>

(44) *našma=kan mān* ^dUTU-*ŠI kuedani anda idālu   ištamašti*
      or=PTCL   if   Majesty-my WH-DAT.SG in   evil-ACC.SG hear-NPST.2SG

'or if you hear evil about My Majesty in (the mouth of) anyone,...'

<div align="right">(CTH 42.A: KBo 5.3 i 27 (MH/NS))</div>

(45) *kuiš=ma=za   ŠA MAMETI kuedani kišari*
      WH-NOM.SG=CNTR=REFL of   oath   WH-DAT.SG become-NPST.3SG

'But (if) anyone becomes "of oath" (sworn comrade) to someone,...'

<div align="right">(CTH 255.1.A: KUB 21.42 iii 5–6 (NH))</div>

"Multiple Partitive Constructions," a term coined by Haspelmath (1997: 177), is yet another environment in which a bare *wh*-word is interpreted as an existential quantifier. In these clauses, the bare *wh*-form always occurs together with at least one instance of the same bare *wh*-form in a parallel coordinate clause (hence 'multiple'), and each bare *wh*-form denotes a subset (hence 'partitive') of a larger, contextually given set, so the translation 'some (people)' is more appropriate than 'someone'. In Hittite, the bare *wh*-form is often marked by the contrastive focus enclitic *=ma*, and the verb may be gapped in all clauses but one.

(46)   *nu=kan*   *kuit*   *kuenner*   *kuit=ma=za=kan*   *anda ēpper*

       CONN=PTCL   WH-ACC.SG   slay-PST.3PL   WH-ACC=CNTR=REFL=PTCL   PVB   seize-PST.3PL

       (i) 'And *some* (of them) they slew, *some* (of them) they seized.'

       (ii)'*Who did they slay? *But who did they seize?'

<div align="right">(CTH 40: KBo 5.6 i 21 (NH))</div>

(47)   KUR ^{URU}*Arzauwa=ma=kan ḫuman paršta*   *nu*   *kuiēš*   NAM.RA *INA*

       land   A.=CNTR=PTCL   all   escape-PST.3SG CONN WH-NOM.PL captive   DAT

       ḪUR.SAG *Arinnandan pāer*   *nu=za=kan*   ḪUR.SAG *Arinnandan ēpper*

       Mount A.   go-PST.3PL CONN=REFL=PTCL Mount A.   take-PST.3PL

       kuiēš=ma   NAM.RA.ḪI.A *parā INA* ^{URU}*Pūranda pāer*   *nu=za=kan*

       WH-NOM.PL=CNTR captive-NOM.PL   further DAT   P-town   go-PST.3PL CONN=REFL=PTCL

       ^{URU}*Pūranda ēpper*   *kuiēš=ma=kan*   NAM.RA.MEŠ *aruni*   *parranda ITTI*

       P.-town   take-PST.3PL WH-NOM.PL=CNTR=PTCL captive-NOM.PL   sea-DAT.SG across   together.with

       ^m*Uḫḫa*.LÚ *pāer*

       U.-PN   go-PST.3PL

       'But all Arzawa escaped: *some* captives went to Mount Arinnanda–they took refuge in

       Mount Arinnanda– *some* captives went further to Pūranda–they took refuge in Pūranda–

       some captives went together with U. across the sea.'

<div align="right">(*Ten Year Annals of Muršili II, year 3*, CTH 61.I.A: KBo 3.4 ii 33–36 (NH))</div>

This type of construction is treated in more detail in Chapter 5 along with other correlated structures: the *wh*-items have clearly moved from their base generated position to the specifier position of CONTRASTIVEFocus.

2.2.3   *Wh*-words as universal quantifiers

In addition to being able to be interpreted as interrogative and existential quantifiers, *wh*-words can also be interpreted as universal quantifiers when they occur with the geminating additive focus enclitic *-(y)a*[6], as seen in:

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[6] The usage of the conjunction in Hittite as a postfix to the inflected form of the *wh*-word to derive a universal interpretation is analogous to Japanese where *-mo* is used in conjunction environments such as 'A and B', and serves as the marker on *wh*-words to form a universal quantifier as in *dare-mo*. This is a very interesting cross-linguistic phenomenon recently treated by Szabolcsi 2015. This topic ought to be further investigated in the ancient Indo-European languages.

(48) *kuišš-a=z*   10 GÍN KÙ.BABBAR *dāi*
      WH-NOM.SG-CNJ=REFL 10 shekels of silver   take-NPST.3SG

      'Everyone/each takes for oneself 10 shekels of silver.'

(CTH 631.1.B: KBo 17.11+ i 49 (OH/OS))

[For all x [x is a person] x takes for oneself 10 shekels of silver]

(49) *ŠA-PAL* 2 ^{NINDA}*zinnipiaš=ma*   *kuedani-ya* 7 ^{NINDA}*iduriš kitta*
      under   2 zipinni.bread-DAT.PL=CNTR WH-DAT.SG-CJN 7 iduri.bread   lie-NPST.MID.3SG

      'Under each one of the two zinnipi-breads lie/are placed[7] seven iduri-breads.'

(CTH 476: KBo 5.1 ii 17-18 (NH))

[For all x [x is a zinnipi bread], seven iduri breads are placed under x]

In (49) the *wh*-word *kuedani=ya* can only be interpreted as 'every/each' and not 'and under which'. Similarly in (48), *kuišš=a* only has the reading of 'everyone/each one', not 'and who'.

2.2.4   *Wh*-words as Indefinites

In Hittite, as well as the other Anatolian languages, the *wh*-word is used to form indefinite NPs with the addition of a postfix to the inflected bare *wh*-form. In Hittite, the postfix *-ki* is attached to the inflected bare *wh*-word to form an indefinite.

(50) Hittite

bare form		bare+postfix	
kuiš	'who'	*kuiški*	'someone'
kuit	'what'	*kuitki*	'something'
kuwapi	'where'	*kuwapikki*	'somewhere'
kuwapi	'when'	*kuwapikki*	'sometime'

---

[7]As often with numbers above one, the subject is grammatically singular, hence the singular verb.

(51) *nu=šmaš   šardiyaš   kuiški   paizzi*
CONN=them-DAT.PL supporter-NOM.SG WH-NOM.SG-INDF go-NPST.3SG

'And some supporter goes to them.'

In sum, *wh*-words in Hittite can be interpreted as interrogative words, indefinite words, existential quantifiers, or universal quantifiers. Following Cheng's (1991) analysis of *wh*-words in Mandarin Chinese and Polish, I will argue below that the *wh*-words in Hittite are also in fact polarity items. I consider the particle *nekku* in (42) as a type of negative yes-no question particle[8].

2.3   Heim's (1982) Theory of Indefinites

Following Lewis (1975), Heim (1982) proposes that an indefinite is a free variable in the logical representation, with no inherent quantificational force of its own, and gets bound in one of two ways. The first way an indefinite can get bound is by being under the scope of an unselective quantifier, for example adverbs such as 'always' in (52), and 'sometimes' in (53):

(52)   a.   If a man owns a donkey, he always beats it.

       b.   For all x [x a man] and for all y [y a donkey], such that x owns y, x beats y.

(Heim, 1982: 123)

(53)   a.   Sometimes, if a cat falls from the fifth floor, it survives.

       b.   There exists x [x a cat] such that x survives after falling from the fifth floor.

(Heim 1982: 82)

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[8]The particle *nekku* marks a negative question that strongly suggests an affirmative answer (Hoffner and Melchert, 2008: 345–46). Synchronically, it contains the disjunctive marker *-(a)ku*, used in 'whether . . . or' constructions. Etymologically, it is thought to reflect PIE *$*ne$-$k^w e$*, and is cognate with Latin *nec*, *neque*. Eichner (1971: 31–34) suggests to connect this particle with the PIE question particle *$*-ne$*, as reflected in Latin *-ne* and Avestan *-nā* (Kloekhorst, 2008: 601–2).

As the (b.) paraphrases show in (52) and (53), the indefinite NPs receive different quantificational force. In (52), both indefinite DPs 'a man' and 'a donkey' are interpreted as universal, whereas in (53), the indefinite DP 'a cat' is interpreted as existential. It is for this reason that Heim proposes that indefinites are free variables. It is the adverbs of quantification which determine the quantificational force of the indefinites. The second way for an indefinite to be bound is by the rule of existential closure. Consider (54):

(54)   a.   A cat was at the door. It wanted to be fed.

       b.   There exists x, [x a cat], such that x was at the door and wanted to be fed.

<div align="right">(Heim 1982: 166)</div>

In (54), there are no overt binders or invisible necessity operators, and the indefinite phrase 'a cat' still receives an existential interpretation. Heim (1982) resolves this issue by proposing a rule of existential closure which introduces a non-overt existential ($\exists$) quantifier which binds the indefinite NP, giving it an existential interpretation.

2.4   Cheng's (1991) Theory of *wh*-words

2.4.1   Japanese and Mandarin Chinese *wh*-words

In her analysis of *wh*-words in Mandarin Chinese, Cheng (1991) opens her discussion with Nishigauchi's (1990) analysis of Japanese *wh*-words. Taking Heim (1982) as a point of departure, Nishigauchi extends Heim's analysis of indefinites based on sentences like (55)–(57), and proposes that *wh*-words in Japanese do not have quantificational force of their own.

(55) *Dare-ga nani-o   itu   doko-de kai-masi-ta ka?*
who-NOM   what-ACC when where-at   buy-PST   Q
'Who bought what when and where?'

[For which [x, y, z, k] [x a person, y a thing, z a time, k a place] such that x bought y at z

and at k?

(56) *Dare-mo-ga nani-ka-o   tabe-te-iru*
who-MO-NOM   what-INDF-ACC eating-be
'Everyone is eating something'

[For all x [x a person]], [some y [y a thing]], x is eating y.

(57) *Dare-(o)-mo ais-a-nai*
who-ACC-ever   love-not
'I do not love everyone.'

[For all x [x is a person]] it is not the case that I love x.

The quantificational force is provided by the unselective binders such as *-mo* or *-ka*[9].
The sentential *wh*-particle *-ka* is associated with interrogative force; the non-sentential *-ka*
is associated with existential force, and *-mo* is associated with universal force. In sum,
Japanese *wh*-words are like indefinite NPs: they bear no quantificational force and thus they
always require a binder.

Cheng (1991) then links the behavior of *wh*-words in Japanese as indefinites to that of
wh-words in Mandarin Chinese. In Mandarin Chinese, *wh*-words may also be interpreted as
interrogatives, existential quantifiers, and universal quantifiers. Her data is as follows[10].

(58) *hufei chi-le sheme (ne)*
Hufei   eat-ASP what   Q_WH
'What did Hufei eat?'

---

[9]As Cheng (1991:123) reports, *-mo* is used in conjunction environments such as 'A and B' while *-ka* is
used in disjunction environments such as 'A or B'.

[10]Examples from Cheng 1991: 113, 114, 116. Note that yes-no questions in Mandarin can be marked by
a particle (59) or expressed by the A-not-A construction (60).

(59) *qiaofong mai-le sheme ma*
Qiaofong   buy-ASP what   Q$_{\text{YN}}$
'Did Qiaofong buy anything?'

'*For what thing such that Qiaofong bought it or not?'

(60) *qiaofong you-mei-you mai sheme*
Qiaofong   have-not-have   buy   what
'Did Qiaofong buy anything?

'*Which of buying or not buying does he do to what?'

(61) *guojing mei-you mai sheme*
Gouging   not-have   buy   what

   a.   'Guojing didn't buy anything.'

   b.   'What didn't Guojing buy?'

(62) *botong sheme dou chi*
Botong   what   all   eat
'As for Botong, he eats everything.'

(63) *shei dou kan-guo zhe-ben-shu*
who   all   read-ASP   this-CL-book
'Everyone has read this book.'

Cheng (1991) extends Nishigauchi's (1990) analysis in proposing that *wh*-words in Mandarin Chinese are best analyzed as polarity items. This is based on the fact that the interpretation of a *wh*-word is dependent upon the presence of another element within the sentence. The interrogative reading is obtained with the presence of a *wh*-particle (*ne* or its null counterpart) and under the scope of negation. The existential reading is obtained in yes-no questions, A-not-A yes-no questions, under the scope of negation and in conditional clauses. The universal reading is obtained under the scope of *dou* with the additional restriction of being in a Spec-Head relationship. This is summarized as follows:

(64)   a.   Q$_{wh}$ . . . . . . wh (Interrogative reading)

   b.   Q$_{yes/no}$ . . . wh (Polarity/existential reading)

   c.   Neg . . . . . . wh (Interrogative or polarity/existential reading)

   d.   wh . . . . . . dou (Universal reading in a Spec-Head relationship)

As evidence to support that *wh*-words in Mandarin Chinese are different from indefinites, Cheng contrasts (65a.) with (65b.):

(65)   a.   *botong kan-wan-le   yi-ben wuxia-xiaoshuo*
         Botong   read-finish-ASP one-CL   Kungfu-novel
         'Botong finished reading a Kung-fu novel.'

   b.   *botong kan-wan-le   sheme*
         Botong   read-finish-ASP what
         'What did Botong finish reading?
         '*Botong finished reading something.'

The indefinite NP in (65a.) appears in the object position and it can be interpreted as existential by being bound by existential closure. In contrast, an existential reading of the *wh*-word in (65b.) is not possible when it appears without a negative marker or a yes-no question morpheme.

Given that the existential reading arises in environments that fall within standard polarity environments, and that the *wh*-word always requires a trigger to be interpreted as such, Cheng concludes that they are in fact polarity items.

2.4.2   *Wh*-words in Multiple Fronting languages

Cheng (1991) proposes to account for the *wh-*/indefinite alternation in multiple fronting languages in the same spirit. In languages like Polish, Bulgarian and Hungarian, bare *wh-* forms correspond either to an interrogative reading, or that of a polarity item in certain affective environments. Given that an indefinite reading of a *wh*-word is dependent upon the presence of a given affix, as seen in the examples (66)–(68), Cheng states that the null

hypothesis is that the *wh*-words themselves do not have inherent quantificational force, but are rather decomposable into a core and a null *wh*-determiner.

(66) Polish

bare form		bare+postfix	
kto	'who'	*ktoś*	'someone'
gdzie	'where'	*gdzieś*	'somewhere'
kiedy	'when'	*kiedyś*	'sometime'
jaki	'what sort of '	*jakiś*	'some sort of'

(67) Bulgarian

bare form		prefix+bare form	
kój	'who'	*njákoj*	'someone'
kudé	'where'	*njákude*	'somewhere'
koga	'when'	*njákoga*	'sometime'
kakvó	'what sort of '	*njákakvo*	'some sort of'

(68) Hungarian

| bare form		prefix+bare form	
ki	'who'	*valaki*	'someone'
hol	'where'	*valahol*	'somewhere'
mikor	'when'	*valamikor*	'sometime'
mi	'what '	*valami*	'something'

Let us begin with the indefinite reading. Cheng (1991: 84) proposes that it is the affix in these languages which contributes existential force to the *wh*-form. Taking Hungarian *valaki* 'someone' as an example, Cheng decomposes the word into *ki* as the "core" of the word, which is void of any inherent quantificational force, and *vala*, the part that contributes existential quantificational force and that binds the core. She proposes to treat the affixes as determiners, and thus *valaki* is analyzed as a DP, as shown in (69):

43

(69)   Hungarian *valaki*

```
                DP
               /  \
                   D′
                  /  \
                 D    NP
                 |    |
               vala   ki
```
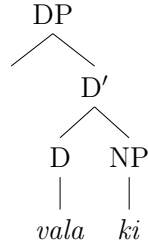
Unlike Japanese and Mandarin Chinese, languages like Polish and Hungarian do not have *wh*-particles, and consequently the core cannot get interrogative force from such particles. Cheng (1991: 86) proposes that when the core is interpreted as an interrogative, a null determiner is occupying the D position. It is this phonologically null determiner that has interrogative force: $[_D \varnothing_{[+wh]}]$. The structure of Hungarian *ki* with interrogative force is proposed as in (70)

(70)   Hungarian *ki*

```
                DP
               /  \
                   D′
                  /  \
                 D    NP
                 |    |
               Ø_wh   ki
```
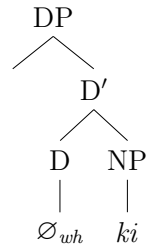
According to Cheng, the phonologically null determiner that bears a [+wh] feature, $[_D \varnothing_{[+wh]}]$, binds the core *ki* in (70) and contributes interrogative force. Multiple fronting of *wh*-words is attributed to a licensing requirement. The $[_D \varnothing_{[+wh]}]$ must be licensed. Polish has no Cº yes-no particle that merges in the head of the Force Phrase, and thus no *wh*-particle. As such, at least one *wh*-word needs to move to the Specifier position of the Force Phrase to type the clause as a *wh*-question. After movement of the *wh*-word with its phonologically null determiner which bears the [+wh] feature ($[_D \varnothing_{[+wh]}]$), Specifier-Head agreement takes place and the head of the Force Phrase is marked with a [+wh] feature.

Cheng proposes that the $[_D \; \varnothing_{[+wh]}]$ has to be licensed by a Forceº which is marked [+wh]. When the $[_D \; \varnothing_{[+wh]}]$ is in the Specifier position of Forceº, it is licensed by the head Forceº by being in a Spec-head agreement relationship. The other *wh*-words need to be in a local relationship with the [+wh] head to be licensed, as exemplified in (71):

(71)   a.   *Co komu Monika dala*
              what to-whom Monica   gave
              'What did Monica give to whom?'

       b.   *Kto sie komu   podoba*
              who   REFL to-whom like
              'Who likes whom?'

In Polish, as mentioned above, a bare *wh*-form can also be interpreted as a polarity item under the following affective environments[11]: in yes-no questions and in conditional sentences. Consider the following sentences in which the bare *wh*-form is interpreted as a polarity item:

(72) *czy   Janek tam kogo   zobaczył*
       whether Janek   there who-ACC saw
       'Did Janek see anyone?'

(73) *Ježeli kto tu zapali papierosa, to ja się   wścieknę*
       if   who here will-light cigarette   then I   REFLEX will-get-mad
       'If anyone smokes here, then I will get mad.'

The analysis proposed earlier regarding the wh/indefinite readings is extended to account for these cases. Given that Cheng posits a phonologically null determiner $[_D \; \varnothing_{[+wh]}]$ when we see a bare *wh*-form, the polarity reading arises when the *wh*-words occur without any determiner, i.e. only the *core*[12] of the *wh*-words is present. Thus the *wh*-word itself is a polarity item which requires to be licensed under the proper triggering environments (i.e.

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[11]Apparently, the use of bare forms as polarity items is archaic, see Cheng 1991: 104 fn 23.

[12]That is *ki* without $[_D \; \varnothing_{[+wh]}]$ in the case of Hungarian, or *kto* without $[_D \; \varnothing_{[+wh]}]$ in the case of Polish in example (73).

yes-no questions, conditional clauses). The existential reading arises by means of the rule of existential closure, which introduces a non-overt existential quantifier. The non-overt existential quantifier can then bind the *wh*-word and give it existential force.

2.4.3 The case of English

Under Cheng's (1991) proposal, for English *wh*-words, the [+wh] feature is incorporated with the core at the lexical structure. Thus in English, the [+wh] feature is not a determiner and there is no $[_D \varnothing_{[+wh]}]$. In current theory, the [+wh] feature can be thought of as a bound morpheme in English. Thus the morpheme [+wh] selects a piece of nominal structure such as *person/one* that spells out *who*. Forms like *somewhere, somehow* are also lexically incorporated forms, just like compounds. Thus they differ from multiple fronting languages in that the element which contributes quantificational force to the core is incorporated with the core at the lexical structure. The existential licenser is not separate from the core in syntax. Further, there are words like *someone/anyone/no one* and *something/anything/nothing* in English, but not **somewho/*anywho/*no who*. Thus in line with Chomsky (1964) and Katz & Postal (1964), Cheng suggests that the *wh*-word *who* is the incorporated form of [*wh* + one] and *what* is the incorporated form of [*wh* + thing], and *someone* is the incorporated form of [some + one]. The core of the wh-word *who* is thus *one*.

In sum, according to Cheng (1991), languages can differ as to whether or not incorporation of the [+wh] or other elements which carry quantificational force occurs at the lexical structure. English is a language that does have incorporation at the lexical level, while multiple fronting languages, such as Polish, do not.

2.5 Hittite *kui-* is a polarity item

As established in 2.4.3, following Cheng (1991), languages differ as to whether there is lexical incorporation of the [+wh] feature: English is a language with lexical incorporation, while

Polish is not. Secondly, languages differ as to whether the core is a polarity item, or not. In Polish-type and Mandarin Chinese-type languages, the core of a *wh*-word is a polarity item, but not in English. Lastly, in multiple fronting languages, *wh*-words need to move for reasons independent of Clausal Typing. As shown in the first part of this chapter, bare *wh*-words in Hittite are also interpreted as existential in affective environments. The various interpretations derived from *wh*-words in Hittite is summarized below in (74):

(74)   Hittite *kui-* Summary:

    a.   Q$_{wh}$ . . . . . . *kui-*   Interrogative reading

    b.   Neg . . . *kui-*   Interrogative or polarity/existential reading

    c.   Conditional . . . *kui-*   Polarity/existential reading

    d.   . . . *kui–ki* . . .   Polarity/existential reading

    e.   . . . *kui-–(y)a*   Universal/distributive reading

Given the striking similarity in the behavior of *wh*-words in Hittite to that of *wh*-words in Mandarin Chinese and Polish, I extend Cheng's (1991) proposal to Hittite and suggest that Hittite is not a language that displays lexical incorporation of the [+wh] feature, and that the *core* of the *wh*-word is a polarity item. As such, the core is only licensed in a polarity triggering environment. Further, since the *core* does not have inherent quantificational force, it requires a binder, which provides quantificational force. In the chapters which follow, I examine in more detail the syntax of indefinites and interrogatives. In particular, I argue that for the interrogative reading, the *wh*-form consists of [$_D$ $\varnothing_{[+wh]}$] and the core *kui-*. However, unlike Polish, the indefinitizing postfix *-ki* in Hittite does not provide quantificational force to the indefinite form: indefinites are subject to the rule of existential closure. Given this preliminary discussion on the nature of *wh*-words in Hittite, I offer a novel proposal on the relativization strategy found in Hittite which captures both the semantics and syntax of those clauses.

2.6 Diachronic notes on Postfixes in Anatolian

Within the Anatolian branch, all daughter languages continue the PIE form $*k^wi\text{-}*k^wo\text{-}$, and hence we can trivially reconstruct the Proto-Anatolian form $*k^wis$ 'who'. The Anatolian languages also continue a PA additive enclitic conjunction $*H_2o$ 'and, also':

(75) Anatolian developments

PA	>	Hitt.	Pal.	CLuv.	HLuv.	Lyc.	Lyd
$*k^w$is	>	kuiš	kuiš	kuiš	REL	tis	qis
		/k^{w}is	/k^{w}is/	/k^{w}is/	/k^{w}is/	/tis/	/kis/
'who'		'who'	'who'	'who'	'who'	'who'	'who'
$*H_2o$	>	-(y)a	-(y)a	=ḫa	=ha	=ke	—
		CC=a/V-ya					
'and/also'		'and/also'	'and/also'	'and/also'	'and/also'	'and/also'	

However, although the Anatolian languages used the same particles to construct derivatives, the assignment of function varies. Outside of affective environments, the indefinite postfix in Hittite is *-ki* when the last vowel in the interrogative base is *–i-*, for example nom.sg.c *kuiški*, acc.sg.c. *kuinki*, but *–ka* when its not, as in the genitive singular *kuelka*. Some scholars are tempted to equate Hittite *kuiški* 'someone', with Latin *quisque* 'whoever' from PIE $*k^wis\text{-}k^we$ (with PIE $\text{-}k^we$ 'and, also'), as does Haspelmath (1997). But the Hittite indefinite form *kuiški* 'someone' is an exact cognate with the Lycian marked generalizing relative pronoun *tise* 'whatever'. This means that the Hittite postfix *-ki* and the Lycian postfix *-se* are derived from the Proto-Anatolian proximal demonstrative $*\hat{k}i/*\hat{k}e$ (>Hitt. *kā-/kū-/ki-*, Luv *zā-* /tˢa-/ 'this'). As an enclitic, PA $*\hat{k}i/*\hat{k}e$ is also found in Hittite *kinun* 'now' from PA $*\hat{k}i\text{-}num$ (cf. Latin *nunc* < PIE $*num\text{-}\hat{k}e$, see Kloekhorst (2008: 491)).

While the enclitic additive conjunction results in the universal/distributive *kuišša* 'each/every' in Hittite, in the Luvic subbranch it is the postfix that is used to form the indefinite pronoun: CLuv. *kuiš=ḫa* 'someone/anyone'; HLuv. REL*(-i)-sa-ha* /k^{w}is=Ha/ 'someone/anyone'; and

Lyc. *tike* 'someone/anyone'. Furthermore, Lydian continued PIE *nam* as a prefix in the generalizing relative pronoun *nãqi* 'whoever' (cf. with reverse order Latin *quīnam*). The Lydian indefinite form is *qi-* + *=k*, however with our current knowledge of Lydian, we cannot determine whether the Lydian postfix *=k* has developed from PA *$\hat{k}i$/*$\hat{k}e$, PA *=*H_2o*, or even PIE *=*k^we*.

This suggests that at the stage of Proto-Anatolian, there was no indefinite postfix, and that languages that developed a postfix did so in parallel but independent fashion.

Chapter 3

The Syntax of Indefinites in Hittite

3.1 Introduction

In this chapter, I address the singular distribution of indefinites in Hittite. I include in the present discussion data from other ancient and modern IE languages, as well as non-Indo-European languages. In Hittite, the indefinite surfaces in two forms: as the bare interrogative stem *kui-* in conditional clauses, relative clauses and under the scope of negation, or as the inflected interrogative plus the indefinitizing postfix *-ki/-ka*. Their peculiar distribution has already been observed by various scholars, and is best summarized by Hoffner and Melchert (2008: 286). Descriptively, (i) the indefinite *kui-/kui-ki* remains low in the clause, in the periphery of the finite verb, even in the nominative case, which results in an atypical OSV linearization in an otherwise regular SOV word order language[1]; (ii) In the absence of anything else within the predicate, it surfaces post verbally; (iii) When the Hittite indefinite *kuiš/kuiški* is used as a determiner, and the modified noun has no other modifying adjective, *kuiš/kuiški* immediately follows the noun; (iv) Indefinites in Hittite are also known to

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[1]Hoffner and Melchert (2008: 406) comment in footnote 1 that "as usual in this formula, "O(bject)" actually represents any constituent of the predicate except the finite verb, not only the direct object of transitive verbs but also such things as adverbs, negations, postpositional phrases, and infinitives. "S(ubject)" includes nouns (and noun phrases), accented personal pronouns, demonstrative pronouns, but not the indefinite pronoun-adjective *kuiški*."

participate in the distraction of two constituents[2], whether it be a periphrastic perfect, post-positional phrase, genitival phrase, or a noun phrase composed of an adjective plus noun. The following four examples are representative of the above given observations:

(76) *nu* ZAG   *šekkantet*   ZI-*it*   *anda lē kuiški*   *zāḫi*
      CONN border-ACC.SG knowing-INST.SG mind-INST.SG PVB   NEG WH-NOM.SG-INDF strike-NPST.3SG

'Do not[3] let anyone deliberately attack the border.'

(CTH 255.1.A: KUB 26.12 ii 15–16 (NH))

(77) *namma=mu mān uppāi*   *kuiški*   *mān=mu ŪL kuiški*   *uppāi*
      furthermore=me if   send-NPST.3SG WH-NOM.SG-INDF if=me   NEG WH-NOM.SG-INDF send-NPST.3SG
      nu=mu ṬUPPA^HI.A *ḫatrātten   nu   šigallu*
      CONN=me tablet-PL   write-IMP.2PL CONN know-IMP.1SG

'Furthermore, write letters and let me know whether someone will send (oil) to me, or someone will not send (it) to me.'

(CTH 187: KBo 18.2 rev. 8–12 (NH))

(78) *nu=šmaš*   *šardiyaš*   *kuiški*   *paizzi*
      CONN=them-DAT.PL supporter-NOM.SG WH-NOM.SG-INDF go-NPST.3SG

'And some supporter goes to them.'

(CTH 291: KBo 6.3 ii 31 (OH/NS))

(79) *naššu* DINGIR-*LIM-ni kuiški*   *peran wašti*
      or-if   god-DAT.SG   WH-NOM.SG-INDF before sin-NPST.3SG

'Or if someone sins before a deity.'

(CTH 6: KUB 1.16 iii 60 (OH/NS))

In an attempt to provide a theoretically driven analysis for this 'special' syntax of indef-inites, I have divided the goals of this chapter into two main parts. The first aim consists of reviewing the theoretical literature which treats the semantic derivation of indefinites based

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[2]This is referred as *hyperbaton* in Indo-European studies, and scrambling, or discontinuous constituents in Linguistics.

[3]The Hittite negation *natta*, also written Akkadographically as *ŪL*, is the ordinary sentence negation, while *lē* is a prohibitive negative; see Hoffner and Melchert, 2008: 344.

on syntactic structure. Of particular interest is the work of Molly Diesing (1992), in which she proposes a "tree-splitting algorithm," or Mapping Hypothesis:

(80)   *Mapping Hypothesis*

Material from the vP is mapped into the nuclear scope.

Material from the IP is mapped into the restrictive clause.

I will discuss this hypothesis in detail below in 3.3. Its relevance here is that since the main theme of Diesing's hypothesis contrasts the interpretation of material contained within the domain of the vP with that within the IP, a particular focus is given to the interpretation of indefinite subjects, which is of interest for our purposes.

The second aim takes into consideration indefinites cross-linguistically, in particular where the indefinite and interrogative pronouns share the same base, as is the case for Hittite, all other ancient IE languages, and for Proto-Indo-European. Various strategies, including syntactic and prosodic, are relied upon for disambiguation between the interrogative and indefinite functions.

Thus drawing on data from Hittite, other ancient and modern Indo-European and other cross-linguistic comparanda, we may summarize the central questions of this chapter as follows:

(i) Is there a syntactic motivation for indefinite subjects in Hittite to remain within the periphery of the finite verb, and what role does the syntactic representation play in the derivation of the semantic representation of indefinites?

(ii) What disambiguation strategy between indefinite and interrogative function is employed in Hittite?

I argue in the following sections that the right generalization for the surface positioning of indefinites in Hittite involves two factors: the syntax-semantics interface, and the syntax-

phonology interface. To make my analysis more transparent, I devote more attention to subject indefinites found in the Hittite corpus, but the analysis applies to all indefinites. Depending on the desired semantic interpretation, two *syntactic* positions are available: one low, and one high. For an existential interpretation, the indefinite subject *kuiš(-ki)* will remain in its base generated position in [Spec, *v*P], the "low" position. In contrast, to receive a presuppositional reading, the indefinite will undergo Quantifier Raising to [Spec, IP], the "high" position. Once the indefinite is placed by the Syntax, its final surface position is determined by the syntax-phonology interface to satisfy *prosodic* restrictions: the indefinite pronoun in Hittite is prosodically deficient and enclitic. That the indefinite in Hittite– and in Anatolian– is prosodically deficient matches the prosodic feature of its cognates in other ancient IE languages, and is thus a feature retained from PIE. I motivate this in sections 3.4.1–3.4.2 and in section 3.5.1.

3.2 Defining "Low": Restrictions on the distribution of Indefinites

Descriptive observations such as "low in the clause", or "within the periphery of the verb", or that an indefinite subject appears "to the right of overt objects", all correspond to being syntactically positioned within the vP/VP domain (see the partial tree (92) in 3.3.2 below). In contrast, indefinites that are described as "following the clitic chain" or "to the left of overt objects" may either belong to the IP domain, or the CP domain. That indefinites predominantly occupy the vP/VP domain is not just found amongst Indo-European languages. As Hale (2014) points out, indefinites in Turkish (an SOV language) *must* occupy a pre-verbal position, and "indefinite arguments do not seem to undergo movement up into the TP/IP domain as freely as do definite arguments (...), and thus an indefinite subject 'remains' in the vP/VP domain under conditions in which a definite subject need not." In the following examples from Turkish, the adverb *dün* 'yesterday' marks the left edge of the

vP domain, as it is an adjunct to vP: when an NP occurs to the left of the adverb, it is outside the vP domain; when it is to the right of the adverb, the NP is contained within the vP domain. As such, only when an indefinite (whether a subject or an object) is found to the right of the adverb *dün* 'yesterday', is the sentence found to be grammatical:

(81) *Dün   adam gel-di*
      yesterday man   come-PST
      'Yesterday, a man/the man arrived.'

(82) *Adam dün   gel-di*
      man   yesterday come-PST
      'Yesterday, the man/*a man arrived.'

(83) *Mehmet suşi-y-i dün   ye-di*
      M.   sushi-ACC yesterday eat-PST
      'Mehmet ate the sushi yesterday.'

(84) **Mehmet suşi dün   ye-di*
      M.   sushi yesterday eat-PST
      'Mehmet ate sushi yesterday.'

(85) *Mehmet dün   suşi ye-di*
      M.   yesterday sushi eat-PST
      'Mehmet ate sushi yesterday.'

Returning to Hittite, we see examples (86)–(88) display the same distribution as the indefinites in the above Turkish examples: the indefinite substantival subject remains low in the clause, in the periphery of the verb, with the Objects preceding the indefinite subject.

(86) *nu=wa=mu   mān idālun   memian   kuiš   [memai]*
      CONN=QUOT=me if   evil-ACC.SG word-ACC.SG WH-NOM.SG tell-NPST.3SG
      'If anyone tells me a bad word.'

(CTH 147: KUB 14.1+ rev. 45, (MH/MS))

(87)   *našma=wa=kan* LUGAL^{MEŠ} DUMU^{MEŠ} LUGAL *kuiški*   *zammurāizzi*
      or=QUOT=PTCL   kings   sons   king   WH-NOM.SG-INDF slander-NPST.3SG

     'Or someone slanders the kings and princes.'

(88)   [*takku* LÚ-*a*]*n našma* MUNUS-*an š*[*ulla*]*naz*   *kuiški*   *kuenzi*
     if   man-ACC or   woman-ACC   quarrel-ABL.SG WH-NOM.SG-INDF kill-NPST.3SG

     'If someone kills a man or a woman in a quarrel.'

This low positioning of the indefinite is not unique to Hittite. Hale (2014) has already observed the resemblance in the syntactic behavior of indefinites between Hittite and Vedic prose. Consider the following Vedic prose example (from Hale 2014) where the indefinite also occurs in the periphery of the verb, in an otherwise regular SOV language:

(89)   *no   hi   mánasā   dhyáyataḥ   káś   can(á) -àjānáti*
     NEG since mind.INST thinking.ACC.PL WH.NOM INDF   understands
     'because no one understands those thinking with their mind'

I will take this finding about indefinites as a point of departure in my analysis. In the following section, I will first briefly recapitulate the description of Heim (1982) from Chapter 2, and I then summarize Diesing's (1992) proposal on mapping indefinites cross-linguistically. Her account captures syntactic and semantic universal generalizations as to why indefinites surface low in the clause across many languages, and also explains why in certain contexts they do not. I will not undertake to present an extensive overview of Diesing's (1992) proposal , but will rather highlight the components that are central to the main thesis of this chapter.

3.3 Mapping Indefinites: Diesing's (1992) Proposal

3.3.1 The starting point: Heim's (1982) Theory of Indefinites

Following Lewis (1975), Heim (1982) proposes that an indefinite is a free variable in the logical representation, with no inherent quantificational force of its own, and gets bound in one of two ways: by being under the scope of an unselective quantifier (for example 'always' in 'If a man owns a donkey, he always beats it.' Heim, 1982:123); or by an operation of existential closure, which puts an implicit unselective existential operator (∃) on texts and on the nuclear scope of tripartite structures (as in 'A cat was at the door. It wanted to be fed.' Heim 1982:166). The tripartite logical form proposed by Heim (1982) is as follows in (90) (example from Heim 1982: 89):

(90) *Quantifier* *Restrictive Clause* *Nuclear Scope*
      Every   man   saw a cat
      Every (x)   (x is a man)   (a cat (y)) ∧ x sees y

The restrictive clause specifies the set of entities that the quantifier *every* quantifies over, and in the case of (90), every entity that is a man. The output of the rule of existential closure which applies to the nuclear scope is (91):

(91) Every (x)   (x is a man)   ∃(y) (cat(y)) ∧ x saw y
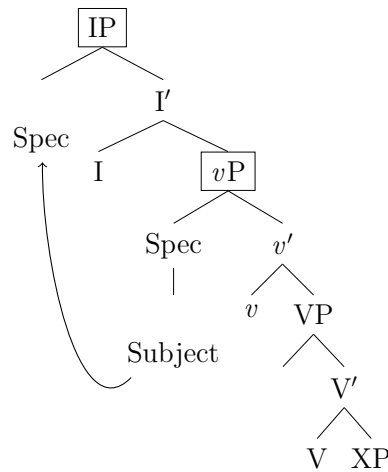
This is Diesing's (1992) starting point, but she argues against Heim (1982) that indefinites can not be treated uniformly, namely that it is not the case that indefinites are uniformly without quantificational force. Furthermore, she maps the tripartite logical representation, sketched out above in (90), to the syntactic structure of the clause, shown in (94) in the following section.

3.3.2 The *v*P internal hypothesis

Before addressing Diesing's tree-splitting algorithm, I will first briefly review the *vP-Internal Subject Hypothesis* from Chapter 1, namely that the subject of a sentence is base generated

within the verb Phrase projection (the vP), as it first merges into the syntactic configuration in the specifier position of vP. This in turn offers two possible syntactic positions for subjects. One subject position is available in the specifier of the Inflectional Phrase (the [Spec, IP], or *IP subject*). The other subject position is vP-internal, in the specifier of the verb Phrase [Spec, vP] (*vP subject*). This is illustrated in the following tree:

(92)   *The vP-Internal Subject Hypothesis*

```
                    ┌────┐
                    │ IP │
                    └────┘
                   ╱      ╲
                  ╱        I′
              Spec        ╱  ╲
                ↑        I    ┌────┐
                │             │ vP │
                │             └────┘
                │            ╱      ╲
                │        Spec        v′
                │         │         ╱ ╲
                │         │        v   VP
                └──── Subject          ╱╲
                                      V′
                                     ╱ ╲
                                    V   XP
```

Languages may differ in which syntactic position the subject may surface. English, for instance, is a language for which all subjects must move to [Spec, IP]. In Modern German, however, subject DPs may surface either in [Spec, IP] or [Spec, vP], as will be discussed in further detail in section 3.3.3.2 below.

3.3.3   Tree Splitting: The Mapping Hypothesis

Diesing (1992) proposes that there are two types of indefinites: those that form restrictive clause structures, and those that are bound by existential closure. The syntactic nature of the derivation, as represented by the tree-splitting algorithm, leads to the consequence that these two types of indefinites are themselves distinguished syntactically by the operation of the rule of Quantifier Raising (QR).
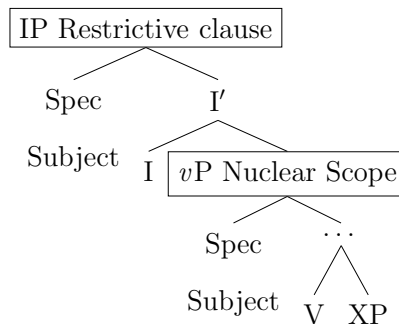
3.3.3.1 Weak vs Strong determiners

Milsark (1974) notes that multiple interpretations can be assigned to indefinites. A syntactic diagnosis to distinguish between his classification of strong versus weak determiners is done through *there*-insertion: 'weak' determiners can appear with a subject DP in *there*-insertion contexts, whereas 'strong' determiners cannot (the so-called definiteness effect):

(93)   a.   *There is/are the/every/all/most ice cube(s) in my drink.

          b.   There is/are a/some/a few/many/three ice cube(s) in my drink.

The first class, strong determiners, are unambiguously presuppositional. However, the second class, weak determiners, are ambiguous between a presuppositional and cardinal reading. Diesing (1992) proposes that this distinction between strong and weak determiners results from how they are treated at the Logical Form (LF) and reclassifies Milsark's (1974) classification into indefinites which bear Quantificational force of their own, and those without Quantificational force. Thus, strong and weak determiners differ with respect to Quantificational Raising.

(94)   *The Tree Splitting Hypothesis*

Strong determiners undergo QR and adjoin to the IP to receive a presuppositional reading (within the restrictive clause). Weak determiners may either raise for a presuppositional reading, or remain in the *v*P for their cardinal/existential reading and have only the *v*P as their SCOPE domain. There is thus a close connection between [Spec, IP] and the presuppositional reading of DPs, and [Spec, *v*P] and the cardinal/existential reading of DPs.

3.3.3.2 German and the ambiguity of weak determiners

The syntax of indefinites is obscured in English by the fact that all subjects must appear in [Spec, IP]. In German, however, subject DPs may surface either in [Spec, IP] or [Spec, vP], thus giving separate syntactic constructions corresponding to a presuppositional or cardinal reading. In the following examples, the position of the subject DP alternates with respect to sentential particles:

(95)   a.   *...weil **ja doch** Linguisten Kammermusik spielen.*
              ...since 'indeed' linguists   chamber music play.PRES.3PL

              '...since there are linguists playing chamber music.'

       b.   *...weil Linguisten **ja doch** Kammermusik spielen.*
              ...since linguists   'indeed' chamber music play.PRES.3PL

              'since (in general) linguists play chamber music.'

                                                                (Examples from Diesing 1992: 36)

(96)   a.   *...weil **ja doch** zwei Cellisten in diesem Hotel abgestiegen sind.*
              ...since 'indeed' two cellists   in this   hotel have-taken-rooms.

       b.   *...weil zwei Cellisten **ja doch** in diesem Hotel abgestiegen sind.*
              ...since two cellists   'indeed' in this   hotel have-taken-rooms.

                                                                (Examples from Diesing 1992: 78)

The particles *'ja doch'* serve as a syntactic diagnosis for the position of the subject DP. In the (a) examples, the subject surfaces to the right of the particles and is in [Spec, vP]. The sentence in (96a) asserts the existence of two cellists who have taken rooms in the particular hotel: the tree splitting algorithm maps the subject occupying the [Spec, vP] position into the nuclear scope of the logical representation giving rise to the existential (cardinal) reading. In the (b) examples, the subject is in [Spec, IP] and has a generic reading in (95) and presuppositional in (96). In (96b), the two cellists are two of a larger set of cellists[4]. The indefinite subject in [Spec, IP] is mapped into a restrictive clause by

---

[4]Say in the situation that a large number of cellists are in town, and two of the cellists are staying in the mentioned hotel, four more at a local bed-and breakfast, another with relatives, and so on.

tree-splitting. The restrictive clause represents the existential presupposition of the subject DP, from which stems the contrast in interpretation between (96a) and (96b). Thus on the presuppositional reading, even weak determiners are raised to IP by QR.

3.4 The Syntax-Semantics interface

3.4.1 Existential Reading: [Spec, vP]

Under the assumption that Hittite (and other ancient IE languages) pattern(s) with Modern German with respect to the syntax of weak determiners, one would thus expect a weak determiner subject such as *kuiš* 'some' to occupy [Spec, vP] in existential/cardinal readings. I follow Hale (2014) in that preverbs are a type of vP adverb, and thus mark the left edge of the vP/VP domain[5]. Negation and non-focused preverbs will serve as a diagnostic tool, similar to Modern German '*ja doch*', predicting that the indefinite subject will fail to raise to [Spec, IP] and surface between the negation/preverb and the verb:

(97) *nu* ZAG   *šekkantet*   ZI-*it*   ***anda*** *lē kuiški*   *zāḫi*
and border-ACC.SG knowing-INST.SG mind-INST.SG PVB   NEG WH-NOM.SG-INDF strike-NPST.3SG
'Let no one deliberately attack the border.'

(CTH 255.1.A: KUB 26.12 ii 15–16)

(98) *nu=tta*   *uezzi*   ***peran*** *kuiški*   *taštašiyazi*
CONN=2DAT.SG come-NPST.3SG in.front WH-NOM.SG-INDF whisper-NPST.3SG
'And someone comes (and) whispers in your presence.'

(CTH 68.B: KBo 5.13 iv 9–10 (NH))

(99) *kinun=a=wa* ANŠE.KUR.RA.ḪI.A ***nawi*** *kuiški*   *uezzi*
now=CNTR=QUOT horses   not.yet WH-NOM.SG-INDF come-NPST.3SG
'But at present no horses/chariotry have come yet.'

(CTH 186: HKM 19:15–17 (MH/MS))

---

[5]Although preverbs can be fronted and appear in the left periphery, in the cases discussed in this section, they clearly are not fronted and thus must be in the vP.

Diesing (1992)'s syntactic account of weak indefinites in existential readings thus makes the correct prediction for the syntactic distribution of indefinites in Hittite. As shown in (97), the indefinite subject *kuiški* surfaces between the preverb *anda* and the verb *zāḫi*, and in (98) between the preverb *peran* and the verb *taštašiyazi*: its syntactic position is in [Spec, *v*P]. This provides a syntactically motivated account for the odd OSV linearization in an otherwise regular SOV language. Furthermore, it provides syntactic grounds for Hoffner and Melchert (2008: 286)'s descriptive observation that the indefinite tends to take a position in the periphery of the finite verb, even in the Nominative case.

As [Spec, *v*P] is the predicted position of the indefinite *kuiš/kuiški*, sentences such as (97) and (98) above are thus expected and 'normal' for an existential reading, as well as in (100) below where the prohibitive negation *lē* serves as the diagnostic for the left edge of the *v*P:

(100) *išḫiūl=ši*   *kuit*   *iyawen*   *n=at=kan*   *zilatiya*   *lē*
       treaty-ACC.SG=CL-3DAT.SG WH-ACC.SG make-PST.1PL CONN=CL-3ACC.SG=PTCL in.the.future-ADV NEG
       kuiški   *waḫnuzi*
       WH-NOM.SG-INDF turn-NPST.3SG
       'The treaty that we have made for him, let no one in the future contravene it!'

(CTH 106.A.1: Bo 86/299 iii 58–59 (NH))

This observation also holds for non-subject arguments. The generalization to be made is that indefinites must remain in their base generated position in order to derive an existential semantics. Consider the following example in (101) where the indirect object remains in its base generated position in [Spec, VP], and surfaces between the preverb *parā* and the verb *watarnaḫzi*. The non-indefinite subject LUGAL 'king', occupies the expected position of [Spec, IP].

(101) *našma!=kan* LUGAL *parā kuedanikki*   *watarnaḫzi*
       or=PTCL   king   PVB   WH-DAT.SG-INDF order-NPST.3SG
       'Or the king orders to someone.'

(CTH 255.1.A: KUB 21.42 iv 7–8 (NH))

61

3.4.2 Presuppositional Reading: Quantifier Raising to [Spec, IP]

As is predicted by Diesing (1992), it is not the case that all indefinites remain low in the clause. Since weak quantifiers are ambiguous, one must force a presuppositional context in order to have the raising of the indefinite subject to [Spec, IP]. Two such constructions that force Quantifier Raising are Antecedent-Contained Deletion (ACD) and Partitive constructions. In partitive constructions, for example, the movement of the indefinite outside of the vP/VP nuclear scope domain yields a presuppositional reading.

ACD is found in contexts containing verb phrase ellipsis and a quantifier. In other words, it is a particular case of VP-deletion that appears to violate the *c-command* constraint on vP deletion. Because the ellipsis appears to be contained inside its antecedent, this should result in an infinite regress and thus ungrammaticality. Consider the following examples, where the expected, but elided, vP is represented with a subscript font and the antecedent to the ellipsis is in bold:

(102) (a) I **saw the ballet**, and you did _{see the ballet}, too.

     (b) I **saw the ballet on Wednesday**, and you did _{see the ballet on Wednesday}, too.

In both of these cases, the vP has been elided in the second half of the sentence, with the elided vP being identical to the antecedent in the first clause. The missing vP in the first (102a) can only mean 'saw the ballet' , and in (102b), the missing vP can only mean 'saw the ballet on Wednesday'. The assumption that the missing vP must be in essence identical to an antecedent vP leads to a problem, first noticed by Bouton (1970):

(103) John read every book that Mary did _{read every book that Mary did read every book that Mary did read every book etc...}

As seen in (146), and as represented by the subscripted material, which would continue to repeat itself, an infinite regress occurs, since the elided vP must be essentially identical to its antecedent on the assumption that the antecedent is a full vP. In sum, if we substitute

the antecedent vP into the position of the ellipsis, we must repeat the substitution process to infinity. The difficulty is illustrated further with the tree for the sentence:

(104) *ACD Tree*

```
                        IP
                   /          \
                 DP            I′
                  |        /        \
                John     Iᵒ            vP
                      |        /          \
                  [+past]    vᵒ            VP
                           |         /         \
                        readᵢ      Vᵒ           DP
                                  |        /          \
                                  tᵢ     Dᵒ             CP
                                        |        /          \
                                     every     DP            C′
                                            /      \      /      \
                                          NPⱼ      D′   Cᵒ        IP
                                           |      /  \        /        \
                                         book   Dᵒ  tⱼ      DP          I′
                                                 |        /    \      /      \
                                               that    Mary   Iᵒ            vP
                                                             |
                                                            did  read every book that Mary did read every book …
```
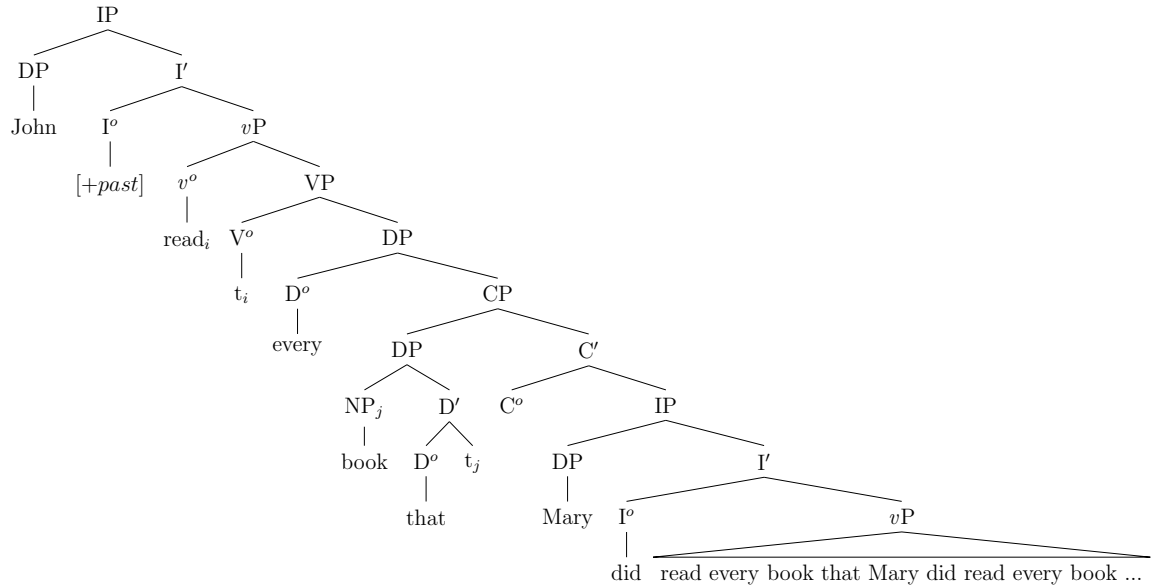
To avoid this problem of infinity regress, Sag (1976) proposed that the DP 'every book that Mary did' undergoes quantifier raising (QR) to a position above the verb, and May (1985) demonstrates that the application of QR yields a structure in which the *c-command* constraint is no longer violated.

(105) [every book that Mary did…]ᵢ John read tᵢ.

Now the reference for the elided vP is simply [read t_i]. The new assumption born out of this analysis is that the elided vP in the example corresponds to just *read*, since after QR, the antecedent vP no longer contains the object raised DP. The result is the following analysis:

(106) [every book that Mary did read] John read.

The infinite regress is now avoided because after QR, the antecedent vP contains just the verb *read*. Because ACD constructions require QR for grammaticality, these constructions can be used as a diagnostic tool for QR with respect to weak determiners:

(107)   (a)   I read every book that you did.

      (b)   *I read some books that you did.

In (107a), QR induced by the 'strong' determiner '*every*' salvages the ACD from violating the c-command constraint. In (107b) QR does not take place, rendering the ACD ungrammatical in the case of a non-partitive (existential) reading of the weak determiner '*some*.' Since weak quantifiers are ambiguous, one must force a presuppositional context in DPs containing a deletion, much as for ACDs concerning vP ellipsis, such as in partitive constructions (examples from Diesing 1992: 72):

(108)   (a)   *There are two of the cows in the stable.

      (b)   *There are many of the pianos in need of tuning.

(109)   (a)   I read two of the books that you did.

      (b)   Robert played many of the pianos that Clara did.

The ungrammaticality of the sentences in (108) in *there*-insertion contexts shows that the weak quantifier in partitive constructions is presuppositional.

In contrast, the grammaticality of the ACD constructions in (109) shows that QR has occurred.

The following Hittite examples differ from those presented in section 4.1, both in their syntax and semantics. The substantival indefinite has moved out of the vP/VP nuclear scope domain, and is now within the IP/restrictive clause domain. Consequently, instead of deriving an existential semantic interpretation (there is someone), we get one of presupposition: someone within a group of individuals. Let us first consider (110) :

(110)   *našma ANA* ^d*UTU-ŠI kuiški*   *waggariyawaš uttar*   *menaḫḫanda sanḫazi*

         or   DAT   His Majesty WH-NOM.SG-INDF rebel-VN.GEN.SG matter-ACC.SG against   seek-NPST.3SG

         'Or someone (amongst them) seeks a matter of rebellion against *HIS MAJESTY*.' (Translation

         and emphasis mine.)

                                             (*Treaty with Kupanta-Kuruntiya*, CTH 68.B: KBo 5.13 ii 17-18 (NH))

The position of the subject indefinite *kuiški* in (110) is determined by two cues. Above it, we have the DP 'His Majesty' (^d*UTU-ŠI*), which has been focused and moved to [Spec, FocP][6]. Below it, we have the overt direct object, 'matter of rebellion' (*waggariyawaš uttar*), which has shifted into [AgrOP]. The indefinite subject has undergone QR to [Spec, IP], and a presuppositional reading is felicitous.

In (111), we have a partitive construction where the indefinite DP 'some man of the stone-house' has moved out of the *v*P/VP nuclear scope domain, and has been overtly focused with the contrastive focus marker *ma*. A second indication that it has moved up into the Restrictive clause domain is that it precedes the lengthy conjunction of direct objects, and thus must be above the AgrO Phrase:

(111)   *mān=za* LÚ É.NA₄=*ma*   *kuiški*   [*našš*]*u* A.ŠÀ ^{GIŠ}TIR *naššu* ^{GIŠ}SAR.SAR

         if=REFL   man stone-house=CNTR WH-NOM.SG-INDF or   field forest   or   garden

         naššu . . . wāši

         or   . . . buy-NPST.3SG

         'But if some *man of the stone-house* buys either a field (or) forest or garden or ...'

                                                 (CTH 252: KUB 13.8 Ro 16–17 (MH/NS))

3.5   Syntax-Prosody Interface

In this section, I will address the descriptive observations that were summarized above in section 1 in points (ii)–(iv), and repeated here with relevant examples:

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[6]The postposition 'against' (*menaḫḫanda*) has remained stranded in its base generated position within the *v*P.

(ii) In the absence of anything else within the predicate, it (the substantival indefinite) may even surface postverbally.

(iii) When the Hittite indefinite *kuiš/kuiški* is used as a determiner, and the modified noun has no other modifying adjective, *kuiš/kuiški* immediately follows the noun.

(iv) Indefinites in Hittite are also known to participate in the distraction (hyperbaton) of two constituents, whether it be a periphrastic perfect, postpositional phrase, genitival phrase, or a noun phrase composed of an adjective plus noun.

3.5.1 A Revived Proposal: Hittite indefinites are prosodically deficient

As observed by Watkins (2010: 246), the Hittite indefinite *kui-* is one of the rare elements which participates in the distraction of a periphrastic perfect. The clause under investigation is the following:

(112) *ŪL=ma=kan dān   kuedanikki   kuitki   ḫarmi*
       NEG=CNTR=PTCL take-PCP WH-DAT.SG-INDF WH-ACC.SG-INDF have-NPST.1SG
       'But I have not taken anything from anyone.'

<div align="right">(HKM 68: 5–6 (MH/MS))</div>

Watkins' (2010: 247) analysis reads: "the participle has been fronted to TOP(icalization slot), probably to provide an accented word on which to hang ***the weakly stressed indefinites***"(emphasis mine). Watkins' analysis of the indefinite as weakly stressed is correct, however the proposal that the participle was topicalized in order to provide an accented host to the indefinite does not provide an adequate solution for other instances of hyperbaton involving indefinites. Although Hahn states that the indefinite in Hittite is regularly postpositive, which accounts for the post-nominal surface position of indefinites when modifying a Noun, she "hesitate(s) to say 'enclitic' " (1946: 71 fn. 11).

I propose a simpler analysis, one which does not involve topicalization/focus operations that are unmotivated by the discourse. Furthermore, the data provided by the corpus supports the analysis of a prosodically deficient and enclitic indefinite pronoun in Hittite. Just as in ancient Greek, *the indefinite pronoun in Hittite is lexically unaccented in opposition to the accented interrogative pronoun.* This is typologically in alignment for languages in which the interrogative and indefinite share the same base (Haspelmath, 1997). Ancient Greek orthographically represents stress, with the acute, grave and circumflex diacritics as in (113):

(113)   a.   *tí   gàr án tıs   kaì poıoĩ   õ: Só:krates?*
                WH-NOM.SG.n PTCL PTCL WH-NOM.SG.m and do-OPT.PRES.ACT.3SG VOC S.
                'What could one do, o Socrates?'

<div align="right">(Pl. La. 184d)</div>

        b.   *légeın   tı   õ: Só:kratés moı   dokeĩs.*
                say-INF.PRES.ACT WH-ACC.SG.n VOC S.   me-DAT seem-PRES.ACT.2SG
                'You seem to me to be saying something, Socrates.'

<div align="right">(Pl. La. 199e)</div>

        c.   . . . *eí tıs   tı   ereı*
                if WH-NOM.SG.m WH-ACC.SG.n say-PRES.ACT.3SG
                '[let us not mind] if anyone says anything.'

<div align="right">(Pl. La. 201b)</div>

In addition to ancient Greek, the Latin indefinite cognate *quis* is also prosodically deficient and enclitic. Grammars describe Classical Latin *quis* as an indefinite pronoun that cannot be found in the first position of a clause, but only as an enclitic of adverbs/complementizers which all have a value of possibility, such as *si* and its compounds *ne, cum, ubi, num, an,* but is less restricted in early Latin (Lindsay 1907: 44). In the works of Plautus, for example, there are a number of examples where *quis* occurs with no particle at all as in (114), and

(115)[7]:

(114)   *plus insciens*   *quis*   *fecit*   *quam prudens*   *boni.*

       more unknowing-PCP.NOM.SG.m WH-NOM.SG.m make-PERF.3SG than   foreseeing-PCP.NOM.SG.m good-GEN.SG.m

       'Someone has done more good (being) unknowing than (being) knowing.'

<div align="right">(Plaut. Capt. 45)</div>

(115)   *iam*   *de istis*   *rebus*   *voster*   *quid*   *sensit*   *senex?*

       yet-ADV of these-f.ABL.PL matter-f.ABL.PL your-m.NOM.SG WH-n.ACC.SG perceive-PERF.ACT.3SG old-m.NOM.SG

       'As yet, has your old gentleman discovered anything of these matters?'

<div align="right">(Plaut. Most. 749)</div>

Although the orthographic system used by the Hittite scribes does not indicate accentuation, systematic word order issues which are syntactically unmotivated (such as the distraction of periphrastic perfects, postpositional phrases and other interruption of syntactic constituents, as well as the post-verbal surface linearization of the indefinite) are better explained under the present proposal that indefinites in Hittite behave in the same manner as clitics. In the treatment of clitics, I follow Hale (1995; 2007: 204–12), whose account best captures the interaction of the syntax-phonology interface. I highlight Hale's (2007: 204–12) arguments concerning the placement of clitics in Vedic, and repeat here below his examples in (116) and (117).

(116)   (a)   *yó*   *me híraṇyasaṃdṛśo dáśa rā́jño*   *ámaṅhata*

          REL-NOM.SG me gold.looking-ACC.PL ten   king-GEN.SG granted

          'who granted me ten gold-looking ones of the king.'

<div align="right">(RV 8.53.7ab)</div>

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[7]Other pre-Classical Latin examples of this type cited by Lindsay (1907: 44) include *Plaut. Stich.* 201: *i quando quem auctionem facturum sciunt*; *Plaut. Men.* 664: *opera reddetur, quando quid tibi erit surruptum domo*; *Plaut. Merc.* 991: *supplici sibi sumat quid volt* ; *Plaut. Pers.* 398: *vel tu me vende vel face quid tibi lubet*; and *Ter. Eun.* 511: *roget quis.*

(b) Syntactic movement
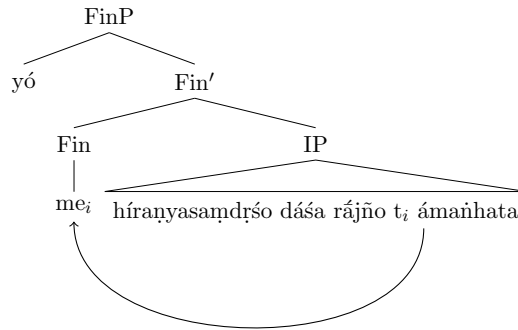
Being that clitics are prosodically deficient, they require a non-deficient prosodic host. The clitics involved in Wackernagels Law (WL) phenomena in archaic Indo-European languages must be hosted on their left. Above in (116 b), the WL clitic undergoes head movement to a position above the IP, and in the particular example given there is a suitable non-deficient prosodic host to its left. In (117), where a clitic has no non-prosodically deficient host to its left, it is not for the Syntax to resolve the issue of the hosting requirement of the clitic. Since the clitics in question must lean leftward, they can never appear in initial position within their phrase. Thus in the case that the clitic is in its final syntactic position and that the representation gets to the phonological level without any available host, the clitic may move in the phonology to a position within its domain where it can be appropriately hosted, represented by the dotted line[8]:

(117) (a) *agnír ugró-vā índraḥ*
            Agni   mighty-or Indra
        'Agni or mighty Indra'

---

[8]Throughout this thesis, I will continue to represent phonological operations by means of a dotted line, in opposition to syntactic movement represented by a solid line.

(b) Prosodic Inversion
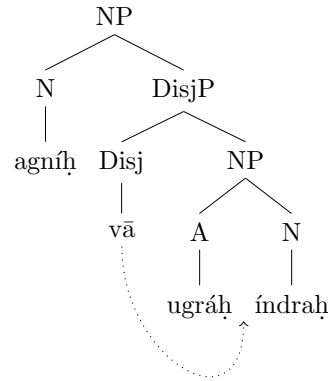
As Hale (2007: 205) explains, prosodically deficient elements in archaic Indo-European languages such as Sanskrit *vā* 'or' are never attested phrase-initially (this also applies to Sanskrit *ca* 'and', Latin *que* 'and', Hittite *ma* 'but', Hittite *ya* 'and', etc.). The cliticization domain for *vā* in (117) is the Disjunction Phrase, where its syntactic position is at the left edge of the domain, and it thus lacks a suitable host. Since *agníḥ* is syntactically positioned outside of the cliticization domain, it may not host *vā*. To resolve the prosodic hosting requirements with the minimal prosodic adjustment, *vā* shifts rightward over *ugráḥ* and thus remains within its prosodic domain all-the-while being properly hosted. For further evidence that such adjustments are not syntactically motivated but rather prosodically driven, see Hale (2007: 205–6)[9].

This placement of clitics is not unique to Vedic, but rather a typical feature of ancient Indo-European languages. Consider the following Latin example in (118):

(118) (a) *bonum   agricolam   bonum=que   colonum*
           good-ACC.SG farmer-ACC.SG good-ACC.SG=CJN cultivator-ACC.SG

        'a good farmer and a good cultivator.'

(*Cat. De agr.* Praef. 2)

---

[9]One argument pertaining to the present example is the observation that in the output string *agníḥ ugráḥ=vā índraḥ*, the disjunction "*vā* occupies a position that no element of its syntactic type could *ever* occupy for syntactic reasons– there is no position within the NP for disjunction operators linking two NP's." (Hale 2007: 205).

(b) Prosodic Inversion

```
                         CJNP
                   ┌───────┴────────┐
                  NP              CJN'
              ┌────┴────┐      ┌────┴────┐
              A         N     CNJ        NP
              │         │      │      ┌───┴───┐
           bonum   agricolam  que     A       N
                                      │       │
                                    bonum  colonum
```
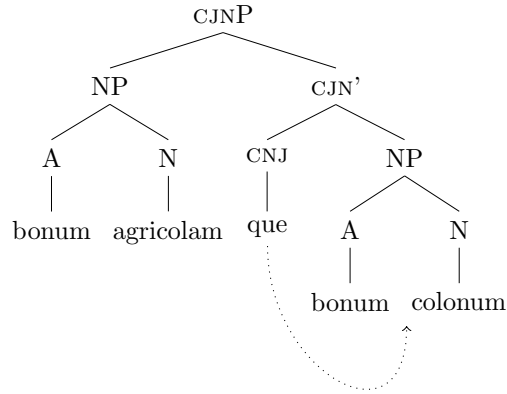
The predictions made from such a proposal are that when there are no elements bearing lexical stress higher up within the syntactic domain within which the indefinite is contained, the indefinite will 'flip' by phonological movement so as to be supported by a stress-bearing host to its left, thus:

I. When used attributively, the indefinite will surface after its head Noun.

II. The indefinite will participate in distraction: it will break up constituents, regardless of the syntactic category.

III. When there is nothing else to support the indefinite between a complementizer and the verb, the indefinite will surface post-verbally.

In other words, Hittite indefinites are second position clitics within the syntactic phase (DP, vP) that contains them. Let us discuss these predictions one by one.

Prediction I: When used attributively, the indefinite will surface after its head Noun.

In a simple DP containing only the indefinite and a noun, the noun is the only stress-bearing element within the cliticization domain and will thus serve as the prosodic host to the indefinite. The template for such an environment is represented in (119):

(119) DP composed of only the Indefinite and a Noun

```
                        DP
                       /  \
                    Spec   D′
                          /  \
                         D    NP
                         |   /  \
                      INDF Spec  N′
                                 |
                                 N
                                 |
                               Noun
```
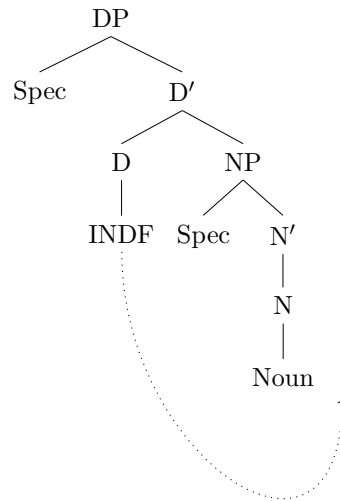
The following four examples are representative of prediction (I.): in the absence of adjectives, or genitival modifiers, the indefinite always follows its head Noun:

(120) *nu=šmaš   šardiyaš   kuiški   paizzi*
      CONN=them-DAT.PL supporter-NOM.SG WH-NOM.SG-INDF go-NPST.3SG

   'And some supporter goes to them.'

(121) *nu=mu kā* ANŠE.KUR.RA.MEŠ *kuiški   kattan*
      CONN=me here horse-PL   WH-NOM.SG-INDF with

   '(There is) some chariotry here with me.'

(122) *mān DINU=MA kuitki   šallešzi*
      if   legal-case WH-NOM.SG-INDF become.too.large-NPST.3SG

   '(But) if some legal case becomes too large.'

(123)   *mān* DUMU.LUGAL *kuiški*   *waštai*
       if   prince   WH-NOM.SG-INDF   sin-NPST.3SG

       'If any prince sins'

Since I stipulate that the cliticization domain is the DP when the indefinite is used attributively, a consequence of Prediction (I) is that the indefinite will be placed prosodically after the closest stress-bearing element within the DP during Spell-Out (see Chapter 1). Hence in the presence of Adjectives or genitival modifiers, the Noun is no longer the closest stress-bearing element, and the Adjective or genitival phrase will serve as prosodic host. The graphic outline is presented here in (124), and a few examples from the corpus in (125)–(128):

(124)   (a)   DP with a modifying Adjective
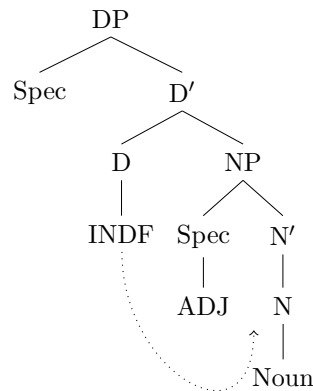
       (b)   DP with a modifying genitive NP
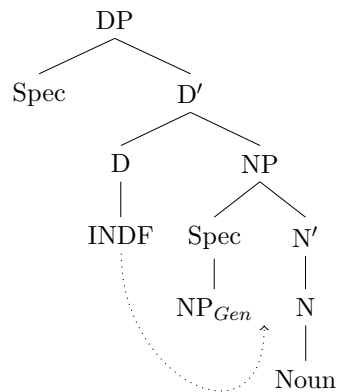
(125) *mān=aš apel*   *ŠA* MUNUS-*TI* DUMU-*aš mān=aš tamēl*   *kuēlqa*
       if=he   that-GEN.SG woman-GEN.SG   child-NOM.SG if=he   other-GEN.SG WH-GEN.SG-INDF

       MUNUS-*aš* DUMU-*aš*
       woman-GEN.SG child-NOM.SG

       'Whether he is the child of that woman, or the child of some other woman.'

                                                        (CTH 106.A.1: Bo 86/299 ii 90–92 (NH))

(126) *našma=at* GÉŠPU-*aḫḫan kuitki*   *AŠRU*
       or=it   conquered.by.force WH-NOM.SG-INDF place

       'Or it is some place conquered by force.'

                                                        (CTH 178.1.B: KUB 23.92 Vo 17 (NH))

(127) *nu* *mān* DINGIR-*LIM* EN=*YA ammel* *kuitki*   *Š*[*A tawananna*/MUNUS]
       CONN if   god   lord=my my-GEN.SG WH-ACC.SG-INDF of tawananna/wife

       ḪUL-*lu*   *šanḫeškeši*
       evil-ACC.SG seek-ITER.NPST.2SG

       'And if you, god my lord, are seeking some evil of (my) wife/the tawananna.'

                                                         (CTH 380: KBo 4.6 i 10–11 (NH))

(128) *nu=šši* *ŠA* LUGAL *kuitki*   ḪUL-*lu* [*uttar*   G]ÚB-*tar parā memai*
       CONN=HIM of King   WH-ACC.SG-INDF evil-ACC.SG word-ACC.SG unfavorable PVB say-NPST.3.SG

       'And divulges to him some evil word concerning the king, an unfavorable (matter).'

                                                  (CTH 255.1: KUB 21.42 iv 30–31 (NH))[10]

In (125) and (126), the indefinite is placed by the phonology after the first stress-bearing element in the DP, which is the adjective. In (127), the indefinite is placed between the first genitive *ammel* and the second genitival modifier, and in (128), the indefinite surfaces between the first stress-bearing element of the DP, the genitive of *ḫaššu-* 'king' (LUGAL), and the adjective *idālu-* 'evil' (ḪUL-*lu*). Note that this last example in (128) conveys a presuppositional reading, and the whole indefinite DP has shifted out of the *v*P, as it surfaces left of the preverb *parā*.

[10]The restoration of [*uttar*] is quite secure. See Miller 2013: 291 and 403.

Prediction II: The indefinite will participate in distraction: it will break up constituents, regardless of the syntactic category.

Prediction (II) is primarily borne out under two conditions. First, when the indefinite is substantival. Secondly, there needs to be multiple arguments within the clause. Under existential semantics, the indefinite is contained within the nuclear scope, and hence the vP is the cliticization domain, as it coincides with a Spell-Out phase. In this environment, the nearest stress-bearing argument within the vP will serve as the prosodic host to the indefinite. Such elements include an Ablative argument, Postpositional Phrases and Participles in the Analytic Perfect Constructions. I propose in (129) the schemata for such environments:

(129) (a) with a Postposition Phrase within the vP
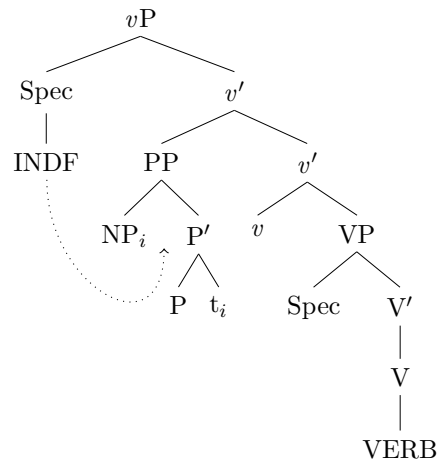
(b) with an Ablative argument within the vP

75
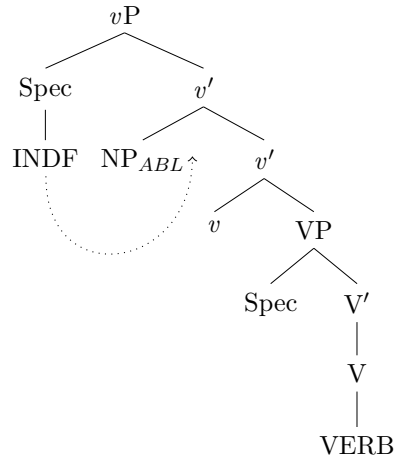
(c)   with a Participle in an Analytic Perfect Construction

```
                              vP
                         ╱         ╲
                      Spec          v′
                       │         ╱      ╲
                      INDF    Spec        v′
                        ┊            ╱        ╲
                        ┊          v            VP
                        ┊          │         ╱      ╲
                        ┊       PastPCP   Spec        V′
                        ┊                   ┊          │
                        ┊                   ┊          V
                        ┊                   ┊          │
                        ┊.................┊      ḫar(k)-/eš-
```
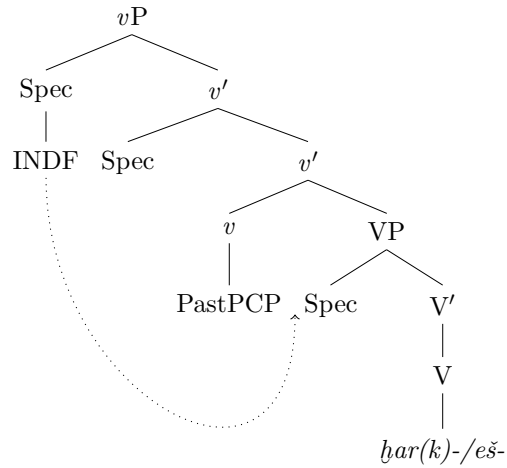
The following three examples are representative of prediction (II). I repeat (88) in (130) showing the Ablative argument as the prosodic host for the subject indefinite. Then in (131) the distraction of a Postpositional Phrase, and that of a periphrastic perfect in (132).

(130)   [takku LÚ-a]n našma MUNUS-an š[ulla]nāz kuiški   kuenzi
         if   man-ACC or   woman-ACC quarrel-ABL WH-NOM.SG-INDF kill-NPST.3SG
         'If someone kills a man or a woman in a quarrel.'

(131)   naššu DINGIR-LIM-ni kuiški   peran wašti
         or-if   god-DAT.SG   WH-NOM.SG-INDF before sin-NPST.3SG
         'Or if someone sins before a deity.'

(132) *naššu dammišḫān kuiški   kuitki   ḫarzi   našma=za dān   kuiški*
       whether damage-PCP WH-NOM.SG-INDF WH-ACC.SG-INDF have-NPST.3SG or.if=REFL take-PCP WH-NOM.SG-INDF

       kuitki   ḫarzi   našma=za ḫappiran kuiški   kuitki   ḫarzi
       WH-ACC.SG-INDF have-NPST.3SG or.if=REFL sell-PCP WH-NOM.SG-INDF WH-ACC.SG-INDF have-NPST.3SG

       našma ÉSAG kuiški   kinuwan   ḫarzi   našma=za=kán GU₄ LUGAL
       or.if granary WH-NOM.SG-INDF break.into-PCP have-NPST.3SG or.if=REFL=PTCL cattle king

       kuiški   kunan ḫarzi   našma=kán ÉSAG^{ḪI.A} kuiški   šarā adān
       WH-NOM.SG-INDF kill-PCP have-NPST.3SG or.if=PTCL granary   WH-NOM.SG-INDF up eat-PCP

       ḫarzi
       have-NPST.3SG

       "(And you shall inquire regularly into the palaces and noble estates that are in your provinces,) whether someone has damaged anything, or whether someone has taken anything, or whether someone has sold anything, or whether someone has broken into a granary, or someone has killed royal cattle, or whether someone has consumed the grain stores (then illicitly destroyed the wooden writing boards. You shall keep track of it.)

       (CTH 261: KUB 13.2 13-20 (MH/NS))

In (132), we have a clear minimal pair contrast where the distraction of the periphrastic perfect occurs only when there is no other suitable host to the left (both arguments of the verb are indefinites), in the first three clauses, versus the last three where there is another constituent to host the indefinite, namely a non-indefinite direct object.

> **Prediction III:** When there is nothing else to support the indefinite between a complementizer and the verb, the indefinite will surface post-verbally.

Again, under an existential reading, the indefinite must remain within the vP. Hence the only stress-bearing element within the cliticization domain is the verb. I propose the following schema in (133) for such an environment:

(133)   With the verb as the sole stress-bearing element within the vP
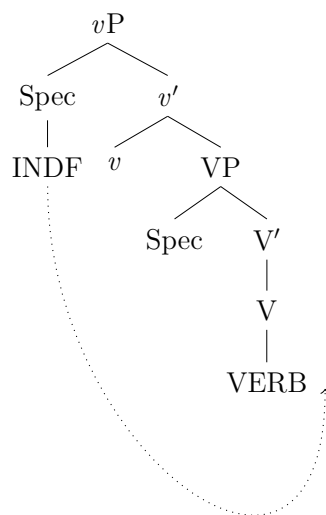
Unlike Classical Latin, with *si quis*, Hittite *kuiš/kuiški* never cliticizes to a sentence initial complementizer such as *mān* 'if, when' in pragmatically neutral clauses. There is one potential counterexample from the Madduwatta text (CTH 147: KUB 14.1 + KBo 19.38 Vo 46-47 (MH/MS)):

(134)   *mān=wa* X-*it kūrur ēpzi*   *nu=wa=ššan*   *kuitman ŠA* ^dUTU-*ŠI*   ERÍN.M[EŠ
       if=QUOT   X-it enmity seize-NPST.3SG CONN=QUOT=PTCL while   of   your Majesty troops
       zaḫḫiyattari ug=a=wa=za   *manninkuwan*] *nu=war=an ammuk ḫūdāk*   *wal(a)ḫm[i*]
       fight-NPST.3SG I=CNTR=QUOT=REFL near   CONN=QUOT=it I   immediately attack-NPST.1SG

Beckman (1999: 159 §24) in *Hittite Diplomatic Texts* text No. 27 *Indictment of Madduwatta by Arnuwanda I of Ḫatti,* reads the damaged sign as "*ku-*" and assumes the omission or ellipsis of KUR/*utnē* 'land' after that damaged sign that he reads as *kuit,* interpreting the passage as:

"If some <land> begins war, while the troops of Your Majesty [make war – because I am nearby], I will attack it immediately."

But neuter *kuit* <*utnē*> could not be the subject of a transitive verb (see Garrett 1990), and by Götze's autograph, the object in the last clause is the common gender *-an*, not the neuter *-at*, so it cannot be referring back to the alleged neuter subject. Furthermore, the reading of the sign of X-*it* as *ku-it* in KBo 19.38 is far from assured. A logogram and a reading as an instrumental cannot be excluded. In fact, as suggested by Professor Melchert (personal communication), the <*ku*> sign, which the partial sign certainly could be, also reads as the logogram TUKUL as in[(GIŠ)]TUKUL 'weapon'. Thus one might read [<GIŠ>]TUKUL-*it*, hence *'If one begins armed hostilities'* (lit. undertakes hostilities with a weapon). I agree with Professor Melchert in thinking that this new reading makes reasonable contextual sense, whereas the indefinite *kuit* does not, nor does it match the syntax of indefinites elsewhere in the corpus.

The next two examples, (135) and (136), are representative examples of prediction (III):

(135) *nu=šši=kan*   *mān wakšiyazi*   *kuitki*
      CONN=himDAT=PTCL if be.lacking-NPST.3SG WH-NOM.SG-INDF

'If something is lacking for him.'

<div align="right">(CTH 106.A.1 Bo 86/299 ii 74 (NH))</div>

(136) *namma=mu* *mān uppāi*   *kuiški*   *mān=mu* *ŪL kuiški*   *uppāi*
      furthermore=me if send-NPST.3SG WH-NOM.SG-INDF if=me NEG WH-NOM.SG-INDF send-NPST.3SG
      nu=mu *ṬUPPA*[HI.A] *ḫatrātten* *nu* *šigallu*
      CONN=me tablet-PL write-IMP.2PL CONN know-IMP.1SG

'Furthermore, write letters and let me know whether someone will send (oil) to me, or someone will not send (it) to me.'
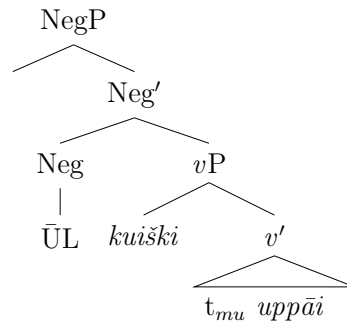
<div align="right">(CTH 187 KBo 18.2 rev. 8–12 (NH))</div>

Here in (136), there is a syntactic near minimal pair with *uppāi kuiški* versus *ŪL kuiški uppāi*. The crucial difference is that there is no other constituent between the complementizer *mān* and the *v*P in the first clause, with the indefinite subject surfacing after the verb, whereas in the negated disjunction the indefinite surfaces as expected between the negation and the verb in its syntactically generated position in [Spec, *v*P].

(137) *uppāi kuiški*

AdvP
- *namma*
- CP
  - C′
    - C
      - *mu$_i$*
    - …
      - Fin
        - *mān*
      - IP
        - …
          - *v*P
            - *kuiški*
            - *v*′
              - t$_i$ *uppāi*

(138) ŪL *kuiški uppāi*
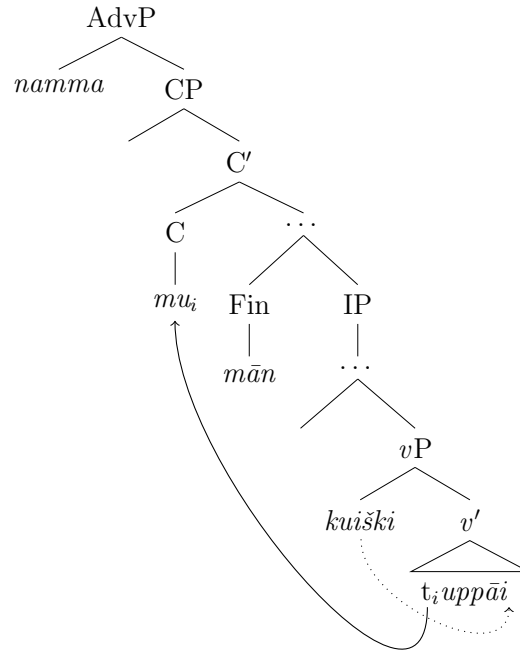
NegP
- Neg′
  - Neg
    - ŪL
  - *v*P
    - *kuiški*
    - *v*′
      - t$_{mu}$ *uppāi*

In some cases, however, the post-verbal position of the indefinite is not the result of prosodic flip, but the verb has moved into a position outside of the *v*P domain. The indefinite, however, must remain within the *v*P domain for an existential interpretation:

(139) *arḫa=wa parkunummi parkunuši=ma=za   ŪL kuit*
       PVB=QUOT clean-NPST.1SG clean-NPST.SG=CNTR=REFL NEG WH-ACC.SG
       '(You must not say:) "I will completely clean up." However you (for your own benefit) clean nothing.'

(CTH 19.II.A: KBo 3.1 + ii 43–44 (OH/NS))

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The verb *parkunuši* is overtly focused and marked as such with the contrastive focus marker *ma*.

Under a presuppositional reading, the indefinite does move out of the *v*P, and may even receive focus. This can be observed in (140), where the indefinite *kuiški* is focused, and thus receives focus-stress, as it strands behind in the *v*P the adjective *tamaiš* 'other' in a Contrary-to-Fact Conditional clause[11]:

(140) *mam=man=za=kan kuiški*   É-*er*   *tamaiš*   *arnut*   *man zik*
        if=IRR=REFL=PTCL   WH-NOM.SG-INDF house-ACC.SG other-NOM.SG confiscate-PST.3SG IRR   you-NOM.SG
        ŪL aršanieše
        NEG be.angry-PST.2SG
        'If ANYONE else were to confiscate your house, would you not be upset?'

<div align="right">(CTH 199: ABoT 65 rev 5–6: (MH/MS))</div>

There are a few examples within the corpus which do not follow the generalization proposed in this chapter, and for which Prosodic Inversion does not take place. Consider (141) and (142):

(141) *namma=kan*   *mān IŠTU* KUR ^{URU}*Ḫatti kuiški*   *idaluš*   *memiyaš*   *ŠA* BAL
        further-ADV=PTCL if   ABL   land   Hatti   WH-NOM.SG-INDF evil-NOM.SG matter-NOM.SG GEN revolt
        šarā išparzazi
        PVB   escape-NPST.3SG
        'Further, if some evil matter of revolt emerges from the land of Ḫatti ...'

<div align="right">(CTH 68: KBo 5.13 ii 26–27 (NH))</div>

(142) *mān* BURU₅-*aš*   *kuedani* URU-*ri* *kišanza*
        if   host.of.locusts-NOM.SG WH-DAT.SG city-DAT.SG occur-PCP
        'If a host of locusts has occurred in some city ...'

<div align="right">(CTH 276.4: KBo 10.6 i 6 (NH))</div>

A possible explanation may be related to the fact that for intransitive and unaccusative verbs, *v*P does not constitute a phase (see Chapter 1), and hence in these examples it is the

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[11]For more on Contrary-to-Fact Conditionals, see Hoffner and Melchert, 2008: 422.

CP and not the vP which is the Spell-Out domain. Since there is a suitable host within the prosodic domain, Prosodic Inversion is not necessary in those cases. Examples of this type are, however, very rare. Other examples may be found in (CTH 67: KBo 5.4 Ro 10 (NH)), (CTH 584: KUB 31.71 i 6 (NH)), and (CTH 584: KUB 48.118 20 (NH)).

3.6   Summary

I have proposed in this chapter that two main factors account for the observed distribution of indefinites in Hittite. Firstly, Hittite indefinites have two syntactic positions available in the syntactic derivation, each corresponding to a different semantic interpretation. The first position is the base-generated position within the vP. For subjects, this would be the Specifier position of the vP. Indefinites within this domain are interpreted as existential. The second syntactic position is obtained by Quantifier Raising outside of the vP domain: either to the IP or CP domain, depending on discourse conditioned factors. Indefinites that have moved out of the vP are interpreted as presuppositional. Secondly, I have argued that the distribution of indefinites that deviates from their expected syntactic position is best accounted for under the analysis that Hittite continues the prosodically deficient nature of the indefinite morpheme from PIE, which agrees with the prosodic nature of its cognates in ancient Greek and Latin.

Chapter 4

The Syntax of Interrogatives

4.1 Introduction

In this chapter I examine the syntax of interrogative clauses in Hittite. I examine both yes-no questions and clauses in which the *wh*-word is interpreted as an interrogative. Previous scholarship on this topic has been carried out by Mascheroni (1980, 1981, 1983), Hoffner (1995), Hoffner and Melchert (2008), Goedegebuure (2009), Huggard (2011) and Sideltsev (2014) amongst others. Mascheroni and Hoffner are useful both for collecting and classifying various types of interrogative clauses that are found in the corpus, and also for the philological work that was involved in the analysis of those clauses. Hoffner and Melchert (2008) include Hoffner's (1995) earlier findings on yes-no questions, and questions involving clause initial and non-initial *wh*-words. However, following Garrett (1994) and Hale (1987), they report *wh*-movement for relative clauses. Goedegebuure (2009) first notices that interrogative clauses with initial *wh*-words either contain only the *wh*-word and the verb, or that the *wh*-word is the subject of the clause, and thus such examples are non-probative. Under the framework of Functional Discourse Grammar, she argues that *wh*-words are subject to the same focus operations as declaratives, but makes no claims as to whether Hittite is a *wh*-move language or a *wh*-in situ language. Building on Goedegebuure (2009), Huggard (2011) investigates

interrogative clauses which contain more than simply the *wh*-word and the verb, and for which either the *wh*-word is in an oblique case, or is adverbial. Huggard (2011) concludes that Hittite *wh*-words remain in situ, in their base generated position, but makes no claim as to what type of *wh*-in situ language Hittite is, nor what licenses *wh*-words to remain in situ. Sideltsev (2014) offers an alternative analysis for Hittite *wh*-interrogative clauses to the one presented in this thesis[1].

4.2   Interrogative Clauses

While approximately 240 languages found in the World Atlas of Language Structures (WALS) display obligatory displacement of *wh*-phrases to the initial position of the sentence, approximately 540 do not require sentence-initial *wh*-phrases (Dryer, 2008). In a generative framework, such variation among languages is accounted for by positing features that are encoded in the morphosyntax, which either trigger movement or not. Since the 1970's, scholars have proposed various accounts to address the questions of what licenses *wh*-words to remain in-situ, whether or not covert *wh*-movement occurs at LF, and how the in-situ *wh*-phrases are interpreted. Baker (1970) observes from Greenberg's (1966) data that there is a close relationship between the position of particles in yes-no questions and the position of interrogative words. From this he proposes that only languages that place their yes-no particles clause initially allow a movement rule for question constituents (Baker 1970: 207). Building upon this, Cheng (1991: 29) proposes the Clausal Typing Hypothesis, repeated here in (143):

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[1]However, profound differences in our respective underlying premises mean that Sideltsev's (2014) characterization of Huggard's (2011) previous analysis is not really on target. Hence, I can likewise not usefully respond to his analysis in my present proposal.

(143) **Clausal Typing Hypothesis**

Every clause needs to be typed. In the case of typing a *wh*-question, either a *wh*-particle in Cº is used, or else fronting of a *wh*-word to the Spec of Cº is used, thereby typing a clause through Cº by Spec-head agreement.

(Cheng 1991: 29)

In other words, the clause type (Interrogative, Declarative, Exclamative, etc.) of a sentence is determined in overt syntax. According to Cheng's hypothesis, in languages with question particles, whether overt or covert, these question particles determine the force of a question, making overt *wh*-movement unnecessary and thus not possible. In languages without question particles, clause typing is done by means of moving the *wh*-phrase closest to Cº to [Spec, CP], thus satisfying the Attract Closest Principle (Chomsky 1995: 297)[2].

Most current research on *wh*-movement operates under the assumption that overt movement is related to a Q feature/morpheme in Cº. Before proceeding with the analysis of Hittite interrogatives, I will lay out a brief overview of the scholarship concerning the Q morpheme along with the connection between the Q morpheme and the licensing of *wh*-in situ.

4.2.1 The Q morpheme

Katz and Postal (1964) posited a Q morpheme in matrix questions to account for the difference in interpretation between the declarative in (144a.) and the polar yes-no question in (144b.):

(144) a. Bill saw John.

b. Did Bill see John?

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[2]Attract the Closest Principle (ACP) is stated in Chomsky (1995: 297) as "A head which attracts a given kind of constituent attracts the *closest* constituent of the relevant kind." An analogous principle, the Minimal Link Condition, is later stated on p. 311 as "K attracts α only if there is no β, β closer to K than α, such that K attracts β." This accounts for the grammaticality of 'Who bought what?' versus the ungrammaticality of '*What who bought?'.

The shared Performative reading (i.e. "I request that you answer . . . ") of yes-no questions and *wh*-questions can be captured via the presence of a Q morpheme such that a *wh*-question as in (145a.) has the underlying structure of (145b.), with the assumption that though similar to indefinites, *wh*-words require to be specified as questioned:

(145)   a.   Who saw John?

        b.   Q [wh someone] saw John.

Baker (1970) extended the proposal and argued that the Q morpheme should be present in both matrix and embedded questions. Consider the now famous multiple question in (146), which contains an in situ *wh*-phrase *which book*. Two different readings are obtained, as reflected in the answers in (146a.) and (146b.):

(146)   Who remembers where we bought which book?

        a.   John and Martha remember where we bought which book.

        b.   John remembers where we bought the physics book, and Martha and Ted remember where we bought *The Wizard of Oz*.

To account for the readings obtained in such multiple *wh*-questions, Baker (1970) makes the following claims:

(i) Q can be lexically realized. For instance, in English it is realized as *if/whether*; in Japanese, as *ka*; in Mandarin Chinese, as *ma*, *ne*, etc.

(ii) A language may move a *wh*-phrase to replace Q.

(iii) Q functions as an operator.

The significance of positing Q as an operator is that this allows Q to bind more than one *wh*-phrase and thus accounts for the scope of the in situ *wh*-phrase. To illustrate, in (146) the interpretation obtained in the (146a.) answer is derived from the embedded Q

operator binding both *where* and *which book*. The (146b.) answer is obtained by the matrix Q binding *who* and the embedded *which book*.

Bresnan (1970) argued for Q to be a *Wh* complementizer, and since Chomsky (1981) a *wh*-question is assumed to have a [+wh] feature in C°. However, although Q is in C°, Chomsky (1995) does not consider Q to be an operator, but rather an interpretable feature that triggers overt movement when strong.

Since the onset of the Minimalist Program (Chomsky 1995), proposals vary as to how Q is connected with the property of *wh*-in situ. In Chomsky (2000), the Q feature is no longer directly associated with *wh*-in situ, and in Nissenbaum (2000) *wh*-in situ and covert movement are not a consequence of any particular driving force, but rather depend upon the timing of movement in relation to Spell-Out.

In contrast, Kim (1991) proposes that in languages like Japanese and Korean, *wh*-in situ is a consequence of the nature of the *wh*-words. He argues that *wh*-elements in Japanese and Korean are quantifiers, not *wh*-words, and are thus subject to Quantifier Raising at LF, and not *wh*-movement. Others since then have also incorporated the analysis of the nature of *wh*-elements into their proposals. Tsai (1994) claims that languages differ as to where the [wh]/ Q /Operator is generated: at the word level (English), phrasal level (Japanese), or at the sentence level (Mandarin Chinese). Up to then, most research had concentrated on obligatory *wh*-in situ languages, such as Mandarin Chinese or Japanese, in contrast with obligatory *wh*-move languages such as English.

Following Tsai's (1994) proposal, scholars have identified that there is more than one type of *wh*-in situ and more than one type of *wh*-in situ language (Pesetsky 2000; Watanabe 2001; Cheng and Rooryck 2002). With respect to the types of *wh*-in situ, included are D-linked vs. non-D-linked, *wh*-argument vs. *wh*-adverbials, and Japanese *wh*-in situ vs. Chinese *wh*-in situ. Given that there are different types of *wh*-in situ, different treatments have been proposed, such as covert phrasal movement, no movement and feature movement. From the licenser perspective, there have been several possibilities as well: the properties

of the *wh*-phrase, the presence of a Q particle (Mandarin Chinese), a defective Q particle (French) and Focus (European Portuguese)[3].

(147) Movement-Licenser Interaction

Movement	Licenser	Type of *wh*-in situ
Phrasal Movement	*wh*-phrase	Multiple questions
	Focus	European Portuguese matrix *wh*-in situ
No movement	*wh*-phrase	D-linked *wh*-phrase
	Q particle	Chinese *wh*-in situ (arg)
Feature movement	Defective Q	French *wh*-in situ
	Q particle	Chinese *wh*-in situ (adv)

For an outline of the various proposals accounting for *wh*-in situ from the 1980's to the early 2000's, see Cheng (2009).

4.2.2   The null intonation morpheme [Q:]: the case of French

A growing number of recent studies have sought to identify the prosodic and pragmatic factors governing the variation in *wh*-questions (Cheng and Rooryck, 2000; Kučerová, 2007; Pesetsky, 2000; Richards, 2006; Wagner; 2005, 2006). As (148) demonstrates, French exhibits multiple strategies in *wh*-question formation. Cheng and Rooryck (2000) presented a clear and testable model for how such variation is licensed in French, appealing to the role of pragmatic presupposition and to intonation as it is encoded in morphosyntactic features.

(148) a.   *Quel livre est-ce que tu   lis?*
          which book Q   you read-PRES.2SG
          'Which book are you reading?'

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[3]For French and European Portuguese, see Cheng and Rooryck (2002) and Denham (2000). For an alternative account of the French data, see Bošković (2000), who argues for a late insertion of the Q feature in Cᵒ.

b. *Quel livre lis-tu?*
   which book read-PRES.2SG-you
   'Which book are you reading?'

c. *Quel livre tu lis?*
   which book you read-PRES.2SG
   'Which book are you reading?

d. *Tu lis   quel livre?* (with special intonation)
   you read-PRES.2SG which book
   'Which book are you reading?

French allows both moved (148a)-(148c) and in-situ (148d) strategies for the same question. As such, French is a prime candidate for investigating the factors governing variation among interrogatives within a language. *Wh*-in situ questions in French, such as (148d), are true information-seeking questions and do not have the force of an echo question.

Moved *wh*-questions encode a surface-level signal to their question status (via movement of the *wh*-word), which may be accompanied by the *est-ce que* question marker (148a) or subject-auxiliary inversion (148b). In *wh*-in situ questions, however, the *wh*-word remains in its base generated position. Following an idea by Wachowicz (1978) that all languages have overt cues for marking *wh*-questions (e.g., via movement or a question particle), Cheng and Rooryck (2000) propose that French *wh*-in-situ content questions do in fact encode a surface-level cue to question status, in the form of a sentence-final rising intonation contour. They further claim that this contour is identical to the one exhibited in polar yes-no questions. Thus, a *wh*-in-situ content question, such as (149), should rise at the end, similar to yes-no questions such as the one in (150), but unlike moved *wh*-questions such as (151), which have no such obligatory rising contour.

(149)   *Elle a   vu **quel film** au   ciné?*
        she   has seen which movie at.the theatre
        'Which movie did she see at the theatre?'

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(150) *Est-ce qu' elle a   vu **ce film** au   ciné?*
     Q   she has seen this movie at.the theatre
     'Did she see this movie at the theatre?'

(151) ***Quel film** est-ce qu' elle a   vu au   ciné?*
     which movie   Q   she has seen at.the theatre
     'Which movie did she see at the theatre?'

According to them, this characteristic rising intonation is dictated by a special interrogative morpheme, merged in C, which is implicated in both yes-no questions such as (150) and *wh*-in-situ questions.

The model that Cheng and Rooryck (2000) develop offers a simple formalization of the conditions under which *wh*-in-situ questions are cross-linguistically allowed. In their view, *wh*-in-situ questions are licensed in essentially the same way in all languages: by a complementizer that leaves a prosodic stamp at the surface level, signaling the interrogative nature of these sentences without resorting to overt *wh*-movement or a lexical question marker.

Cheng and Rooryck (2000) begin with the assumption that French questions are characterized by the presence of a strong Q-feature in C° (see also Bošković 1998 and Boexks 1999). They argue that this Q-feature can be spelled out morphologically as the question marker *est-ce que* or remain null. As (150) and (151) illustrate, *est-ce que* can appear with both yes-no and moved *wh*-questions. This leads them to claim that this underspecified manifestation of the Q-feature can be checked and semantically specified in two different ways. In *wh*-questions, the *wh*-phrase moves overtly to [Spec, CP] to check the Q feature, endowing C with [+wh]. In yes-no questions, a null intonation morpheme [Q:] (with yes-no intonation) is merged in [Spec, CP] and checks the Q feature, specifying the question as yes-no. However, French can also have questions without an *est-ce que* question marker, as seen with the moved *wh*-questions in (148b-c) above; the *wh*-in-situ questions in (148d) and (149) (repeated here as (152 a.)); and the yes-no question in (152 b.), which is identical to (150) above, but without the question marker *est-ce que*.

(152) a. *Elle a vu **quel film** au ciné?*
           she   has seen which movie at.the theatre

           'Which movie did she see at the theatre?'

    b. *Elle a vu **ce film** au ciné?*
           she   has seen this movie at.the theatre

           'Did she see this movie at the theatre?

According to Cheng and Rooryck's (2000) model, in these cases the strong Q feature in C° remains unspelled and can be checked at Spell-Out again in two different ways. It can be checked through overt *wh*-movement to [Spec, CP] as in (148b-c), or via the insertion (Merge, cf. Chomsky, 1995) of the null intonation morpheme ([Q:]) in the head of C. They claim that this intonation morpheme carries a rising yes-no contour by default. As a result, every question in which it is implicated (yes-no questions with and without *est-ce que* and *wh*-in situ questions) is predicted to have the same rising intonational contour. Since no such intonation morpheme is involved in moved *wh*-questions, these interrogatives are not predicted to require any specific contour.

The null Q-morpheme [Q:], like *est-ce que*, is semantically underspecified. This implies that it is compatible with both yes-no and *wh*-questions. Cheng and Rooryck claim that if there is nothing for the underspecified morpheme to attract, then it will be interpreted as [Q: y/n] by default. At Spell Out, the underspecified intonation morpheme will be realized in the form of yes/no intonation. However, if there is a *wh*-feature within the scope of the null [Q:], the underspecified morpheme can trigger covert movement of the *wh*-feature [+wh] to C° at LF to allow for semantic specification. This movement then sets the value of [Q:] to [Q: wh][4]. In this case, because the intonation morpheme is in C°, the question will have a rising yes-no intonation. However, because the intonation morpheme has been specified as [Q: wh] by covert movement of the *wh*-feature, the form of the question is *wh*-in-situ. Moreover, by arguing that merger of the rising intonation morpheme is driven by the need

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[4]Note that in cases of overt *wh*-movement, the purpose of the movement is both to check the Q feature and specify C° as [+wh], but in the case of covert movement, in which the null intonation morpheme checks the Q feature, the purpose of covert *wh*-movement is only to semantically specify [Q:] as [Q: wh].

to check the strong Q feature of Cº, Cheng and Rooryck make the strong prediction that in-situ questions without such intonation should be ungrammatical, and hence unattested. In sum, the system proposed in Cheng and Rooryck (2000) offers five different strategies for French interrogatives:

(i) An overt instantiation of the Q feature spelled as the underspecified *est-ce que* in Cº, which is checked and specified as [+wh] at Spell Out through overt *wh*-movement (cf. (151)).

(ii) The same *est-ce que* in Cº as in (i) checked at Spell Out through the insertion/Merge of the intonation morpheme in Spec, CP, and specified at LF as [+y/n] by the default semantic value of the intonation morpheme (cf. (150)).

(iii) A covert instantiation of the strong Q feature in Cº, checked and specified at Spell Out with overt *wh*-movement (cf. (148c)).

(iv) The covert Q feature in Cº as in (iii), checked at Spell Out via the insertion/merge of the intonation morpheme, which is specified at LF as [Q: y/n] via the default semantic value of the morpheme (cf. (150)).

(v) The same null C as in (iii) and (iv), checked via the insertion of the intonation morpheme in Cº, which is specified at LF as [Q: wh] via covert *wh*-movement (cf.(149)).

The last case (v) corresponds to the *wh*-in-situ strategy, which is of interest here. In the Minimalist Program, if the strong Q feature in C fails to be checked, this leads to a derivational crash and results in ungrammaticality. Since the intonation morpheme is involved in both yes-no questions and *wh*-questions, and serves to check the strong Q feature, the interrogative examples above in (149), (150) and (152) should all have an obligatory sentence-final rising contour equal to that of yes-no questions.

4.3 Interrogatives in Hittite

In what follows next, I present typical examples of Interrogative clauses in Hittite. I first present a sample of yes-no questions, followed by a few representative examples of *wh*-questions.

4.3.1 Hittite Yes-No questions

Syntactically, Hittite polar yes-no questions are not overtly marked. In other words, Hittite yes-no questions are indistinguishable from declarative clauses. There is no Subject-Auxiliary Inversion, such as in English or French, and there are no overt question particles, such as in Japanese with *ka*, Mandarin Chinese with *ma*, or Latin with *-ne*. Consider the following:

(153) ŠEŠ-*YA=za   malāši*
       brother=my=REFL approve-NPST.2SG
       'Do you agree, my brother?'

<div align="right">(<i>Tawagalawa letter</i> CTH 181: KUB 14.3 iii 62 (NH))</div>

(154) DINGIR-*LUM=za kīdaš waškuwaš šēr* TUKU.TUKU-*wanza*
       god=REFL   these sin-DAT.PL for angry-NOM.SG
       'O God, are you angry on account of these sins?'

<div align="right">(<i>Oracular Inquiry</i> CTH 567: KUB 5.10 i 12 (NH))</div>

(155) DINGIR-*LUM=za apaddan šer*   TUKU.TUKU-*wanza*
       god=REFL   that   above angry-NOM.SG
       'O God, are you angry on that account?'

<div align="right">(CTH 567: KUB 5.10 i 23 (NH))</div>

(156) DINGIR-*LIM=za QATAMMA malan   ḫarti*
       god=REFL   that-way   agree-PCP have-NPST.2SG
       'Have you agreed in the same way, O God?'

<div align="right">(<i>Oracular Inquiry</i> CTH 568: KBo 24 118 + ABoT 14 ii 15 (NH))</div>

(157)   *kiššan AWĀT ABI=YA paḫḫšanutten*
         this-way command father=my   observe-PST.IMP.2PL

         'In *this way* have you kept my father's command?'

Without any context surrounding the quoted passages, (153)–(157) are identical in form with declarative clauses. One may note that adverbs such as *kiššan* may be adjoined high to the IP as in (157), or low to the vP as in (156). An excerpt from an oracular inquiry, (158) exhibits the similarity between the polar interrogative followed by the declarative. The only difference is the presence of the sentence initial connector *nu* at the beginning of the declarative:

(158)   *nu   ᵈUTU-ŠI kiššan ariyanun   paimi=kan   ᵈUTU-ŠI anduḫšan*
         CONN Majesty   following consult.an.oracle-PST.1SG go-NPST.1SG=PTCL My Majesty man-ACC.SG
         INA ᵁᴿᵁŠamuḫa parā neḫḫi   nu=ššan paizzi   INA ᵁᴿᵁŠamuḫa
         city of Samuha-DAT.SG PVB   send-NPST.1SG CONN=PTCL go-NPST.3SG city of Samuha-DAT.SG
         ANA ᵈIŠTAR ṢERI mukeššar   pedi=pat   pāi
         I. of the Steppe   invocation.ritual-ACC.SG place-DAT.SG=PTCL give-NPST.3SG

         'I, My Majesty, conducted the following oracle investigation: "Should I My Majesty go (and) send forth a man to the city of Šamuḫa? He will go (and) give in Šamuḫa to Ištar of the Steppe an invocation ritual right at that very place." '

A more overt strategy to mark a yes-no question in Hittite is by first stating a positive question followed by the negated question, as seen in (159) and (160):

(159)   *peḫḫi=wa<r>=at=ši mān=wa=ši ŪL pe[ḫḫi]*
         give-NPST.1SG=QUOT=it=him or=QUOTE=him NEG give-NPST.1SG

         'Shall I give it to him? Or shall I not give it to him?'

(160) nu=war=at Š[EŠ-*YA* IDI nu=wa]r=at UL=ma IDI
     CONN=QUOT=it brother-mine know CONN=QUOT=it NEG=CNTR know

'Does my brother know it? (Or) *not* know it?'

<div align="right">(CTH 181: KUB 14.3 i 52 (NH))</div>

Indirect polar questions asking for an alternative are marked in an embedded *mān . . . mān* construction:

(161) n=an   punuš   mān kišan   mān UL kišan
     CONN=him ask-IMP.2SG if   this.way if   NEG this.way

'Ask him if (it is) so, (or) if (it is) not so.'

<div align="right">(CTH 176: KUB 21.38 Ro 12 (NH)) (letter)</div>

4.3.2 Hittite *Wh*-Interrogatives

Hoffner(1995) lists Hittite interrogatives according to those which have the *wh*-word in clause initial position as opposed to those which don't. However, with respect to argument *wh*-phrases, those that are clause initial contain only the *wh*-word and the verb, or the *wh*-word is the subject of the sentence. As discussed in Huggard (2011), *wh*-interrogatives that contain either only the verb and the *wh*-word or a *wh*-phrase in the Nominative case are non-probative towards either a *wh*-in situ or ex situ analysis, as seen in (162)–(165):

(162) kuit=ta   memaḫḫi
     WH-ACC.SG=CL-2DAT.SG say-NPST.1SG
     'What can I say to you?'

<div align="right">(*Ullikummi* CTH 345: KBo 26.65 iv 23, 25 (MH/NS))</div>

(163) kuiš=war=aš=kan   ku[(enta)]
     WH-NOM.SG=QUOT=CL-3ACC.PL=PTCL kill-PST.3SG
     "Who killed them?" (reported speech)

<div align="right">(*Telepinu Edict* CTH 19: KBo 3.67 ii 4 (OH/NS))</div>

(164)   *kuiš=war=an*   *ḫaran*   ^d*Pirwa*[*i*]   ^{URU}*Ḫaššuwaza uwatez*[*zi*]
        WH-NOM.SG=QUOT=CL-3ACC.SG eagle-ACC.SG Pirwa-DAT.SG Hassu-ABL.SG   bring-NPST.3SG

        "Who will bring the eagle from the city of Hassu to Pirwa?" (reported speech)

                                         (CTH 337.1.A: KUB 48.99 obv 6–7 (OH/NS))

(165)   [(*kuiš=w*)]*a=kan*   DINGIR-*LUM nutarriyaš aruni*   *anda* [*artari*]
        WH-NOM.SG=QUOT=PTCL god   swift-NOM.SG sea-DAT.SG in   stand-NPST.MID.3SG

        "What swift god stands in the sea?" (reported speech)

                                  (*Ullikummi* CTH 345: KUB 33.93 iv 30–31 (MH/NS))

In *wh*-questions which contain more overt arguments within the clause, the word order does not differ from that of a declarative, just as in Mandarin Chinese, or French in-situ questions:

(166)   a.   [DING]IR.DIDLI-*š=a* DUMU.MEŠ -*uš* A.AB.BA-*az sarā dāir*
             god-NOM.PL=CNTR   boy-ACC.PL   sea-ABL.SG   up   take-PST.3PL

             '*The gods* took up the boys from the sea.'

                                     (CTH 3.1.A: KBo 22.2 Ro 4–5 (OH/OS))

       b.   [*tue*]*ll=a* DUMU.MEŠ-*KA kuin*   *šagain*   *iyanzi*
             your=CNTR son-NOM.PL   WH-ACC.SG miracle-ACC.SG do-NPST.3PL

             'What miracle can *your sons* perform?'

                                     (CTH 323.1.A: VBot 58 i 7 (OH/NS))

       c.   ŠEŠ-*tar*   *kuiš*   *kuedani ḫatreškezzi*
             brotherhood WH-NOM.SG WH-DAT.SG write-NPST.ITER.3SG

             'Who is writing to whom (about) *brotherhood*?'

                                     (CTH 171: KUB 23.102: 10 (NH))

(167)   a.   *Hufei mai-le yi bun shu*
             Hufei   buy-ASP one CL   book

             Hufei bought a book.

b. *Hufei mai-le shenme (ne)?*
   Hufei   buy-ASP what

   'What did Hufei buy?'

(168)   a. *Jean a   acheté un livre*
           Jean   have-PRES.3SG buy-PCP a   book

           'Jean has bought a book.'

   b. *Jean a   acheté quoi?*
      Jean   have-PRES.3SG buy-PCP what

      'What has Jean bought?'

As seen in (166)–(168), the direct object *wh*-phrases in the b. examples are in their base generated position when compared to the declarative counterparts in the a. examples. Hittite being an SOV language, the direct object DUMU.MEŠ-*uš* in the declarative clause in (166a.) and the direct object *wh*-phrase *kuin šagain* in (166b.) both surface between the subject and the verb. It should be noted that the direct object in (166c), ŠEŠ-*tar* 'brotherhood', has been fronted above the subject and indirect object *wh*-phrases. Further examples of *wh*-phrases in the accusative case include (169) and (171).

(169)   *kinuna=wa=šmaš   kuit   wēkmi*
         now=QUOT=them-DAT.PL WH-ACC.SG ask-NPST.1SG

         "What now shall I ask from them (i.e. the gods)?" (reported speech)

                                                    (CTH 370: KUB 34.53 rev. 8 (pre-NH/NS))

(170)   *šummeš=kan kuit   neyari*
         you-DAT.PL=PTCL WH-NOM.SG happen-NPST.MID.3SG

         'What will happen to you?'

                                                    (CTH 89.A: KUB 21.29(+) iv 13–14 (NH/NS))

The immediate preceding context of (171), a letter of an official to the Queen, reads: "The King of Isuwa will no longer come to His Majesty. Know thus, Queen my Lady:"

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(171) *nu* MUNUS.LUGAL GAŠAN=*YA kuit*   *iyaši*
       CONN Queen Lady=mine   wh-ACC.SG do-NPST.2SG
       'What will you Queen my Lady do?'

<div align="right">(Letter of an official to the Queen, CTH 209: KBo 8.23 13–17 (NH))</div>

Note the similarity with the French *wh*-in situ versions of (166)–(168) in (172)–(174):

(172) *Maintenant je leur   demande   quoi?*
       now   I   to-them ask-PRES.1SG what
       'Now what do I ask them?'

(173) *Il t'   arrivera   quoi?*
       it to-you happen-FUT.3SG what
       'What will happen to you?'

(174) *Vous, ma reine, allez   faire quoi?*
       you   my queen go-PRES.2PL do-INF what
       'What will you, my Queen, do?'

Hoffner (1995: 101) rightly remarks that Hittite interrogatives are of a different nature from English, but he states that *wh*-words gravitate to the end of the clause and "precede the finite verb as closely as possible." Although not a false observation concerning the distribution of the *wh*-words – most do look pre-verbal – I object to the claim that *wh*-phrases move anywhere. Rather, this comes from the fact that Hittite is an OV language which is *wh*-in situ, and interrogative clauses are generally short. Direct object *wh*-phrases will predictably be pre-verbal, just like non-*wh*-direct objects. Adjuncts to the vP (adverbials, non-argument cases) will also be predictably pre-verbal, just like non-*wh*-phrases. When compared to declarative counterparts, the distribution of a *wh*-phrase in any given case form matches the same distribution for that case form in a declarative or imperative clause. Consider the following examples with an ablative of means in an imperative clause in (175) and (176) to that of ablative of means *wh*-phrase in (177)–(178).

(175) LUGAL-*uš* ^{URU}*Taḫ[ur]pi ša[r]ā* ^{GIŠ}GIGIR-*az paizzi*
king-NOM.SG Taḫurpa-DAT.SG up chariot-ABL.SG go-NPST.3SG

'The king goes up to Taḫurpa by chariot.'

(CTH 669: KBo 10.20 i 16–17 (OH/NS))

(176) *ḪAṢṢINNU=wa* ŠU-*az* *ēp*
ax=QUOT hand-ABL.SG seize-IMP.2SG

'Take the ax with (your) hand!.' (reported speech)

(CTH 341: KUB 8.50 iii 11 (OH/NS))

The excerpt in (177) is from the king Muršili II's fourth plague prayer, with the preceding context '*Or should I have restored it for the [gods], my lords, from my land or from my infantry and chariotry? If I now (am to) reestablish the gods, since now (my) household, land, infantry (and) chariotry are dying,*':

(177) *nu šumeš* DINGIR.MEŠ *kuēz* EGIR-*pa taninumi*
CONN you-ACC.PL god-ACC.PL wh-ABL.SG PVB establish-NPST.1SG

'By what means (am) I to reestablish you gods?'

(CTH 378.IV.A: KUB 14.13 iv 1–5 (NH))

The excerpt in (178) is from an oracular inquiry. Note that the ablative of means *wh*-question and the yes-no question are both distributed like the declarative in (176) between the accusative direct object and the verb.

(178) ᵈU   ᵁᴿᵁ*Nerik* TUKU-*an* ZI-*an*   *kuēzza*   KASKAL-*aḫmi*

      Stormgod of-Nerik   angry-ACC.SG soul-ACC.SG wh-ABL.SG place.on.the.road-NPST.1SG

      'By what (means) can I appease the angry soul of the Stormgod of Nerik?'[5]

      ᵁᴿᵁ*Tanizilan kuwapi ḫarganumi*   *n=an*   ZI-*an*   *apezza*   SED-*numi* KI.MIN

      Tanizila-ACC.SG   when   destroy-NPST.1SG CONN=him-ACC soul-ACC.SG that-ABL.SG calm-NPST.1SG Ditto

      SIG₅-*ru*

      be.favorable-IMP.3SG

      'When I destroy Tanizila, will I calm his soul by that means? Ditto, let it be favorable!'

                                       (CTH 561: KUB 5.1 i 92–93 (NH))

Concerning *maḫḫan* 'how', the only clause initial example given in Hoffner (1995: 93) contains only the *wh*-word and the verb. In the *CDH* under *maḫḫan* 'how', all clause initial *maḫḫan* contain only the adverbial *wh*-word and the verb. In clauses that contain more constituents, it is clear that the adverbial *wh*-word remains in situ as an adjunct to the vP:

(179) *nu=wa*   *wattaru*   *māḫḫan iyan*

      CONN=QUOT fountain-NOM.SG how   make-PCP.NOM.SG

      'How (is) the fountain made?' (reported speech)

                                       (CTH 820: KBo 21.22 41–42 (OH/MS))

The next *maḫḫan* example in (180) is from a ritual, where the preceding context sets up the situation: '*But if he dies, and he (another person) begins to see him as a ghost in dreams, or begins to see him nightly in dreams,*':

(180) *n=an=ši=kan*   EGIR-*an* GAM GIM-*an karšmi*

      CONN=3ACC.SG=3DAT.SG=PTCL afterward   down   how   cut-NPST.1SG

      'How shall I cut him (the ghost) off from him (the ritual client)?'

                                       (CTH 470: KUB 39.61 i 4–7 (NS))

The next three examples are with the adverbials *kuwat* 'why' in (181), the adverbial *wh*-phrase *kuedani šer* 'on what account' in (182), and *kuwapi* 'where' in (183):

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[5]Contra Richard Beal (1999: 45), the first clause cannot mean "I will satisfy the angry soul of the Stormgod of Nerik by every means." For that, the form would have to be *kuēzziya*. NS Ablatives in -*ēzza* are always equivalent to -*ēz* . See Melchert(1977: 447).

(181) KASKAL ^{URU}*Tanizila kuwat* NU.SIG₅
     road   Tanizila   why   be.unfavorable

     'Why is the campaign to Tanizila unfavorable?'

(182) DUMU.MEŠ LUGAL=*ma kuedani* [*še*]*r ḫarkiškantari*
     sons   king=CNTR   WH-DAT.SG on   perish-ITER.NPST.3PL

     'Why are *the princes* dying (being put to death)?'

(183) 'The seeds about which you Himuili said to me:"Seeds have now been sown in Dapikka, and some in Anziliya, and some in Hariya and some in Hanikka",

     nu   *ape*   NUMUN^{ḪI.A} *kuwapi pait*
     CONN those-NOM.PL seed-NOM.PL   where   go-PST.3SG

     'Where have those seeds gone?'

Another similarity between Hittite *wh*-in situ and Mandarin Chinese and French *wh*-in situ is observed in Nominal questions, as seen in (184)–(185):

(184)   a.   Hittite

        maḫḫan ^{LÚ}ŠU.I *šarā paizzi*   *nu* ^{LÚ}NI.DU₈ *ḫalzāi*   *zik=za*   *kuiš*
        when   barber up   go-NPST.3SG CONN gate.keeper call-NPST.3SG you-NOM.SG=REFL WH-NOM.SG

        'When the barber goes up (to the palace), the gatekeeper calls out: "Who are you?" '

    b.   Mandarin Chinese

        Ni shi shei
        you be   who

        'Who are you?'

    c.   French

       Vous êtes   qui?
       you   be-PRES.2PL who

       'Who are you?'

(185)   a.   Hittite

       ini=wa   kuit
       that-NOM.SG=QUOT WH-NOM.SG

       'What is that?' (reported speech)

                                       (CTH 764: KBo 9 127 + KUB 36.41 i 12 (MH/MS))

    b.   Mandarin Chinese

       Na shi shenma
       that be   what

       'What is that?'

    c.   French

       C' est   quoi?
       that be-PRES.3SG what

       'What is that?'

Following Mascheroni (1980: 58–59), Hoffner and Melchert (2008: 427) report that indirect questions in Hittite are most often embedded under the verbs *šak-* 'to know', *auš-* 'to see', *ḫatrai-* 'to write', and *punušš-* 'to ask'. However, the examples with *ḫatrai-* 'to write' are of a different structure from those with *šak-* 'to know', *auš-* 'to see' and *punušš-* 'to ask' and do not represent true embedding, but rather a question followed by an imperative, as seen in the excerpts from letters in (186) and (187):

(186)   *n=ašta   apāš   *^{LÚ}KÚR   *kuwapi naiškettari   nu=mu ḫatreški*
         CONN=PTCL that-NOM.SG enemy-NOM.SG where   turn-NPST.MID.3SG CONN=me write-NPST.2SG
         'Where is the enemy heading? Write to me.'

                                   (CTH 186: HKM 27, 8–10 (MH/MS))

(187)   *nu=kan*   *kē*   MUŠEN.ḪI.A *kuedani* KASKAL-*ši anda šanḫueni*   *nu=naš=an*
        CONN=PTCL these-ACC.PL bird-ACC.PL   WH-DAT.SG path-DAT.SG   PVB   seek-NPST.1PL CONN=us=it

        ᵈUTU-*ŠI BELI=NI* EGIR-*pa ḫūdāk*   *ḫatrāi*
        Majesty   lord=our   PVB   immediately write-IMP.2SG

        'In which direction should we seek these birds? Write it back to us immediately, your

        Majesty our Lord.'

<div align="right">(CTH 188: HKM 48 18–23 (MH/MS))</div>

An example of a multiple question is found in (188) showing both matrix and embedded adverbial *wh*-words in situ[6], and the embedded *wh*-words all in situ in (189)–(191):

(188)   *nu*   *tuel* LÚ *ṬEMU kuwat ŪL punušta*   *memaḫḫun=ši*   GIM-*an*
        CONN your messenger   why   NEG ask-PST.2SG speak-PST.1SG=him-DAT how

        'Why did you not ask your messenger how I spoke to him?'

<div align="right">(CTH 177: KUB 23.101 ii 5–6 (NH))</div>

(189)   *zik*   ᵈ*IŠTAR* ᵁᴿᵁ*Nenuwa* GAŠAN-*NI ŪL šakti*   KUR   ᵁᴿᵁ*Ḫatti* GIM-*an*
        you-NOM.SG Ishtar   Nineveh   Lady-our   NEG know-NPST.2SG country Hatti   how

        dammešḫan
        damaged-PCP

        'Do you, Ishtar of Nineveh, our Lady, not know how the land of Hatti is damaged?'

<div align="right">(CTH 716: KBo 2.9 i 38–39 (?/NS))</div>

(190)   *šumeš=wa*   [D]INGIR.MEŠ *ŪL uškatteni kiššan=wa=mu*   *kuiš*   *iyan*
        you-NOM.PL=QUOT god-NOM.PL   NEG see-NPST.2PL in.this.manner=QUOT=me WH-NOM.SG do-PCP

        ḫarzi
        have-NPST.3SG

        'Do you gods not see who in this manner has done (this) to me?'

<div align="right">(CTH 389: KUB 54.1 i 20–21 (NH))</div>

(191)   [(*nu=za*)] *kāšma au*   ᵈU   NIR.GÁL=*mu BELI=YA maḫḫan peran ḫuyanza*
        CONN=REFL here   see-IMP.2SG Stormgod mighty=me   lord=mine   how   PVB   run-PCP

        'Just see how the mighty Stormgod, my lord, goes before me.'

<div align="right">(CTH 61.II.7.A: KBo 5.8 i 12–13 (NH))</div>

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[6]With the verb *memaḫḫun* focused in the embedded clause in (188).

The fact that *wh*-expressions remain in situ in both matrix and embedded clauses is significant and provides insight towards identifying what processes are involved in Hittite *wh*-in situness. With respect to embedded *wh*-phrases, Hittite aligns with Mandarin Chinese and not French. French *wh*-in situ is grammatical only in matrix questions, and not in embedded ones.

(192)   a.   *qiaofong xiang-zhidao hufei mai-le shenme*
             Qiaofong   want-think   Hufei buy-ASP what
             'Qiaofong wonders what Hufei bought.

<div align="right">(example from Cheng 1991: 11)</div>

    b.   *Ni xiang-zhidao Hufei mai-le shenme?*
         you want-think   Hufei   buy-ASP what
         'What do you wonder Hufei bought?'

<div align="right">(example from Huang 1982: 267)</div>

(193)   *Marie pense   que Jean a   acheté quoi*
        Marie   think-PRES.3SG that Jean have-PRES.3SG buy-PCP what
        *Marie thinks that Jean has bought what.

4.4 A Proposal: the Hittite null intonation morpheme [Q:]

From the data presented here, it is clear that Hittite displays characteristics of a *wh*-in situ language. Given the Clausal Typing Hypothesis from Cheng (1991), the first question that arises is what licenses the *wh*-word to remain in situ? Given the evidence from French *wh*-in situ, is there any evidence to posit a null intonation morpheme [Q:] for Hittite?

An important clue towards an explanation comes from the philological analysis of the texts. In an unpublished 1983 manuscript, Calvert Watkins makes an important observation concerning the spelling of two verbal forms within the Old Hittite-Old Script text KBo

<div align="center">104</div>

22.1 (CTH 272). The forms in question are the second person plural *ḫar-te-ni-i* 'you hold' (as seen below in example (196a.)) and *i-iš-te-ni-i* 'you do', compared to regular spelling *ḫar-te-e-ni* and *i-iš-te-e-ni* respectively. He rules out scribal error, or any morphological or morphophonemic conditioning, and argues that it is syntactic: the *scriptio plena* of the final syllable of these forms marks the special intonation of yes-no questions, and relates it to the well known spelling convention known as *pluti*[7] in Vedic Sanskrit that consists of the protraction of the vowel of a final syllable to three moras, with an additional accent to any other that the word may have[8]. This serves as an orthographic representation of the rising contour intonation of an interrogative, and is present in both yes-no questions and questions containing an adverbial *wh*-form. This may be seen in the following Rg Veda excerpt from the *Hymn of Creation* in (194):

(194)   *adháḥ svid āsí3d upári svid   āsī3t*
        below   PTCL was   PTCL   above was
        'Was it indeed below? Was it indeed above?'

(*Hymn of Creation*, RV X.129,5b)

This practice also occurs in prose texts, as seen in the excerpt in (195) from the *Taittiriya Samhita*:

(195)   *chinátti sā́ ná   chinattī3*
        cut   she NEG cut
        'Does she divide or not?'

(TS 1,7,2,1)

Scribes in Assyria and Babylonia using the Akkadian cuneiform script optionally specified the interrogative intonation by *scriptio plena* spelling of the final vowel of the central word in the question (see von Soden 1952; Knudsen 1980; Watkins, 1983; Hoffner, 1995:

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[7]This lengthening of the final vowel is represented in written texts by a *3*.

[8]For more on Vedic *pluti*, see Wackernagel (1886)'s *Altindische Grammatik*, vol.1, pp. 297–300, and a more recent treatment by Strunk 1983.

88 amongst others). The scribe of this particular text, Watkins claims, must have been familiar with this practice, as he also uses this orthographic device with an Akkadogram in an interrogative nominal sentence a few lines above, and the same Akkadogram without the *scriptio plena* spelling in the next line (196c.). The clause containing the *i-iš-te-ni-i* form is fragmentary (196b.), but the particular spelling is explained by Oettinger (1979: 566 fn. 12) as "Frageintonation", just as Watkins does. Independently from Watkins, Ivanov (1989: 110–113) also relates the special *scriptio plena* spelling of the forms in KBo 22.1 to the Vedic *pluti* practice. However, this method did not become a regular orthographic practice for Hittite scribes: from the entire Hittite corpus, only the examples from KBo 22.1 are known for yes-no questions in Old Hittite-Old Script, shown here in (196) and one from New Hittite in (197). It also occurs only once with a *wh*-word in Old Hittite-Old Script as seen in (198).

(196) a. *nu kiššan AWĀT ABI=YA arḫān ḫarten**ii***
CONN this.way command father=my accomplish-PCP hold-NPST.2PL

'Is this the way you hold my father's word accomplished?'

(CTH 272: KBo 22.1 30–31 (OH/OS))

b. *kinun kāš kiššan īššai* LÚ.MEŠ *NAŠIṢIDITI₄ŠU* x [   ]
now this.one-NOM.SG this.way do-NPST.3SG porters

*īšten**ii***
do-NPST.2PL

'Now this (person) does as follows: (his) porters [x x x] will you do[x x x]?'

(CTH 272: KBo 22.1 32–33 (OH/OS))

c. *natta* LÚ *NAŠIṢIDITI₄Š**UÚ*** *kāša=ta=wa* LÚ^MEŠ *NAŠIṢIDITI₄ŠU*
NEG porters behold=you=QUOT porters

dameškatteni
oppress-ITER.NPST.2PL

'Are they not your porters? Behold! you are oppressing your porters.'

(CTH 272: KBo 22.1 17–19 (OH/OS))

(197)   [*PANI*] *ABU=KA=ya* GIM-*an ešer*   *nu*   *memaḫḫii*
      with   father=your=and   how   be-PST.3PL CONN say-NPST.1SG

      'How they were with your father, shall I tell (you)?'

In all four questions above, the interrogative clause is marked by *plene* spelling of the final vowel of the verb or word of the clause. The fact that the only known example of the form *memaḫḫi* with a plene writing of the final vowel is from the passage in (197) is an indication that this practice of graphically representing interrogative tone is unusual.

This same *scriptio plena* spelling occurs once for the *wh*-word in the following passage:

(198)   *ug=a*   *kuiit*   *dāḫ*[*ḫi*]
      I=CNTR WH-ACC.SG take-NPST.1SG

      'What will *I* take?'

Although the philological evidence is meager, the consensus within the field is that interrogatives were prosodically marked by a rising sentential intonation (Mascheroni, 1980; Hoffner, 1995; Hoffner and Melchert, 2008; Goedegebuure, 2009). Kloekhorst (2014: 432–33) takes the plene spelling of *kuit* in (198) to be significant, as the verb *ḫuiš*- and *ḫuitt(iye/a)-ᶻⁱ* never show plene spelling of their *i* in OS texts. For Kloekhorst, it reflects the accentuation of the same preform, PIE **kʷíd*, and thus in its interrogative function, the Hittite *wh*-word *kui*- was certainly accented.

A further, perhaps more robust, argument supporting the *wh*-word *kui*- as being prosodically accented when interpreted as an interrogative comes from its syntactic distribution. Unlike with its indefinite interpretation, *kui*- never exhibits any signs of prosodic flip: it always surfaces in the base generated argument position assigned by the syntax. In addition to (166b.) above, consider the following passage consisting of a pairing of question and answer where *kui*- precedes its noun:

(199)   *kuel=wa=kan*   ZI-*anza*   *uriš*   *dandukeš=wa=kan*   ZI-*anza*   *uriš*   *nu*

        WH-GEN.SG=QUOT=PTCL soul-NOM.SG great-NOM.SG mortal-NOM.SG=QUOT=PTCL soul-NOM.SG great-NOM.SG CONN

        kuin   KASKAL-*an ḫarzi*   *marnuwalan* KASKAL-*an ḫarzi*

        WH-ACC.SG road-ACC.SG   have-NPST.3SG invisible-ACC.SG road-ACC.SG   hold-NPST.3SG

        'Whose soul is great? The mortal soul is great. And what road does it hold? The invisible

        road it holds.'

<div align="right">(KUB 43.60 i 27-28 (OH/NS))</div>

As discussed in Chapter 2, the nature of the core of the Hittite *wh*-word *kui-* is that of an indefinite, as it is interpreted as an existential/polar item in affective environments. The core *kui-* does not have any quantificational force nor prosodic accentuation of its own. Following Cheng (1991), I propose that for the interrogative reading, the *wh*-form consists of the null determiner which carries the [+wh] feature [$_D$ $\varnothing_{[+wh]}$] and the core *kui-*. The structure of Hittite *kui-* with interrogative force is proposed as in (200):

(200)   Structure of Hittite Interrogative *kui-*
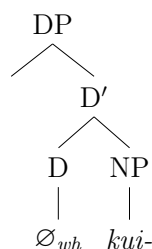
As for the licensing of *wh*-phrases in situ, I extend Cheng and Rooryck's (2000) analysis of French *wh*-in situ and propose that *wh*-in-situ questions in Hittite are marked by an obligatory rising contour, which is the result of a null intonation morpheme [Q:] in C°. Under this analysis, rising intonation could be seen as the reflection of a syntactic requirement: the Clausal Typing Hypothesis.

However, I propose that the Hittite null intonation morpheme [Q:] in C° does not display exactly the same properties as the one proposed for French, as it has both root scope and embedded scope. Secondly, I do take the philological evidence of plene spelling of the final vowel in the yes-no question in (197) and of the *wh*-word *kui-* in (198) as significant. I

propose that rather than calling for a sentence-final rise, the intonation morpheme instead encodes a high tone, whose docking site is lexically underspecified. This high tone could be realized as hosted by a syllable receiving prominence, the narrowly focused monosyllabic Hittite *wh*-word in *wh*-interrogatives, or as a sentence-final raising contour tone in yes-no questions.

Experimental evidence on living languages supports this analysis. The occurrence of a prominent pitch accent on *wh*-words in *wh*-in-situ questions is consistent with a number of other studies. For example, for French *wh*-in situ questions, Wunderli (1983) observed the presence of a pronounced pitch on the *wh*-words in *wh*-in-situ questions produced by speakers in that study. Baunaz & Patin (2011) also observed that *wh*-words produced by speakers in their study of French *wh*-in-situ questions were also often assigned a high pitch accent. Furthermore, pitch compression following the *wh*-word has been observed not only in French (Beyssade et al., 2007; Jun and Fougeron, 2000, 2002; Wunderli, 1983), but also in other languages such as Mandarin Chinese (Xu, 1999), Japanese (Deguchi and Kitagawa, 2002; Ishihara 2003) and Korean (Jun, 2002).

To recapitulate, Hittite *wh*-in situ is triggered by an intonational Q-morpheme, which is underspecified as [Q:], enabling it to license both yes-no questions and *wh*-questions (matrix and embedded). Its docking site is lexically unspecified and surfaces on the *wh*-word in *wh*-interrogatives, and as a sentence-final rising contour tone in yes-no questions. It is similar to the Mandarin *wh*-morpheme in that it checks the Q feature in C^o, making overt movement of the *wh*-phrase unnecessary. As in French, the underspecified [Q:] morpheme has a default [Q: y/n] interpretation, and when a *wh*-phrase is in the scope of Q, the *wh*-feature of $[_D \varnothing_{[+wh]}]$ moves at LF to set the value of [Q:] to [Q: wh]. The novel proposal is that the attested accented nature of *wh*-words in Hittite is not *lexically* determined, but is the outcome of the stress assignment by the intonational Q-morpheme.

(201) Summary

	Chinese *wh*-particle	French intonation	Hittite intonation
Checks Q-feature in Cº	✓	✓	✓
[Q:]		✓	✓
[Q: wh-]	✓		
root scope	✓	✓	✓
embedded scope	✓		✓
Feature moves		✓	✓

As a diachronic side-note, given the connection between the Hittite *scriptio plena* in yes-no questions and Vedic *pluti*, Watkins (1983) and Ivanov (1989) suggest that this special intonation might possibly be inherited from PIE. Given that the PIE interrogative/indefinite stem *$k^w i$- is traditionally reconstructed as unaccented in its indefinite interpretation, and accented in its interrogative interpretation, I very cautiously suggest that we may reconstruct a similar Q morpheme for PIE. Consequently, and once again very cautiously, I would reconstruct a single lexical item for PIE: *$k^w i$-, a prosodically underspecified polarity item. However, the other ancient Indo-European languages are not *wh*-in situ languages, but rather indicate focus movement[9]. For ancient Greek as a Focus-movement language, see Roberts and Roussou (2003: 164), who furthermore argue that τις (*tis*) is by nature a Polarity Item out of which the interrogative developed. For [Spec, Foc] as the landing site for *wh*-words in Tocharian, see Koller (2013). It is my opinion that a similar analysis may be given for Vedic Sanskrit as well. A more in-depth study of the syntax, semantics and prosody of interrogatives and indefinites in the other ancient Indo-European languages is required.

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[9]Although most handbooks consider them to be *wh*-move languages.

4.4.1 Some further Diachronic Considerations

There are few attested interrogatives in the corpus of the other related Anatolian languages. However, from the few assured Hieroglyphic Luwian interrogatives, Yates (2014) has isolated some examples which agree with the Hittite material. This suggests that Luwian was also a *wh*-in situ language:

(202)   *ni-pa=w=a/in(a)* |*á-mu* |**REL-za** |*i-zi-ya-wa/i* |*á-mi-na* |*za-na* | *ha-tu-ra/i-na*
           or-CONJ=QUOT=3ACC.SG I-NOM.SG why   make-NPST.1SG   mine-ACC.SG this-ACC.SG letter-ACC.SG.
           'Or **why** do I make it, this letter of mine?'

<div align="right">(ASSUR letter e §9 (Hawkins 2000: 535))</div>

(203) |*(a)=wa/i=mu=ta* | **187(-)tu-wa/i-i-za* |**REL-za** |*u-si-ti-sa* #
           CONJ.=PTC-QUOT=CL-1DAT.SG=PTC-LOC ?-ACC.PL   why   bring-NPST.2SG
           |*(a)=wa/i=mu* |10 *ha-sà-pi-na* |100=*ha=wa/i=mu*   "*(*187)sù*"-*mi-la-a-na*
           CONJ=QUOT=1DAT.SG 10   ?=ACC.SG   100=CONJ=QUOT=1DAT.SG ?=ACC.SG
           |*VIA-wa/i-ni*
           send-IMP.2SG
           '**Why** do you bring me *t–*? Send me 10 *h–* and 100 *s–*!'

<div align="right">(ASSUR letter c §7-8 (Hawkins 2000: 535))</div>

I follow Yates (2014) in that Proto-Anatolian was in fact a *wh*-in situ language, and that the proposed analysis in this thesis for Hittite is a continuation from Proto-Anatolian, and is not a Hittite innovation.

What could count as a convincing semantic-pragmatic explanation of an indefinite pronoun acquiring an interrogative function? Lyons (1977, 758–62) proposes an elegant analysis based on the concept of presupposition. The starting point of the analysis is shared with many other accounts, including that by Halliday (1967), who relates the yes-no and *wh* interrogatives to information treated by speakers as given or new. For present purposes, since presupposition as a logical relation opposed to entailment is controversial in some quarters, we will interpret it as what speakers take for granted. Consider the question in (204).

(204)   a.   Did someone open the door?/Did anyone open the door?

         b.   Who opened the door?

         c.   What did the boys open?

The speaker uttering (204a.) takes nothing for granted about the event, but wants to know if the door was opened. *Yes* or *no* would be sufficient answers, but in the case of *yes*, politeness and Gricean constraints would impel many addressees to supply the name of the person opening the door. The speaker uttering (204b) takes it for granted that the door was opened and asks the addressee to supply the name of the person who carried out the act. The speaker uttering (204c) takes it for granted that the boys opened something and asks the addressee to say what was opened. The speaker's presuppositions – what they take for granted – can be expressed by means of sentences containing the modern English indefinite pronouns *something* or *someone*, as in (205).

(205)   a.   Someone opened the door.

         b.   The boys opened something.

Lyons points out that an example such as (205a) can be uttered with two intonation patterns, one that marks an utterance of (205a) as a statement and one that marks it as a question[10]. The question can be understood as a yes-no question – 'Did this event happen?' – or as a *wh* question – 'I know the door was opened; tell me who did it.' The type of question could be clearly signaled by variation in stress as well as intonation. Lyons observes that 'the relationship between the statement and the two kinds of questions is rarely, if ever, systematically made solely in the non-verbal component of languages'. Nonetheless, in principle, marking the difference does not require different syntactic structures. This then is the route by which indefinite pronouns come to be used as interrogatives: 'I know that some person, for me as yet non-specific, opened the door. Please specify that someone'.

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[10]In fact, in informal spoken English, the question utterance is most likely to be *someone opened the door?*, with no auxiliary *did*.

Chapter 5

Hittite Correlated Stuctures

5.1   Introduction

Previous studies on the topic of relativization in Hittite have each made insightful observations concerning various linguistic features displayed in Hittite "relative" clauses, whether they be syntactic, prosodic, or semantic. Early on, most Indo-Europeanists took the construction as representing a stage between a paratactic language and the hypotactic constructions of the classical languages. Sturtevant (1930: 142–148) compared typical Hittite examples with similar Latin and Greek types, but concluded that each clause in the construction was not in a relationship of subordination on the basis of the presence of the Hittite sentence connective *nu*. Thus for Sturtevant, Hittite represented a stage at which subordination was incomplete (Sturtevant, 1930: 149).

Hahn (1946), working with a larger corpus, proposes that the Hittite construction represents an early indefinite paratactic construction. She concurs with Sturtevant in that the sentence connective supports a paratactic analysis (1946: 82), but analyzes the Hittite correlatives as not being relatives at all. She makes the observation that the *wh*-word most regularly surfaces after its head Noun in relative constructions and when used as an indefinite. The exceptions to this distribution, according to Hahn, are when *ku-* is emphatic or in

the correlated *"some . . . some . . ."* construction, the so-called Multiple Partitive construction identified in Chapter 2 of this thesis, and which I further discuss below.

Held (1957) proposes a finer structural/semantic descriptive analysis. He makes the observation that the position of the *wh*-word within the preposed correlative is dependent upon certain discourse factors and results in different interpretations (Held 1957: 12–13). "Indeterminate" relatives refer to novel indefinite entities whose existence has not necessarily been established in the discourse, or whose existence may even be in doubt. In these clauses, the *wh*-word stands in "initial" position[1]. According to Held (1957:12–13), "determinate" relatives, on the other hand, refer to specific entities whose existence has already been established in the discourse. Operating in the mind-set of linear order, Held posits that anything but the *wh*-word must be in initial position in the clause (i.e. *ku-* must be in second position). In this respect, Held's conclusions differ from Hahn's: he interprets non-initial *ku-* forms as definite, while Hahn (1946: 71–85) took them as indefinite. Up to the present date, most accounts of Hittite relatives are based on Held's proposal (see among others Hale 1987; Garrett 1994: 43–45; and Hoffner and Melchert 2008: 424–425).

Berman (1972) approaches the issue of correlative structure by deriving it from a pair of coordinated sentences, the subordinate member coming from an independent question, the matrix its answer. This interpretation was used earlier to explain the similarity between the forms of the indefinite and interrogative markers (Jacobi, 1897: 34).

Justus-Raman (1973) takes the preposed correlative in Old Hittite as being a true subordination and representing a normal modifier construction in OV languages. She also correlates the positions of the *wh*-word with respect to a definite versus indefinite interpretation. Her synopsis is as follows:

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[1]Initial position being defined as either being the first word in the clause with the sentential clitic chain attached to it, or immediately following any clause linking connectors (*nu*, etc.) to which the sentential clitic chain is attached to. Hence according to Held (1957) and Garrett (1994), the only clauses that qualify as being "indeterminate" are of the type [$_{CP}$ *kuiš*=(CL)=(CL) . . .] or [$_{CP}$ *nu*=(CL)=(CL) *kuiš* . . .].

(206) Synopsis of Justus-Raman (1973)

    a. *ku*- NP ... neutral with regards to definiteness

    b. NP *ku*- ... correlates with definiteness of the Noun

    c. NP ... *ku*- correlates with indefiniteness of the Noun

Garrett (1994) extends Held (1957) as the basis for his analysis of correlatives in Lycian. Starting with Held's observation of the distinctive interpretive correspondence of first position versus that of second position of the *wh*-word (Hittite *ku*-, Lycian *ti*-), Garrett translates Held's account from a linear order approach to a hierarchical structure approach[2]. According to Garrett, preposed "indeterminate" and "determinate" types of clauses leave a gap in the system: those that are indefinite and non-quantificational. His proposal has the advantage of formalizing the semantics of Hittite correlatives in line with proposals that were made concerning the semantics of correlatives cross-linguistically, such as Srivastav (1991), who postulates that preposed correlative clauses have the semantic property of being quantificational, whereas postposed relatives are non-quantificational[3]. Garrett (1994) identifies at least four distinct semantic and pragmatic types: "indeterminate", "determinate", "indefinite" and non-restrictive relative clauses. He further proposes that this system, summarized in (207), ought to be reconstructed for Proto-Anatolian.

(207) Synopsis of Garrett (1994: 49)

    indeterminate   preposed   [Front Relative NP] [Wh (empty)] ...

    determinate   preposed   Front + [Front Relative NP] ...

    indefinite   postposed   (Front +) [Front Relative NP] ...

    non-restrictive   postposed   (Front +) [Front Relative NP] ...

This distinctive categorization of correlatives is unique to the Anatolian branch, and is not found elsewhere in the ancient Indo-European languages. Consider the minimal pair in

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[2]To my knowledge, Hale's (1987) unpublished dissertation is the first attempt to translate Held's linear order approach of Hittite preposed correlatives into a generative syntactic framework.

[3]A later proposal by Grosu and Landman (1998) claims that correlative clauses cross-linguistically have maximalizing semantics, meaning they are either generalizing or definite. I will discuss this below in the following section.

(208) to illustrate the contrast in meaning between an "indeterminate" and "determinate" type of correlative, :

(208) a. Preposed "indeterminate" correlative

kuiš　　*IKRIBU*　*šarninkuwaš*　　*n=an*　　　*šarninkanzi*
WH-NOM.SG votive-offering compensation-VN.GEN.SG CONN=CL-3ACC.SG give.compensation-NPST.3PL

'Any votive offering which is of compensation, they will give it in compensation.'

(CTH 577.I: KBo 2.2 iii 33–34 (NH))

b. Preposed "determinate" correlative

nu　*IKRIBU*^{ḤI.A}*=ma*　　　*kuieš*　*šarninkueš*　　　*n=aš*
CONN votive.offering-NOM.PL=CNTR WH-NOM.PL compensatory-VN.NOM.PL CONN=CL-3ACC.PL
šarninkanzi
give.compensation-NPST.3PL

'But the votive offerings that are of compensation, those they will give in compensation.'

(CTH 577.I: KBo 2.2 iv 7–8 (NH))

Example (208a) occurs in the text before the precise nature of the votive offering has been determined. This state of ignorance is changed as the text progresses: more information is given concerning the nature of the goddess' anger, and which votive offerings are to be made to appease her. At this point of the narrative the clause contained in example (208b) occurs.

Concerning the structural account for these preposed clauses, in both instances Garrett (1994: 46–7) proposes that the *wh*-phrase undergoes *wh*-movement in the relative clause, followed by a second "fronting" process: in "indeterminate" clauses, the *wh*-word/phrase is further fronted; in "determinate" clauses, any single syntactic constituent is further fronted above the *wh*-word.

Probert (2006) makes the case that in Old Hittite, the resumption and the sentence initial connector introducing the resumptive clause are either strictly both present or both

absent[4]. She argues that sentences with both resumption and sentence initial connector in the resumptive clause correspond to adjoined clauses, whereas sentences with neither correspond to an embedded clause. According to her, after Old Hittite, a resumptive clause contains both a resumption and the sentence initial connector *nu*, suggesting that the Old Hittite embedded relative clauses have been re-analyzed as adjoined.

(209) a. <u>Adjoined Clauses with resumption</u>

nu   kuit   LUGAL-uš tezzi   nu   apāt   luzzi   karapzi
CONN WH-ACC.SG king-NOM.SG say-NPST.3SG CONN that-ACC.SG corvée-ACC.SG take.up-NPST.3SG

'Anything the King says, that duty he shall take on.'

(CTH 291.III: KBo 6.4 iv 32–33 Laws, Late Version §XXXIX (OH/NS))

b. <u>Embedded</u>

^{LÚ}K]AŠ₄.E [(*taruḫzi   kui*)]*š   2 ^{NINDA}wagataš   1 MA[NA KÙ.BABBAR]*
runner-NOM.SG win-NPST.3SG WH-NOM.SG 2 wagada.bread-ACC.SG 1 mina   silver
LUGAL-*waš* [(*kiššaraz=š*)]*et dāi*
king-GEN.SG   hand-ABL.SG=his   take-NPST.3SG

'The runner who wins takes two wagada-breads and one mina of silver from the hand of the King.'

(CTH 627.1.h.A: KBo 25.12 ii 10–12 (OH/OS))

After the investigation of Hittite *wh*-interrogatives and the conclusion that Hittite is a *wh*-in situ language, Huggard (2011) first takes issue with the appeal to *wh*-movement in preposed correlatives. Secondly, he concerns himself with the various attested permutations of the *wh*-word with respect to its head Noun in "determinative" preposed correlatives, which are as follows:

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[4]And with exceptions under two well-defined conditions. See Probert (2006) for further details.

(210) Possible surface distribution of *wh*-words in "determinate" clauses:

    a.   [[N *ku*-] . . .]

    b.   [XP [*ku*- N] . . .]

    c.   [XP [N *ku*-] . . .]

    d.   [N XP [*ku*-] . . .]

Huggard (2011) proposes a modified version of Garrett's (1994) approach to Hittite relativization, taking into account Goedegebuure's (2009) treatment of Focus operations in Hittite interrogatives combined with the raising analysis of Kayne (1994:85–97). He argues that the internal structure of preposed relative clauses in Hittite parallels that of Hittite interrogatives (which lacks *wh*-movement) with respect to focus-topic configurations, which in turn will affect the internal ordering of constituents within the preposed relative clause. However, the whole range of function of Hittite *wh*-words was not considered in this account, nor was the question of the nature of *wh*-words in Hittite raised; as in the majority of previous accounts, it was assumed that *kui-* is underlyingly an interrogative.

Throughout this thesis, I have maintained a unified account for the distribution and interpretation of *wh*-words in Hittite. Based on cross-linguistic comparanda, Hittite *wh*-words display the typical behavior of indefinite polarity items, much like the *wh*-words in Mandarin Chinese and Japanese. As such, they are of a different nature than English *wh*-words.

Consequently, it follows that clauses that have been traditionally categorized as relative clauses in Hittite will not be approached in terms of *wh*-movement in this thesis, as was the case in Hale (1987), Garrett (1994) and Huggard (2011). Thus the two main questions which drive the analysis offered in this present chapter are:

(i) How can the specific semantics of "indeterminate" and "determinate" preposed correlative structures, as proposed by Held (1957) and refined by Garrett (1994) be maintained?

(ii) If indeed we are dealing with the same indefinite polarity item in relative clauses, then

do we observe the same syntactic, semantic and prosodic restrictions as was the case for indefinites?

5.1.1 Present Goals

All of these previous studies have provided incisive observations concerning these constructions. However, none of them address the issue of what is the underlying nature of the *ku-* lexeme in Hittite. Moreover, none of the previous accounts have attempted to capture the whole linguistic picture by factoring in the semantics and syntax with the prosody of the language. In light of my proposal from Chapter 2, namely that Hittite *wh*-words display the typical behavior of indefinite polarity items, I will begin the present analysis from that stand-point. As Garrett (1994: 44) insightfully establishes, "indeterminate" clauses are semantically equivalent to conditional clauses, whereas "determinate" clauses are not. Where I depart from Garrett is in the interpretation of *wh*-words in these clauses. For Garrett (1994: 43), the *wh*-word is interpreted as a universal quantifier in both cases. In the present analysis, I suggest that the interpretation of *wh*-words in these constructions is not as straightforward. The interpretation of (208a.) involves a range of possible votive offerings that the goddess requires in order to have her anger appeased, but they have not yet been specified. The speaker/composer of the text is committing himself to offer all possible votive offerings *in the situation* that would have as a consequence the appeasement of the goddess. As such, it has a universal interpretation, as represented in (211a.). With the premise that in "determinate" clauses the *wh*-word/phrase refers to a specific entity whose existence has already been established, the interpretation of the *wh*-word is existential, not universal. And hence the interpretation of (208b.) is represented as (211b.):

(211)   a. $\forall$ x [x a votive offering of compensation] [they will make x in restitution]

           b. $\exists$ x [x a votive offering of compensation] [they will make x in restitution]

This semantic contrast serves as the starting point for my analysis of Hittite "relative clauses" in the present thesis. I argue that "indeterminate" correlatives are best analyzed as a sub-type of conditional clause, which I will name "*wh*-conditional", and are comparable in semantics and syntax to Latin *si quis* and Ancient Greek *eí tis* (εἴ τις) conditional clauses: the *wh*-form is a polarity item which is interpreted as a universal quantifier, the only difference is that there is no overt subordinator such as Latin *si*, or Greek εἴ.

Following my analysis in Chapter 2 that *wh*-words in Hittite are at core polarity items, the interpretation of the *wh*-word as a universal quantifier in "indeterminate" clauses is best captured in light of Heim's (1982) analysis of indefinites in bare conditionals. In such clauses, the Hittite *wh*-word *kui-* is bound by and receives its universal force through the invisible Necessity Operator. Such an analysis is supported by further cross-linguistic evidence. Crucially, the initial position of the *wh*-word in these clauses is *not* due to *wh*-movement to [Spec, CP]. Rather, I argue that the *wh*-phrase moves to the specifier position of the Contrastive Focus Phrase [Spec, CNTRFoc] to mark its domain of contrast of possible alternative situations. As for "determinate" clauses, according to previous analyses the only syntactic restriction is that the *wh*-word may not be clause initial. However, I see no grounds to derive an interpretation of existence and specificity based on fronting any constituent above the *wh*-word. For these clauses, I follow Hahn (1946, 1949). I argue here that both the semantics obtained in "determinate" clauses and the surface distribution of the *wh*-word in these clauses are most simply accounted for under the proposals made in Chapter 2 and Chapter 3 of this thesis, namely:

(i) Hittite *wh*-words are indefinites whose core is a polarity item (Chapter 2).

(ii) *wh*-words in Hittite are prosodically deficient and require a suitable prosodic host, a feature which is inherited from PIE, and shared by the cognate forms of Hittite *kuiš*: for example Latin *quis* and ancient Greek *tis* (τις) (Chapter 3).

From these premises, certain predictions are made. First, the existential interpretation of the *wh*-word in "determinate" clauses is obtained via Heim's (1982) rule of Existential Closure for indefinites. Therefore we should observe the *wh*-word in the periphery of the inflected verb in its clause (i.e. the *wh*-form remains in the vP): we should not think in terms of avoidance of clause initial status. Secondly, being a polarity item by nature, and not an interrogative as was previously assumed, we predict that the same prosodic requirements should be met for *wh*-words in "determinate" relative clauses, with the *wh*-word undergoing Prosodic Inversion (Halpern, 1995) in the absence of a suitable host. This accounts for the the post-verbal position of the *wh*-word above in (209b)[5], and the following minimal pair contrast in a Hittite Law in (212). I provide the complete context of (212a) and (212b) by providing the direct translation of the surrounding context:

(212)   Preceding context:

'If a man puts filth into a pot or a cistern–formerly they paid six half-shekels of silver–

    a.   *paprizzi*   *kuiš*   3 GÌN KUBBABAR *pāi*

          sully-NPST.3SG WH-NOM.SG 3 half-shekels of silver   give-NPST.3SG

          'the one who sullies, gives three half-shekels of silver.'

          '–and for the palace they used to take three half-shekels of silver.'

    b.   *kuiš*   *paprizzi*   *nu*   *apāš=pat*   3 GÌ[N KUBBABAR] *pāi*

          WH-NOM.SG sully-NPST.3SG CONN that-NOM.SG=same 3 half-shekels of silver   give-NPST.3SG

          parna=šše=ya   *šuwāyezzi*

          house-ALL.SG=his=CJN spy-NPST.3SG

          '(If) Anyone sullies (from now on), (then) *that very one* will give three half-shekels of silver, and he shall look to his house (for it).'

                                                          (CTH 291.I.a.A: KBo 6.2 I 56–59 (OH/OS))

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[5]I provide a syntactic analysis for (209b) below which I repeat as example (257). I support Probert (2006) in that this is a true embedded relative clause. As for *kuiš* surfacing after the verb instead of its head noun, there is evidence of inter-speaker variation elsewhere in the corpus: for some speakers *ku-* requires a prosodic word as a host, and for others a phonological word.

In view of these discrepancies, an entirely new approach is required for Anatolian relativization. A proper linguistic analysis of these constructions must take into account the semantics, syntax and prosody of the Anatolian languages. Although Hittite orthography indicates word prosody to a limited extent, distributional inconsistencies of particular lexemes opens a path towards a better understanding of the prosody of the language via a syntax-phonology interface approach. In view of this, I will provide a detailed analysis only of "correlated" relative clauses, offering more tentative analyses of other types and leaving one unexpected type for future research.

5.2 "~~Indeterminate~~" *Wh*-Conditional Correlatives

In this section, I propose to re-analyze what were previously labeled as "indeterminate relative clauses" (Held, 1957; Hale 1987; Garrett 1994; Hoffner and Melchert 2008 among others) as a sub-type of conditional clause. I begin with providing a brief overview of the interpretive characteristics of conditionality. I then present a brief summary of Heim's (1982) analysis of indefinites in the context of conditionals. Within a Discourse Representation Theory (DRT) framework[6], her hypothesis predicts that indefinites receive their universal force through the invisible Necessity Operator. I follow this with a brief outline of some strategies that languages employ to derive conditionality. I then consider one of those possibilities, namely the *wh*-conditional, and the proposal made by Cheng and Huang (1996) for this type of construction in Mandarin Chinese, which they name "bare" conditionals.

5.2.1 Conditionality

Most scholarship defines conditionals as structures involving an adverbial clause (often referred to as the conditional clause, antecedent or protasis) interpreted as stating the condi-

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[6]For an account within the framework of Dynamic Semantics, see Chierchia (2000) on Chinese conditionals and the theory of conditionals.

tions under which the proposition expressed by the apodosis/consequent/ main clause is true (Bhatt and Pancheva, 2006). However, other syntactic structures also convey the meaning of a conditional. For instance, in many languages a structure with an imperative clause conjoined with a non-past indicative are interpreted as conditionals: the imperative clause is interpreted as the antecedent clause of a conditional, and the indicative clause in the coordination is interpreted as the consequent. Consider the following English pair in (213) to illustrate:

(213)   a.   Come one step closer and I'll slap you.

             p and q → if p,q

         b.   Come one step closer or I'll slap you.

             p or q → if ¬p,q

With the coordinator as *and* in (213a), the structure is interpreted as *if p, q* (where *p* and *q* are the propositions denoted by the imperative and indicative clauses, respectively). When the coordinator is *or*, which is semantically equivalent to *and* plus negation, the structure is interpreted as *if ¬p,q* (i.e. if not *p*, then *q*). This suggests that the structure-to-meaning mapping for a conditional interpretation is compositional. This is not a particular feature of English, but holds in many languages. Take for example (214) as a potential reply to (213) in Russian:

(214)   *Udar' menja i   ty ob   etom požaleš.*
         hit-2SG me   and you about this   regret
         'Hit me and you will be sorry about it.'

On the semantic side, declarative clauses can be thought of asserting a truth value: the relevant worlds are compatible with a given predication p. Yes-no interrogatives have the interrogative force operating over their truth-value, meaning that the interrogative force operates over the set of worlds compatible with the proposition denoted by p. Conditional clauses establish a dependency between their truth-value and the truth-value of the matrix

clause. The proposition p represented by the conditional clause restricts the sets of worlds compatible with the proposition q represented in the main clause.

5.2.2 Indefinites and Conditional Clauses

Building upon Lewis (1975) and Kratzer (1981), Heim (1982) proposes that indefinites are variables without any quantificational force of their own, based on the observation that indefinites are capable of picking up their quantificational force from an adverb of quantification (or some other operator) present in their local environment. This is known as the "quantificational variability effect" (QV-effect, "QVE"), typical of indefinites. Consider the following paradigm:

(215) a. A dog always/usually/never chases a cat.

      b. If a dog sees a cat, it usually/always/never/chases it.

      c. A dog is always/usually/never gentle.

      d. If a dog has cropped ears, it is always/usually/never gentle.

In (215a) and (215c), indefinites occur in the main clause; in (215b) and (215d), they occur in the protasis of a conditional. The phenomenon of quantificational variability with episodic (stage level) predicates is illustrated in (215a-b), while (215c-d) demonstrate it with non-episodic (individual level) predicates[7]. For example, a sentence like (215a) says that all, most, or no dogs chase cats, depending on which adverb of quantification is chosen. Likewise for the remaining examples of (215).

When an adverb of quantification (Q-adverb) is present, indefinites can get bound by it, and in the process inherit the quantificational force of the Q-adverb. In the absence of a Q-adverb, indefinites get existentially closed by default via the Rule of Existential Closure. Thus according to Heim, Q-adverbs function as binary propositional operators:

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[7]The terminology *individual level* versus *stage level* and the phenomena associated with it stem from Carlson (1977). The study of this distinction originates mainly from Diesing (1992) and Kratzer (1995).

ADV $[\phi][\psi]$. The left argument constitutes the restriction, the right one constitutes the scope (the tripartite structure at LF). Taking one of the versions of (215b) to illustrate, this gives the following logical representation in (216), where the universal interpretation of the indefinite NP *a dog* is obtained through the Q-adverb *always*:

(216)   always [if a dog sees a cat][it chases it]

Building upon Kratzer (1981), Heim (Chapter 2) further notes that an indefinite in the protasis of a conditional construction still is interpreted with universal force, despite no obvious adverbs of quantification, such as *always* or *every*. Consider a typical "Donkey Sentence" as in (217) to illustrate:

(217)   If a donkey kicks John, he beats it.

<div align="right">(From Heim 1982: 112)</div>

Heim proposes that sentences like (217) do in fact contain a universal quantifier, albeit an invisible one (represented as $\square$ in Heim (1982), and as NEC elsewhere in the literature). She refers to research on the semantics of conditionals that have established the existence of such invisible operators of universal force on grounds that are independent of the semantics of indefinites[8]. Heim appeals to two hypotheses:

(i) From the study of conditionals, "if-then" sentences express some sort of conditional necessity.

(ii) Operators are unselective, meaning that they attract selectional indices from indefinites in their environment, thereby binding them.

The first consequence from the combination of these two hypotheses is that the necessity operator can bind an indefinite. Secondly, since necessity is truth in every possible world,

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[8]See Kratzer (1981) who expands Lewis's semantics to cover both interactions between if-clauses and modal operators, and argues that even in bare conditionals, conditionals without any explicit modal operators, there is a silent modal necessity operator.

necessity operators are universal in their force, and hence an indefinite bound by a necessity operator will be interpreted with universal force.

Furthermore, Heim (1982: 126) notes that an indefinite on its own can function as an *if*-clause. Compare (218) with (219) (examples from Heim 1982: 126):

(218)

$$\text{If a cat has been exposed to 2,4-D, it} \left\{ \begin{array}{l} \text{(a) can go blind.} \\ \text{(b) often goes blind.} \\ \text{(c) always goes blind.} \\ \text{(d) goes blind.} \end{array} \right\}$$

(219)

$$\text{A cat that has been exposed to 2,4-D} \left\{ \begin{array}{l} \text{(a) can go blind.} \\ \text{(b) often goes blind.} \\ \text{(c) always goes blind.} \\ \text{(d) goes blind.} \end{array} \right\}$$

The *if*-clause in (218) amounts to a restrictive term for the matrix clause. The relevance of (219) is that indefinite NPs are also acceptable as restrictive terms for such operators. The generic use of the indefinite[9] is a special case of this: it is an indefinite restricting an invisible operator, as in (219d)[10]. Heim uses the term "restrictive use of the indefinite" to cover all cases where an indefinite exhaustively constitutes the restrictive term of an operator, visible or not. Now let us consider some strategies that languages employ to denote conditionality.

5.2.3 Marking Conditionals

Cross-linguistically, there are a variety of means to mark a syntactic structure as a conditional. A few of these options include the following strategies, as reported by Bhatt and

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[9]See Heim chapter 1 section 1.6 and 2.

[10]The idea that generic indefinites are comparable to if-clauses precedes Heim (1982). See, among others Katz (1972) and Lawler (1973)

Pancheva (2006). The most common cross-linguistic strategy is to overtly mark the antecedent of the conditional (see Comrie (1986) among others). This may be done lexically, through inflectional morphology or by the syntax (i.e. a syntactically marked structure). The lexical strategy can be exemplified by English *if*, Mandarin Chinese *ruguo*, Latin *si*, German *wenn/falls* and Hittite *takku/mān*. These lexical items can be viewed as functional elements of the CP domain, either complementizers (heads of C°) or operators in [Spec, CP][11].

Other languages may indicate the antecedent of a conditional clause by means of verbal inflectional morphology (for example conditional and subjunctive moods; cf. Bhatt and Pancheva, 2006). One of the syntactic means to mark a clause as an antecedent of a conditional clause in the absence of any lexical or morphological marker is by verbal movement to C°, as seen in (220)[12]. For example in Russian, in addition to the inflectional marking of the verb in the subjunctive or imperative mood, the verb must also undergo I to C movement; likewise for the French example where the auxiliary verb *avoir* 'have' is in the subjunctive mood[13]. I-to-C movement is also observed in German conditionals and English counterfactual and Future-Less-Vivid conditionals (cf. Iatridou & Embick 1994; Iatridou 2000):

(220)   a. *Pročitala by ona etu stat'ju, ona smogla by otvetit' na vaš vopros.*
read-f.SG   SUBJ   she   this-ACC article-ACC she   can-f.SG SUBJ answer-INF to   your question
(Russian)

'Had she/were she to read the article, she would have been/be able to answer your question.'

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[11]It is interesting to note that many languages use temporal *wh*-pronouns as conditional markers (Traugott et. al. 1986), a class which Hittite *mān* 'if/when' belongs to.

[12]German and English examples from Bhatt and Pancheva (2006), Russian from Hacking (1998), French mine.

[13]Note that in the presence of the conditional complementizer *si* in French, the verb in the antecedent clause must not be in the conditional mood, but in the indicative mood, hence the mnemonic device taught in grade school *les poissons 'si' (scies) n'aiment pas les poissons '-rait'(raies)*, meaning that the conditional subordinator *si* and the conditional mood indicated by the ending *-rait* are mutually exclusive.

b. *Eût-elle   lu   cet article, elle aurait   pu   répondre à votre question.*
  have-SUBJ-she read-PCP this article   she   have-COND can-PCP answer-INF to your   question
  (French)

  'Had she/were she to read the article, she would have been/be able to answer your

  question.'

c. *Hast du was, dann bist du was.* (German)
  have you wh   then   are   you wh

  'If you have something, then you are something.'

d. Had I known, I would not have gone.

Another possibility is a conditional construction without any overt marking in the an-

tecedent or consequent clause. In Mandarin Chinese, both the *if*-element (*ruguo*) and *then*

(*jiu*) element are optional, as is the case in Hittite:

(221)   a.   <u>Mandarin</u>

(*ruguo*) *Zhangsan he   jiu, wo (jiu) ma   ta*
if   Zhangsan   drink wine I   then   scold him

'If Zhangsan drinks wine, (then) I will scold him.'

(example from Bhatt and Pancheva (2006))

b.   <u>Hittite</u>

INA ITU.12.KAM DUMU-*aš miyari*   *apāš*   DUMU-*aš*
in   twelfth-month   child-NOM.SG be.born-NPST.MID.3SG that-NOM.SG child-NOM.SG
^{LÚ}ŠU.GI-*ešzi*
becom.old.man-NPST.3SG

'If a child is born in the twelfth month, that child will become an old man.'

(CTH 470.235: KUB 8.35 i 9 (?/NS))

A further strategy involves a Polarity Sensitive Item (PSI) without any *if*-element in the

antecedent clause. I will name these constructions *wh*-conditionals.

(222) a. <u>Mandarin Chinese</u>

shei xian jinlai, wo xian da shei.
who first enters I first hit who

'If X enters first, I hit X first'

(from Cheng and Huang 1996)

b. <u>Serbo-Croatian</u>

Ko ima magarca, taj   ga i   bije.
who has donkey   that.one it and beats

'If anyone ones a donkey, he beats it. '

(from Arsenijević 2009)

Let us now consider this last strategy in more detail and how it relates to the present proposal.

5.2.4 *Wh*-words and Mandarin Chinese Conditionals

Cheng and Huang (1996) (hereafter C&H) argue that two types of conditional structures have to be recognized in Chinese, "bare conditionals" along with *dou*- and *ruguo*-conditionals. As mentioned above, in *ruguo*-conditionals, the subordinating word *ruguo* 'if' introduces the antecedent; in *dou*-conditionals there is no *ruguo*, but one finds instead the overt quantifier *dou* 'all' in the main clause. In contrast, "Chinese bare conditionals" lack both, but they can optionally have a 'then' (*jiu*) in the consequent clause. Furthermore, they are also characterized by the presence of one or more *wh*-words in the antecedent clause, and each *wh*-word has to be matched by an equal *wh*-word in the consequent. The *wh*-words in the consequent cannot be replaced by any kind of anaphoric element (pronoun, gap, or definite description), unless there is a 'then' (*jiu*) present in the consequent clause. I should note that C&H use the term "bare conditional" in a different way than Heim (1982). In Heim, a "bare" conditional is one without any modal/adverb of quantification, but the 'if' is still present.

C&H use the term "bare conditional" in the sense that there is no leading element such as 'if' in the antecedent clause. In an attempt to remain clear on the one hand, and faithful to the authors on the other, I have chosen to refer to C&H "bare conditionals" as Chinese-bare-conditionals. The following examples from C&H (1996) illustrate these properties.

(223)   <u>Mandarin Chinese Bare Conditionals</u>

      a.   *shei xian jinlai, wo xian da shei.*
          who first enters I first hit who

          'If X enters first, I hit X first'

      b.   * *shei xian jinlai, wo xian da ta/[e]/ na-ge-ren.*
           who first enters I first hit him/ [e]/ that-CL-person

      c.   *shei yan shei, shei jiu xiang   shei.*
          who plays who   who then resembles who

          'If X plays the role of Y, X then will resemble Y'

      d.   *shei yao zhe puo-chang, wo rang gei shei/*ta*
          who want this broken-factory I   give to who/him(her)

          ∀x, [x a person wanting this broken factory][I give this broken factory to x]

(224)   *ruguo ni kandao shei, qing jiao ta   lai jian wo*
       if   you see   who please tell him/her come see   me
       'If you see someone, please ask him/her to come see me.'

       ∃ x, [x a person you see][ask x to see me]

(225)   *ni jiao shei jin-lai, wo dou jian ta*
       you ask   who come   in I   all   see him/her
       'Whoever you ask to come in, I will see him/her.'

       ∀x, [x a person you ask to come in][I will see x]

Reduced *ruguo*-conditionals are characterized by the absence of the 'if' element (*ruguo*) in the antecedent, but must contain the element *jiu* 'then' in the consequent clause:

(226) Reduced *ruguo*-conditionals (examples from C&H 1996)

    a.   <u>*Ruguo*-conditional</u>

        ruguo hufei lai, wo jiu liu-xia-lai
        if   Hufei come I   then stay

        'If Hufei comes, then I will stay.'

    b.   <u>Reduced-*ruguo* version of a.</u>

        hufei lai, wo jiu liu-xia-lai
        Hufei come I   then stay

        'If Hufei comes, then I will stay.'

    c.   <u>Chinese bare conditional</u>

        shei$_i$ yao zhe puo-chang, wo jiu rang gei ta$_i$
        who   want this broken-factory I   then give   to   him/her

        'If anyone wants this broken factory, then I'll give (it) to him/her.'

C&H note that the *wh*-word in bare conditionals has a universal reading, whereas in reduced *ruguo*-conditionals it has an existential reading. This observation is of particular relevance for Hittite "indeterminate" clauses, as I will argue in the following section that the same alternation between a universal and existential reading also holds for Hittite *wh*- and reduced conditionals.

5.2.5   *Wh*-words and ancient Indo-European Conditionals

5.2.5.1 Hittite *wh*- and Reduced Conditionals

In the present analysis, Hittite conditionals are analyzed in the same spirit as the Chinese conditionals described in the preceding section. Conditional clauses in Hittite are traditionally characterized by the presence of *takku* 'if' (OH) or *mān* (post-OH) 'if/when' in the protasis, followed by the result clauses (apodosis). The manner in which the *if*-clause is connected to the result clause varies in the corpus. For instance, in the Old Hittite Laws,

the result clause was joined asyndetically (without any sentence connector such as *nu*).

However, in some Old Hittite rituals, the result clause is introduced by *nu*. In MH and

NH compositions (i.e. not OH copies), the result clause is almost always introduced by the

sentence initial connector (Hoffner and Melchert, 2008: 420). Furthermore, the force of *mān*

'if' carries over into an additional protasis (introduced by *nu*) (Hoffner and Melchert, 2008:

421 §30.51). For purposes of simplicity, I will name these clauses *mān*-conditionals.

Just as is the case for Mandarin Chinese, conditional constructions without the 'if' ele-

ment (*mān* or *takku*) in the antecedent are attested in Hittite. I will name these constructions

reduced bare-conditionals, as in (221b), repeated here as (227):

(227) *INA* ITU.12.KAM DUMU-*aš miyari*   *apāš*   DUMU-*aš* ᴸᵁŠU.GI-*ešzi*
       in   twelfth-month   child-NOM.SG be.born-NPST.MID.3SG that-NOM.SG child-NOM.SG becom.old.man-NPST.3SG

       'If a child is born in the twelfth month, that child will become an old man.'

       ∀x [x a child born in the twelfth month][x will become an old man]

(CTH 470.235: KUB 8.35 i 9 (?/NS))

The following examples in (228) and (229) are instances of *mān*-conditional clauses. Both

show that an existential reading of the polarity item *wh*-word is obtained under the scope

of *mān*.

(228) *nu=wa=mu*   *mān idālun*   *memian*   *kuiš*   [*memai*]
       CONN=QUOT=me if   evil-.ACC.SG word-ACC.SG WH-NOM.SG tell-NPST.3SG

       'If someone tells me a bad word.'

       ∃x, [x a person and x tells me a bad word]

(CTH 147: KUB 14.1+ rev. 45, MH/MS)

Note how the *wh*-word in (228) remains low in the clause, bound by the Rule of Existential

Closure. Consider (229) to additionally exemplify how the force of *mān* carries over to the

following clause. In the first two *if*-clauses, *mān* is present, but not in the three subsequent

antecedent clauses. When the force of *mān* carries over to a following protasis, I will refer to

these conditionals as reduced *mān*-conditionals. The consequent clause is left unexpressed in the original text, perhaps out of fear of mentioning the divine punishments, as suggested by Hoffner and Melchert (2008: 415)[14].

(229) *našma=kan mān* ᵈUTU-*ŠI kuedani anda idālu   ištamašti   n=at=mu=kan mān*
       or=PTCL   if   Majesty-my WH-DAT.SG in   evil-ACC.SG hear-NPST.2SG CONN=it=me=PTCL if
       šannatti   n=at=mu ŪL mematti apūnn=a=mu   antuḫšan   ŪL tekkuššanuši
       conceal-NPST.2SG CONN=it=me NEG tell-NPST.2SG that-ACC.SG=CJN=me human-ACC.SG NEG reveal-NPST.2SG
       n=an   anda imma munnāši
       CONN=him in   even hide-NPST.2SG
       'Or if you hear evil about My Majesty in (the mouth of) anyone, and if you conceal it from
       me, (if) you don't tell me and (if) you also do not reveal that person to me and (if) you
       even hide him, (implied: the gods will punish you).'

(CTH 42.A: KBo 5.3 i 27–30 (MH/NS))

For further examples of reduced *mān*-conditionals, and for a larger variety of semantic types (simple present, simple future, simple past, contrary to fact, past contrary to past) see Hoffner and Melchert (2008: 419–423).

In the same spirit as Cheng and Huang (1996), I propose the identification of a third type of conditional, the Hittite *wh*-conditional. In the example that follows, clauses that were previously thought of as "indeterminate" relative clauses can be classified either as a reduced *mān*-conditional, or a *wh*-conditional. Hittite *wh*-conditionals lack a *takku/mān* subordinator, but are characterized by a *wh*-word heading the antecedent (protasis). However, unlike Mandarin Chinese, but like Serbo-Croation (see (222b) above), the *wh*-word must be matched in the consequent clause (apodosis) with an anaphoric element: an enclitic pronoun, a demonstrative pronoun, a demonstrative plus the repeated noun, or a null pronoun, but not with another *wh*-word.

With respect to the interpretation of the *wh*-words in the *if*-clause, Hittite behaves like Mandarin Chinese. In conditional clauses lacking an overt 'if' element (previously analyzed

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[14]Although in curse formula, the divine punishments are overtly expressed and quite explicitly graphic.

as an "indeterminate" relative clause), a *wh*-item may have either an existential reading or a universal reading. As far as I can tell, the existential reading of a *wh*-word is restricted to a *wh*-conditional clause that immediately follows a *mān*-conditional, and represents one potential situation among a choice of others. I suggest that this is due to the capacity of the 'if' element *mān* to scope over the following clause. Thus following C&H (1996) terminology, such "indeterminates" are reduced-*mān*-conditionals, or more appropriately, a *wh*-conditional under the scope of a *mān*-conditional.

When the *wh*-word carries universal force, we are in the presence of an independent *wh*-conditional. The following example in (230) is an extract from the Edict of Telepinu, who ruled toward the end of the Old Kingdom period (1525-1500 BCE). In this document, Telepinu justifies his ascension to the throne, and codifies the rules of succession in the hopes of ending the chaos created by members of the royal family murdering each other concerning the question of succession to the throne. In this chosen excerpt, Telepinu runs through all viable possibilities for succession. For purposes of clarity and facility of reference, I have split the passage per clause.

(230)   a.   *takku* DUMU.LUGAL *ḫantezziš* NU.GÁL
            if   prince   foremost   not-exist
            'If there is no first rank prince, . . . '

   b.   *nu*   *kuiš*   *tān*   *pedaš*   DUMU-*RU*
            CONN WH-NOM.SG second place-GEN.SG child
            . . . (and if) anyone is a prince of second rank, . . . '
            (= if there exists a prince of second rank)

   c.   *nu*   LUGAL-*uš apāš*   *kišaru*
            CONN king-NOM.SG   that.one-NOM.SG become-IMP.MID.3SG
            '. . . then let that one become king. . . .

   d.   *mān* DUMU.LUGAL=*ma* NÍTA   NU.GÁL
            if   prince=CNTR   male.heir not-exist
            '. . . But if there exists no prince as male heir, . . . '

e. *nu   kuis*   DUMU.MUNUS *ḫantezziš*
   CONN WH.NOM.SG princess   foremost

   '...and (if) anyone is a first rank princess ...'

   (= if there exists a first-rank princess)

f. *nu=šši=šan*   LÚ*antiyantan   appandu*
   CONN=her.DAT.SG=PTCL adopted.son-ACC.SG seize-IMP.3PL

   '...then let them take an adopted son[15] for her (to marry), ...'

g. *nu* LUGAL-*uš apāš   kišaru*
   CONN king-NOM.SG   that.one-NOM.SG become-IMP.MID.3SG

   '...and let that one become king. ...'

h. *URRAM SERAM kuiš   ammuk* EGIR-*anda* LUGAL-*uš kišari*
   in the future   WH-NOM.SG me-DAT.SG after   king.NOM.SG become-NPST.MID.3SG

   ' ...If in the future, provided that someone becomes king after me, ...'

   (= for all future kings)

i. *n=apa*   ŠEŠ^MEŠ-*ŠU* DUMU^MEŠ-*ŠU* LÚ.MEŠ*gaenaššiš   ḫaššannaššaš   Ù*
   CONN=PTCL brothers-his   sons-his   male.in.laws-NOM.PL-his family-NOM.SG-his and
   ERIN^MEŠ-*ŠU taruppanteš   ašandu*
   troops-his   united-PCP.NOM.PL be-IMP.3PL

   '...let his brothers, his sons, his male in-laws, his family and his army be united.'

(CTH 19.II.A: KBo 3.1 ii 36–43 (OH/NS))

In the single passage contained in (230), we have three different conditional clauses: *mān*-conditionals in (230a) and (230d), *wh*-conditionals under the scope of a *mān*-conditional in (230b) and (230e); and an independent *wh*-conditional in (230h). It is important to re-stress here that traditionally termed "indeterminate" preposed correlatives in Hittite are always interpreted as conditionals (see Garrett 1994), and as a conditional, (230h) does not presuppose the truth of the proposition described (see Bhatt & Pancheva (2006) among others). We can further make the distinction between conditionals that are "contingent" (231a) from those that are purely hypothetical (231c):

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[15]LÚ*antiyantan* can be translated as 'son-in-law' or 'adopted son'. When there was no son in a family, whether in the royal family or among commoners, it was a custom to adopt a young man and marry him to a daughter in order to carry on the family line.

(231) a. If you eat the rest of your cereal, Mary, I will give you a cookie.

b. Provided that you eat the rest of your cereal, Mary, I will give you a cookie.

c. If I win the lottery, I will take an around-the-world cruise.

d. # Provided that I win the lottery, I will take an around-the-world cruise.

A conditional like (231a) is significantly different from (231c). Although neither presupposes the truth/reality of the content of the if-clause, one important distinction is that in (231a) there is a strong presupposition that Mary will eat the rest of her cereal. This strong presupposition is lacking in (231c). Consequently, the paraphrasing of the if-clause of (231a) as (231b) is felicitous, whereas that of (231c) as (231d), although grammatical, is semantically infelicitous. Given the context of (230h), namely that king Telipinu is codifying the rules of succession to the Hittite throne, there is a strong presupposition that someone will become king after him: the proposition made is not purely hypothetical, but contingent.

If the clauses in (230b), (230e) and (230h) were plucked out of their context, we would have missed two important observations. First, it would be easy to fail to recognize these clauses as conditionals. Secondly, we would fail to recognize the alternation between the existential ($\exists$) and universal ($\forall$) readings of the *wh*-word. (230b) and (230e) both follow a *mān*-clause, and hence are interpreted as existential. They both select the potential world/situation where a suitably ranked individual exists in that world, but not all second ranked princes and all first-ranked princesses that exist in that potential world. The clause in (230h) begins a new condition, independent from the previous ones. Here it is the polarity *wh*-item that exhaustively constitutes the restrictive term of the invisible operator, the so-called "restrictive use of the indefinite" (Heim 1982, Chapters 1 & 2). Moreover, necessity operators are universal in their force (because necessity is truth in every possible world), and hence an indefinite bound by a necessity operator as in (230h) will be interpreted with universal force.

The clause in (230h) further falsifies Held's (1957) definition of "indeterminate" relative

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clauses with respect to word counting and "initial" position, as the *wh*-word is not in linear order initial position, but is preceded by the sentential adverb URRAM SERAM 'in the future': sentential adverbs are argued to be base generated as adjuncts to the IP level (Cinque, 1999). Consider (232), which shows possible surface positions of the sentential adverb *apparently* in English:

(232)   a.   Apparently John will choose a book or a game.

             b.   John apparently will choose a book or a game.

             c.   John will apparently choose a book or a game

             d.   [$_{CP}$ Mary thinks [$_{CP}$ [$_C$ that apparently [$_{IP}$ John will choose a book or a game.]]]]

In embedded clauses, complementizers merge in the head of C, and subjects in English raise to the Specifier of IP, hence (232d) indicates that the sentential adverb *apparently*, which surfaces between the subject and the complementizer, is adjoined above IP. If [Spec, CP] were the landing site for the *wh*-word *ku-* in "indeterminate" correlatives as suggested by Garrett (1994), one would expect sentential adverbs to surface *after* the *wh*-word, not before it. Hence *ku-* is in a position *lower* than [Spec, CP].

Although not frequently encountered, there are environments in which constituents are topicalized/focused above the *wh*-word in Hittite "indeterminate" correlatives. The passage in (233) is from a Middle Hittite text, the *Instructions for the Bēl Madgalti* (Instructions for the Border Guards). Various instructions are given concerning potential situations concerning the maintenance of the buildings. Preceding the excerpt presented, are instructions concerning the maintenance of the walls, and what to be done if plaster falls off the walls. Then is mentioned (233a) concerning clearing out the gutters if they are clogged, and immediately following that instruction is (233b) concerning the care of the birds:

(233) a. *kuiš=a=kan*   *wetenaza šaḫāri*   *n=an=kan*   *šarā šanḫandu*
        WH-NOM.SG=CNTR=PTCL water-ABL.SG clog-NPST.MID.3SG CONN=CL-3ACC.SG=PTCL up   clean-IMP.3PL

        'If anything is clogged up with water, let them sweep it out!'

                                  (*Instructions for the Bēl Madgalti* CTH 261.I.B: KUB 13.2 ii 22–23 (MH/NS))

      b. *maniyaḫḫiya=ya=kan*   *kuiēš*   MUŠEN[HI.A]-*aš lūliyaš*   *anda*
        administrative.district-DAT.SG=CJN=PTCL WH-NOM.PL bird-NOM.PL   pond-DAT.PL in
        n=at   SIG₅-*anteš*   *ašandu*
        CONN=them make.well-PCP.NOM.PL be-IMP.3PL

        'If also *in the administrative district* any birds are in the ponds, let them be well-kept!'

                                  (*Instructions for the Bēl Madgalti* CTH 261.I.B: KUB13.2 ii 24–25 (MH/NS))

This is the first time that the birds are mentioned in the discourse, yet the *wh*-word is not in initial position and the dative singular *maniyaḫḫiya* is marked with the additive focus enclitic *=ya*. This goes against Held's (1957) categorization, and Garrett's (1994) account, but is unproblematic under the present analysis.

5.2.5.2 Evidence from the Luwic cousins: Luwian and Lycian

In a recent study based on evidence from Cuneiform Luwian (CLuw.), Hieroglyphic Luwian (HLuw.) and in Lycian (Lyc.), Yates (2014) raises convincing objections concerning the traditionally held conception of relative clauses in Anatolian. Yates (2014) concludes that (H)Luw. preposed relative clauses are inconsistent with the 'Held–Garrett rule', on the basis of semantically unambiguous "indeterminate" clauses (mainly curse clauses) regularly surfacing with non-initial *wh*-words. This is problematic for Garrett's (1994) proposal in two aspects: (i) the extension of Held's (1957) correlative clause classification to cover all of the Anatolian languages; and (ii) for his proposal to reconstruct such a paradigm for Proto-Anatolian. Mainly concerned with reconstructing a paradigm for Proto-Anatolian, Yates (2014) makes the generalization for Proto-Anatolian that *wh*-words in non-initial position could be either "determinate" (referring to a specific and known entity), or "indeterminate" (referring to an entity which is indefinite and non-specific), but *wh*-words in initial position

necessarily had "indeterminate" semantics. Furthermore, Yates (2014) raises the pertinent question concerning Huggard's (2011) proposal for the analysis of the structural variation observed in Hittite "determinate" clauses involving an ad-hoc obligatory Topic property in the language.

In light of the present analysis, I propose that these "indeterminate" clauses elsewhere in the Anatolian languages represent either *wh-* or reduced conditionals, as in Hittite. The following example in (234) is a Lycian-Greek bilingual inscription where the "indeterminate" clause introduced by the Lycian *wh*-word *ti* 'anyone/who' is matched by the Greek conditional introduced by ἐὰν δέ τις (eàn dé tis) 'but if anyone':

(234) *ebẽññẽ*   *prñnãwu:*   *m=e=ti*   *prñnawatẽ |*   *Ixtta:*   *Hlah:*
       this-ACC.S.C. house-ACC.S.C. PTC-TOP=CL-ACC.S.C.= PTC-REF   build-3S.PRET.ACT. I-PN.NOM.S.C. H-PN-GEN.S.C.

       tideimi: *hrppi ladi:* *ehbi |*   *se*   *tideime:*   *ehbije:*
       son-NOM.S.C.   for-PP wife-DAT.S.C. his-ADJ-DAT.S.C. and-CONJ children-DAT.PL.C. his-ADJ-DAT.PL.C.

       se=ije   ***ti***   *edi:*   *tike:*   *mẽtẽ: |*   *m=ene*
       and-CONJ=PTC-LOC who-C.NOM.S. do-3S.PRES.ACT. any-ACC.S.C harm-ACC.S.C. PTC-TOP=CL-ACC.S.C.

       qasttu: *ẽni:*   *qlahi:*   *ebijehi:*   *se*   *wedri:*
       destroy-3S.IMPV.ACT. mother-NOM.S.C. sanctuary-GEN.S.C. this-ADJ-GEN.S.C. and-CONJ watery-NOM.PL.C.

       wehñtezi | Ἴκτας   Λα   Ἀντιφελλιτης τουτὶ   τὸ μνῆμα
       of P-ADJ-NOM.PL.C. I-PN-NOM.S.M. (H)l-PN.GEN.S.M. from A-NOM.S.M. this-ACC.S.N. DEF=memorial-ACC.S.N.

       ἐργάσατο   αὐτῶ[ι] | τε καὶ   γυναικὶ   καὶ   τέκνοις ·
       make-3S.AOR.IND.MP. self-DAT.S.M. and-CONJ woman-DAT.S.F. and-CONJ child-DAT.PL.N.

       ἐὰν δέ τις   ἀδικήσηι   ἢ   ἀγοράσηι   τὸ μνῆμα
       if-PTC=PTC-TOP=any-NOM.S.M. harm-3S.AOR.SBJ.ACT. or-CONJ sell-3S.AOR.SBJ.ACT. DEF=memorial-ACC.S.N.

       ἡ Λητω   αὐτὸν   ἐπιτ[ρί]ψ[ε]ι
       DEF=L-PN.NOM.S.F. him-ACC.S.M. destroy-3S.FUT.IND.ACT.

       (Lycian:) 'This (grave-)house, Ixttas son of Hla built it for himself, his wife and his children.

       (If) anyone does any harm therein, let the mother of this courtyard and the Naiads? of Phellos destroy him.' (Greek:) 'Iktas (son) of (H)la from Antephellos, built this memorial for himself and his wife and children. **If anyone** should do harm to or sell this memorial, Leto shall destroy him.'

       (TL 56, ed. Kalinka)

Consequently, I take the strong position that there is no such construction as an "indeterminate" preposed correlative in any of the Anatolian languages, nor in Proto-Anatolian.

Rather, we are in the presence of *wh*-conditional clauses, which are attested in other archaic Indo-European languages as well as modern languages cross-linguistically. The semantic-structural schema of relativization proposed by Held (1957) for Hittite, and extended by Garrett (1994) to Lycian and Proto-Anatolian, is to my knowledge unattested in any other ancient Indo-European language or in any other languages of the world. Under the premise that *wh*-words in Anatolian are polarity items, we can account for the universal reading obtained in these clauses if we analyze them as true conditional clauses without any overt subordinator: the *wh*-words act as variables restricting over possible situations.

Before dealing with "determinate" clauses, I will briefly review evidence from Latin which may suggest that expressing conditionality via the polarity *wh*-item alone could be archaic and reflect properties of PIE *wh*-word *$k^w i$-/*$k^w o$-[16]. If we were to reconstruct PIE *wh*-word *$k^w i$-/*$k^w o$- as a polarity item instead of a interrogative/indefinite pronoun, then we have a plausible explanation for the attestations of its reflexes as an interrogative, the base to the various indefinite pronouns, its use in the protasis of conditional clauses and from there a pathway to be grammaticalized as a relativizer in some of PIE's daughter languages.

5.2.5.3 Latin and Italic

Compared to Hittite *kuiš* and *kuiški*, Latin has developed a wider range of semantically specialized indefinite pronouns, for instance *quis, aliquis, quidam, quisque, quisquam, nemo* and the free choice *-uis, -libet* series. In a recent study on quantification and indefinites in Latin, Bertocchi, Maraldi and Orlandini (2009) (henceforth B *et al.*), make the observation that *quis* occurs predominantly in interrogative clauses and conditional clauses. Prosodically, *quis* is accented in interrogatives, but unaccented elsewhere (B *et al.* 2009,3: 36).

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[16]I purposely use the term '*wh*-word', as it is my opinion that more research is needed in the other ancient IE languages concerning the environments in which its reflexes are attested. In my investigation, it has become clear that we should not reconstruct this stem as an 'interrogative/indefinite', but rather as a polarity item. I take the tonic/atonic distinction to be a reflection of the tonic stress assigned by the syntax in interrogatives, and not to be lexically assigned. This issue, however, requires a *much* more in depth investigation, which is beyond the scope of this thesis.

Semantically, *quis* is limited to contexts which present a situation as hypothetical or virtual, which is compatible with a generic, non-specific value of the indefinite. Since the referents in interrogatives and conditionals are considered virtual or possible (hence variables in the logical sense) *quis* is licensed in those environments, but cannot occur in factual contexts. As such, *quis* does not occur in factual concessive conditionals; for that the specific indefinite *aliquis* is used, but *quis* can often be found in conditional concessive sentences. Furthermore, according to B *et al.*, *quis* is only enclitic to particles with a value of possibility (*si* and its compounds, *ne*, *cum*, *ubi*, *num*, *an*), but is most frequently attested with *si* and *ne*. This suggests that the reflex of PIE *wh*-word *k^wi-/*k^wo- in Latin is also that of a polarity item.

In a separate study on Conditional clauses in Latin, Bertocchi and Maraldi (2009) (henceforth B&M) bring forth further evidence in support of the present proposal for Hittite. Latin also displays *if*-, reduced-, bare- and *wh*-conditionals. Although usually conditional clauses are introduced by the subordinating conjunction *si*, B&M note that conditionality may also be expressed paratactically, and does not correspond to any particular register of speech, occurring in the popular language as well as elevated genres. Furthermore, subordination appears not to occur in formulaic expressions. The example in (235) may be classified as a reduced conditional, as the consequent clause is introduced by the element *iam* (functionally equivalent to English 'then').

(235) *uerbum   etiam adde   unum,   iam in cerebro   colaphos*
       word-n.ACC.SG even   add-IMP.PRES.ACT.2.SG one-n.ACC.SG ADV in brain-n.DAT.SG blow-with-fists-m.ACC.PL
       apstrudam   tuo
       away-thrust-FUT.IND.ACT.1SG your-n.DAT.SG
       'Add even one more word, and I will thrust my fists completely into your brains.'

(Plaut. *Rud.* 1007)

The following example in (236) represents a typical *if*-conditional, introduced by *si* in the condition clause.

(236) *quod   si quis   de   contentione   principatus   laborat,   quae*
howevr if   WH-m.NOM.SG from exertion-f.ABL.SG commander-m.GEN.SG strive-PRES.IND.ACT.3SG WH-f.NOM.SG

nulla   esse   debet,   stultissime   facit,   si vitiis
none-f.NOM.SG be-PRES.INF.ACT ought-PRES.IND.ACT.3SG foolish-ADV.SUPL make-PRES.IND.ACT.3SG if vice-n.ABL.PL

cum virtute   contendit
with merit-m.ABL.SG exert-PRES.IND.ACT.3SG

'However, if anyone is toiling because of a struggle for the leadership, which never ought
to be, he acts most foolishly if he proposes to combat virtue with vices.'

(Cic. *Phil.* 14, 18–20)

On the preponderance of *quis* in *si*-conditionals and in hypothetical clauses in Latin,
Delbrück (1893 [1967], 3: 515) already notes similar constructions in the other Italic dialects,
such as with Umbrian *svepis*, Oscan *svaepis, svaí píd*, Volscian *sepis* and South Picene
suapis[17]. Delbrück notes the scarcity of Latin *quis* outside the scope of negation (i.e. in
positive main clauses) and quotes Cic. *Parad.* 6,44 (repeated here as (237)) as an example.
As B&M report, Rosén (1998: 706–707) considers (237) to be a relative clause where *quis*
would be an archaic relative pronoun. However, I follow B&M in treating (237) as a series of
paratactic conditional clauses denoting various possible situations, followed by an *if*-clause.
To continue with the terminology proposed, this would be an instance of a *wh*-conditional
with the enclitic indefinite *quis* co-occurring with a *si*-conditional clause.

(237) *filiam   quis   habet,   pecunia   est   opus; duas,*
daughter-f.ACC.SG WH.NOM.SG have-PRES.IND.ACT.3SG wealth-f.NOM.SG be-PRES.IND.ACT.3SG need two-f

maiore; pluris, maiore etiam; si, ut   aiunt   Danaum   quinquaginta
more   several more   still   if so-that affirm-PRES.IND.ACT.3PL Danaus-m.ACC.SG fifty

sint   filiae,   tot   dotes   magnam   quaerunt
be-PRES.SUBJ.ACT.3PL daughter-f.NOM.PL that-many dowry-f.NOM.PL great-f.ACC.SG seek-PRES.IND.ACT.3PL

pecuniam
wealth-f.ACC.SG

'(If) anyone has a daughter, money is in need. (If) two, more. (If) several, more still.
If fifty daughters were to be, as they affirm for Danaus, that many dowries ask for great
wealth '

(Cic. *parad.* 6,44)

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[17]In these Italic dialects, PIE *$*k^w$* > [p], hence the reflex of the *wh*-word *$*k^w i$-* is *pi-*.

Note that *quis* in (237)has a ∀ (universal) interpretation and not an ∃ (existential) interpretation. The interpretation is that for all men who have a daughter in all potential worlds, money is needed for her dowry.

Based on semantic grounds, it is now established that Anatolian "indeterminate" clauses are in fact conditional clauses, and not relative clauses. However, an important question remains to be answered: What syntactic factors are at play for the *wh*-word to surface in a clause initial position in Hittite? And can the Luwian and Lycian non-initial *wh*-words be accounted for under the current proposal? I approach this issue in the following section which examines the close relationship between conditional and correlative clause structure.

5.2.6   The Correlative-Conditional Connection

Over the past two decades, morphological, syntactic and semantic similarities between correlative and conditional constructions have been observed and investigated [18]. Concerning their syntax, which is of interest in this section, conditionals and correlatives both involve a two-clause structure, with the preposed subordinate adjoined to the main clause. Proposals concerning how the two are related varies vastly. As argued by Bhatt and Pancheva (2006), preposed conditionals are adjoined at the CP or IP level, just as is the case for correlatives. A second parallel is that conditionals may also be co-indexed with a proform, such as English *then*. Building upon earlier research, and based on a number of parallels between correlatives and conditionals, Bhatt and Pancheva conclude that conditionals with *then* are correlative structures. According to them, correlatives and conditionals are both definite descriptions, but differ in the entity they denote. Correlatives are definite descriptions over individuals (Dayal 1996, Grosu and Landman 1998 among others) and have a maximalizing effect, whose source is taken to be a [DEF] feature on the complementizer C, having an effect

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[18]For ordinary correlatives, see Andrews 1985, Geis 1985, von Fintel 1994, Izvorski 1996, Cheng and Huang 1996, Dayal 1996, Bittner 2001, Bhatt and Pancheva 2006; for comparative correlatives see McCawley 1988, Michaelis 1994, Beck 1997, Culicover and Jackendoff 1999.

similar to that of a definite article. These conclusions are largely based on evidence from Indo-Aryan languages (Hindi, Marathi), where the adjunction site is at the IP level. I will return to this observation below in discussing the interpretation of some post-posed relatives. Conditionals, on the other hand, are considered to be definite descriptions of possible worlds (Bhatt and Pancheva 2006). Bittner (2001) takes a slightly different approach. According to her, conditional clauses center a possibility, whereas correlatives center an individual. Approaching the issue from the opposite point of view is Arsenijević (2009). Primarily based upon evidence from Serbo-Croatian, he argues that correlatives are a subtype of conditional, where a *wh*-polarity sensitive item moves into a topic position via an intermediate [Spec, WorldP] position within the CP domain. Ordinary conditionals are argued to be yes-no relative clauses.

At the present time, I remain agnostic concerning the various theoretical proposals. However, a few factors are clear from the Hittite data and other Indo-European languages. In terms of verbal morphology, Hittite only has the indicative and imperative moods. This is one of the shared inherited characteristics of the Anatolian languages from Proto-Anatolian, and distinguishes them from the other archaic Indo-European languages, which continue to have a rich verbal morphology. This means that the Anatolian languages do not have the option to express conditionality through verbal morphology. Consequently, the Anatolian languages are left with three options to mark conditionality:

(i) through an overt lexical item *takku/mān*

(ii) with no overt lexical item, but presumably with marked intonation

(iii) via the *wh*-conditional/correlative.

Although I have not investigated verbal morphology in this thesis, a relevant observation is that the matrix verb is frequently in the imperative mood, and when in the indicative, it is most often in the present-future tense (i.e. non-past). As a diachronic remark, it is interesting to note that concerning the marking of conditionals through an overt lexical item,

each PIE daughter language has developed its own *if*-element. Hence, either PIE simply did not employ the overt lexical item strategy, or the PIE *if*-element was lost/renewed in each daughter language. However, I propose that no-marking/special intonation and *wh*-conditionals are shared strategies among the archaic IE languages. Furthermore, correlative structures are productive in these archaic languages, which I suggest was also productive in PIE. However, one important observation must be mentioned: it is not a cross-linguistic fact that a correlative structure receives a conditional interpretation. Within the archaic IE languages, early Latin and Hittite correlatives do show a conditional sense, but the correlatives in ancient Greek and the Indo-Iranian languages do not. We could arguably presume that this is due to the fact that there is a split amongst the languages as to which pronoun was used: the conditionality is derived from the nature of PIE *$k^w i$-/*$k^w o$-, which is a variable, whereas PIE *Hei- is not.

(238) a. <u>Vedic Sanskrit</u>

yás	*tán*	*ná veda*	*kím*	*r̥cā́*	*kariṣyati*
REL-NOM.SG	that-ACC	NEG know-PERF.3SG	WH-ACC.SG	verse-INST.SG	do-FUT.3SG

'He who does not know that (syllable), what will he accomplish by his verse?'

(RV 1.164.39c, translation Jamison & Brereton, 2014)

b. <u>Homeric Greek</u>

(100) *Polydamas will be the first to lay reproach on me:*

ὅς	μ′	ἐκέλευεν	Τρωσί	ποτὶ πτόλιν	ἡγήσασθαι
hós	m'	ekéleuen	Trōsí	potì ptólin	ēgésast^{h}ai
REL-NOM.SG	CL-1ACC.SG	bid-IMPF.3SG	Trojan-mDAT.PL	to city-fACC.SG	lead-INF.AOR.MID

'(he) the one who bade me to lead the Trojans to the city ...'

(*Il.* 22.101)

However, this can not be the whole account. In many languages, two readings are possible from the same structure. One reading is definite (individual reading), the other is conditional (possibility reading). Consider the following examples from Serbo-Croatian and Warlpiri:

(239)   a.   <u>Serbo-Croatian</u>

Koji student je   prvi ušao, taj je   položio ispit.
which student   AUX first   entered that AUX passed   exam

(i)'The student who entered first passed the exam.' (individual level)

(ii)'If any student entered first, they passed the exam.' (possibility level)

(Arsenijević 2009)

b.   <u>Warlpiri</u>

*Maliki-rli **kaji**-ngki   yarlki-rni nyuntu **ngula-ju** kapi-rna   luwa-rni*
dog-ERG   'same.topic'.3SG.2SG bite-NPST   you   dem-TOP   FUT.1SG.3SG shoot-NPST
ngajulu-rlu.
me-ERG

(i) 'As for *the* dog that bites you, I'll shoot *it*.' (individual level)

(ii) '*If* a dog bites you, *then* I'll shoot it.' (possibility level)

(Lipták 2009, example from Hale 1976)

It is perhaps for this reason that Hahn (1946; 1947) and Held (1957) derive opposite interpretations from the same *wh*-initial structure, and that Justus-Raman (1973) takes the position that there is no relationship between indefinite-/definiteness and clause initial position of the *wh*-element. However, it has been reported that in certain languages the conditional reading can be predominant, for instance in Hungarian and Slavic (Lipták 2009), and under the present analysis this would also be the case for Hittite. Although I have presented clear *wh*-conditional examples, by no means do I exclude the possibility of an individual reading or a non-conditional reading for structures of this type in Hittite. As for the adjunction site, both *takku/mān*-conditionals and *wh*-conditionals/correlatives exhibit a CP level adjunction: if the subordinate clause was adjoined to the IP, the clitics of the main clause would appear to the left of the subordinate clause. Since the clitic chain occurs to the left of topicalized or focused elements, I take clitics in Hittite to cluster at the head of C. Hence should a CP be adjoined at the level of the IP of the matrix clause, the embedded CP
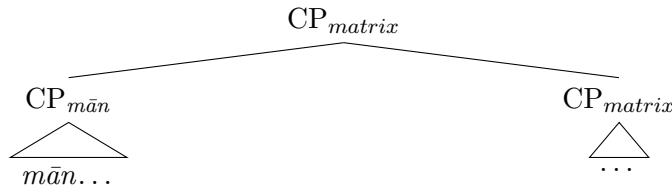
would be located between the higher C_{matrix} head with the clitics from the matrix sentence, and the IP_{matrix} with the content from the matrix clause.

(240)

    a.   *wh*-conditional
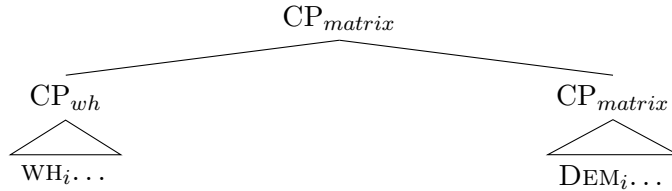
    b.   *takku/mān*-conditional

Two questions remain concerning the internal syntax of the correlated clause containing the *wh*-element: (i) What drives the *wh*-element to move to a clause initial position? (ii) Given that *kui-* is prosodically underspecified, why do we not observe any prosodic flip in these clauses, and furthermore, how can *kui-* support clitics in these constructions? One possible solution is that the Invisible Necessity Operator requires the binding of the *wh*-phrase locally in the CP domain, arguably [Spec, CP]. This however, does not account for the Hittite, Lycian or the Luwian data which exhibit non-initial *wh*-phrases in *wh*-conditionals. It also does not offer an explanation for the accentuation of the *wh*-item: if it is unaccented, how can it be clause initial and be a host to the clitic chain? Furthermore, it does not account for the clause initial position of *wh*-items in Multiple Partitive constructions, briefly mentioned in Chapter 2. The analysis that I propose here is applicable to *wh*-conditionals, as well as to the correlated Multiple Partitive constructions. I propose that in both cases, the *wh*-phrase moves to the specifier position of the Contrastive Focus Phrase, which in Hittite is often, but not obligatorily, marked with the non-geminating enclitic *=(m)a*[19]. Consider

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[19]For the function of Hittite *=ma* to mark contrast and turn of events, see Melchert 2009.

the following examples:

(241) *kuedani=ma=aš=kan*　　　　URU-*ri*　*arḫa parḫišker*　　*n=aš=kan*　　　*arḫa*
WH-DAT.SG=CNTR=3PL.NOM=PTCL town-DAT.SG pvb　expel-ITER.PST.3PL CONN=3PL.NOM=PTCL PVB

parḫiškandu
expel-ITER.IMP.3PL

'While if they have been banishing them to some city, let them continue to banish them (there)!'

<div align="right">(CTH 261.I.B : KUB 13.2 iii 13–14 (MH/NS))</div>

(242)　a.　*nu=kan*　*kuit*　　*kuenner*　*kuit=ma=za=kan*　　　*anda ēpper*
　　　　　CONN=PTCL WH-ACC.SG slay-PST.3PL WH-ACC.SG=CNTR=REFL=PTCL PVB　seize-PST.3PL

(i) 'And some (enemies) they slew, but some (enemies) they seized.'

(ii) 'One (group of enemies) they slew, but the other they seized.'

<div align="right">(CTH 40: KBo 5.6 i 21 (NH))</div>

　　　b.　*nu*　*kuit*　　KUR-*TUM ḫarninker*　*kuit=ma=za*　　　*ešantat=pát*
　　　　　CONN WH-ACC.SG land　　　　destroy-PST.3PL WH-ACC.SG=CNTR=REFL settle-PST.MID.3PL=just

(i)'Some lands they destroyed, some they only occupied.'

(ii)'Some lands they destroyed, others they only occupied.'

<div align="right">(CTH : KBo 5.8 ii 12–13 (NH))</div>

　　　c.　*nu=za*　*kuit*　　　　URUKÙ.BABBAR-*ši arḫa udaḫḫun*　*kuit=ma=za*
　　　　　conn=refl gWH-ACC.SG Ḫattuša-DAT.SG　　　　PVB　bring-PST.1SG WH-ACC.SG=CNTR=REFL

pedi=šši　　　　ARAD-*naḫḫun*
place-DAT.SG=DAT.3PL subjugate-PST.1SG

(i)'Some I brought back to Ḫattuša, some I turned into slaves on the spot.'

(ii) 'Some I brought back to Ḫattuša, others I turned into slaves on the spot.'

<div align="right">(CTH 61.I.A: KBo 3.4 iii 33–34, *Ten Year Annals of Muršili II*, year 4 (NH/NS))</div>

The commonly accepted view in the literature, and which I adopt here, is that [Focus] provides a highlighted piece of information with respect to the rest of the sentence. For example in the context of the answer to a question, it can be identified as the corresponding information to the *wh*-part of the question (Rooth 1985, 1992; É Kiss 1998). [Contrast] can

combine either with Topic or Focus (see Repp 2009, Winkler and Molnár 2009 among others.). Of particular interest for the present analysis is that Contrastive Focus involves alternative propositions (whereas Contrastive Topic involves alternative utterances, see Tomioka 2010)[20]. Contrastive Focus and ordinary Focus can be distinguished through prosody. For example, Contrastive Focus in English is characterized by the so-called A-accent: a plain high tone (H*), often followed by a default low tone (Jackendoff 1972, Pierrehumbert 1980); non-contrastive focus is not prosodically marked as such (Katz and Selkirk 2011).

Whether it be in *wh*-conditionals or Multiple Partitive constructions, an alternative set of propositions is offered. From the data observed in the corpus, I propose that Hittite is a language that must overtly mark its scope. In Chapter 3, I have argued that *wh*-items must remain within the [*v*P] in order to be bound by Rule of Existential Closure. Under the assumption that [contrast] is quantificational (Neeleman et al. 2009), a constituent that moves to [Spec, CNTRFoc], including *wh*-phrases, must do so to mark its syntactic sister as the scope of contrast (domain of contrast in Neeleman et al. 2009). The presence of sentential clitics and the absence of Prosodic-Inversion, as seen in (241) and (242), suggest that a High tone is assigned by [CONTRAST] in Hittite as well, thus assigning a high tone to *ku-* and licensing it to host clitics. This also allows for further constituents to be topicalized above this position, which could account for the Lycian, Luwian and occasional Hittite data.

(243)   Hittite *wh* denoting alternatives

> **Generalization:**
>
> When denoting possible alternatives, whether it be alternative situations as in *wh*-conditionals, or alternative sets of individuals, as in Multiple Partitive constructions, the *wh*-word *ku-* must overtly mark its scope to mark its domain of contrast. It moves from its base generated position to [Spec, CNTRFoc] within the CP domain, where it is assigned a High tone, thus licensing the prosodically underspecified *ku-* lexeme to host clitics.

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[20]Due to lack of space, I will not discuss the finer details of the semantics involved in this matter.

Schema: $[_{CP_{\text{ku-}}}$ $[_{\text{CNTRFOC}}$ ku_i- (H*) CNTRFOC^o=(ma)] ...IP...] $[_{CP_{\text{matrix}}}$ ...$\text{DP}_i/\text{CL}_i/\text{PRO}_i$ ...]

$[_{CP_{\text{ku-}}}$ $[_{\text{CNTRFOC}}$ ku_i- (H*) CNTRFOC^o=(ma)] ...IP...] $[_{CP_{\text{ku-}}}$ $[_{\text{CNTRFOC}}$ ku_j- (H*) CNTRFOC^o=(ma)] ...IP...]

<div align="right">(where H* is a high contrastive tone)</div>

Potential counter examples to my proposal are (244) from the *Ritual of Zuwi*, and (245) from a New Hittite treaty between the Hittite king Muršili II and Targašnalli of Ḫapalla . Although the semantics of *ku-* is clearly that of *any*, the Contrastive Focus enclitic *=(m)a* does not surface on the *wh*-word, but on the first word of the third clause in each case. I take these example to be different from the previous *wh*-conditionals that have been presented so far, which were simple conditionals of the type *if p, q*. Both (245) and (244) are some sort of "super constructions."

(244) *nu kāš kui[t] memai n=at zik šakti zig=a kuit*
CONN this-NOM.SG WH-ACC.SG say-NPST.3SG CONN=it you-scnom.sg know-NPST.2SG you-NOM.SG=CNTR WH-ACC.SG

[mema]tti n=at kāš šakki[!]
say-NPST.2SG CONN=it this-NOM.SG know-NPST.3SG

'Anything *this one* says, you know it. Anything *you* say, this one knows it.'[21]

<div align="right">(Ritual of Zuwi CTH 412.1.2.A: KUB 35.148 iii 12–13 (?/NS))</div>

(245) *namma ANA* ᵈUTU-*ŠI kuiš* LÚ.KÚR *[n=aš=tta]* LÚ.KÚR *ēšdu tuk=ma*
further to His Majesty WH-NOM.SG enemy CONN=he=you enemy be-IMP.3SG you=but

kuiš LÚ.KÚR *ANA* ᵈUTU-*ŠI=ya=aš* LÚ.KÚR
WH-NOM.SG enemy to His Majesty=also=he enemy

'Furthermore, if *to His Majesty* anyone is an enemy, let him be an enemy to you! And if *to you* anyone is an enemy, he is also an enemy to His Majesty.'

<div align="right">(CTH 67: KBo 5.4 Ro 33–34 (NH))</div>

In my view, (245) and (244) both put forth a situation that contrasts two situations. The two situations that are involved are: one from the perspective of a first individual, call it σ_1; and the other from the perspective of the second individual, call it σ_2. The relationship between the two situations is the expressed situation, call it σ_e. The contrast

---

[21]The text has a scribal error with the second singular ending *-ti* instead of the third singular ending.

that is expressed can be represented as $\sigma_e = [_{\text{CNTR}}\ \sigma_1]\ [_{\text{CNTR}}\ \sigma_2]$, where the second member is overtly marked as contrasted with the enclitic $=ma$, which is why it surfaces on the third clause of each "super constructions." Each situation, however, is a conditional expression in itself, and hence the *wh*-word *ku-* is in [Spec, CNTRFoc] in σ_1 and σ_2.

Let us start with the *Ritual of Zuwi* in (244). The situation expressed is one where the conditionality of the individual-1's situation is conjoined with the conditionality of the indidivual-2's situation: $\sigma_e = \sigma_1 \wedge \sigma_2$.

(246)   *Ritual of Zuwi* in (244)

$$\sigma_e = \sigma_1 \wedge \sigma_2 = \left[\ [\textit{if } p,\ q]\ \right] \wedge \left[\ [\textit{if } p',\ q']\ \right] \quad \left\{ \begin{array}{l} \sigma_1 = \textit{if } p,\ q \\ \sigma_1 = \forall x\ \textit{if } [\text{he says x}],\ [\text{you know x}] \\ \quad \text{and} \\ \sigma_2 = \textit{if } p',\ q' \\ \sigma_2 = \forall\ y\ \textit{if } [\text{you say y}], [\text{he knows y}] \end{array} \right\} \quad \begin{array}{l} \underline{\text{with}}: \\ x \in \{X\},\ \text{and}\{X\} = \text{set of things he says.} \\ y \in \{Y\},\ \text{and}\{Y\} = \text{set of things you say.} \end{array}$$

Hence σ_e is true if σ_1 is true and σ_2 is true. Four sets are involved: the set of things individual-1 says, call it $\{X\}$; the set of things individual-1 knows, call it $\{Z\}$; the set of things individual-2 says, call it $\{Y\}$; and the set of things individual-2 knows, call it $\{W\}$. As such, the expressed situation involves the intersection between the set of things individual-1 knows, and the set of things individual-2 knows: $\{Z\} \cap \{W\}$. Both *ku-* denoted by the variables x and y belong to the intersection, but does not necessitate the exact identity between the variables: the things individual-1 says need not to be the same as the things individual-2 says.

However, the situation expressed in the Treaty, above in (245), is of some sort a "super conditional," whose semantics I represent in (247). This "super conditional" could be rephrased as "if it in the case of σ_1, then σ_2", where σ_1 is true if σ_2 is true, and σ_1 is false if σ_2 is false. $\sigma_e = \textit{if } \sigma_1, \sigma_2$, with each individual situation being a condition in itself.

(247)   _Treaty between Muršili II and Targašnalli of Ḫapalla_ in (245)

$$\sigma_e = \text{if } \sigma_1, \sigma_2$$
$$= if\left[\; [\text{if } p,\, q]\; \right], \left[\; [\text{if } p',\, q']\; \right]$$
$$\text{where } \sigma_1 \Leftrightarrow \sigma_2$$

$$\left\{\begin{array}{l} \sigma_1 = \text{if } p,\, q \\ \sigma_1 = \forall x \; if[x \in \{X\}],\, [x \in \{Y\}] \\ \quad \text{and} \\ \sigma_2 = \text{if } p',\, q' \\ \sigma_2 = \forall \, y \; if[y \in \{Y\}],[y \in \{X\}] \end{array}\right\}$$

with:

$x \in \{X\}$, and$\{X\}$= set of M.'s enemies .

$y \in \{Y\}$, and$\{Y\}$ = set of T's enemies.

Only two sets are involved in (245): the set of Muršili's enemies $\{X\}$, and the set of Targašnalli of Ḫapalla's enemies $\{Y\}$. The consequent is the union of the two sets $\{X\} \cup \{Y\}$, with the result that the variables x and y become one and the same under the expressed situation. Thus in σ_e, x=y. Whether this analysis is correct or needs to be improved upon, (245) is nonetheless a further counterexample to Held's proposal.

5.3   "~~Determinate~~", Existential "Correlatives?"

In the previous section, I have presented a rather lengthy discussion concerning re-categorizing a large portion of preposed structures as conditional correlative constructions that contain a _wh_-element. The adjoined CP presents a hypothetical situation, and the matrix clause the consequence. The clause initial position of the _wh_-word is not driven by _wh_-movement, but rather by contrastive focus to overtly mark its contrastive domain. Before moving on to discuss any other structures, let us consider some cross-linguistic generalizations that have been proposed for correlatives. The most comprehensive body of work on relativization strategies is de Vries (2002), and thus most of what follows is based on his work.

To begin with the basics, a relative pronoun is defined as a class of pronouns which undergo _wh_-movement. There are relative pronouns in _d_-format, i.e. with only a demonstrative core (Danish _den_); relative pronouns in _wh_-format, i.e. an interrogative format (French _qui_); and a relative pronoun in _specialized_-format, a separate class from existing _wh_- and demonstrative pronouns (Hindi _jo_). The resumptive pronoun may be a personal or demonstrative

pronoun, as well as clitics. According to de Vries (2002: 173), the resumptive pronoun remains in situ, or at least must not be in initial position. Following Srivastav (1991), de Vries takes correlatives as preposed clauses left-adjoined to the matrix IP as represented in (248):

(248)   [$_{\text{IP-matrix}}$ [$_{\text{CP}}$ [$_{\text{DP-rel}}$ *wh* NP]$_i$ ... t$_i$ ...]$_j$ [$_{\text{IP-matrix}}$ ... Dem$_j$ ...]]

<div align="right">(From de Vries (2002: 147))</div>

Concerning the semantics, Srivastav (1991) argues that correlatives are quantificational expressions. Grosu & Landman (1998) extend her proposal further, in that correlatives are one of several construction types that are semantically maximalizing, the interpretation is universal or definitizing. Hence the demonstrative correlate in the matrix clause can only be a strong determiner (a weak determiner renders the structure ungrammatical). To illustrate the nuance between maximalizing, restrictive and appositive, consider the following English examples in (249), in the situation that I have a fridge containing beer, vodka, champagne and water.

(249)

  a.   (I drank) the beer that passed the taste-test.   [*restrictive*]

  b   (I drank) the beer, which passed the taste-test.   [*appositive*]

  c.   (I drank) the booze that there was in the fridge.   [*maximalizing*]

In the *restrictive* relative in (249a), the subject only drank from the group of beer that passed the taste-test; possible beer types that fail the taste-test are not drunk. For the appositive in (249b), the speaker drank all the beer in the fridge, which matter-of-factly all passed the taste-test. The degree relative in (249c) is maximalizing: the whole amount of alcoholic beverages in the fridge has been drunk. Since correlatives are always maximalizing, stacking is reported to be impossible for them. This would be a semantic consequence of maximalization: it is argued that stacking involves a set intersection and that maximalization creates a singleton set, hence stacking correlatives would lead to the intersection of two singleton sets, which is a semantically vacuous operation: the result is either empty or identical (de Vries 2002, following Grosu & Landman,1998). This is shown in (250):

(250) *[jo laRkii khaRii hai] [jo lambii hai] [vo Colaba-me rahtii hai]
     REL girl   standing is   REL tall   is   that Colaba-in   lives   is

*'Which girl is standing, who is tall, she lives in Coloba.' (literal meaning)

(Example from Dayal 1996, Chapter V/1.3)

According to Bhatt and Pancheva (2006), this ban on stacking is a predicted consequence from variable binding in a correlative structure: when a correlative clause binds a correlative proform, that same correlative proform cannot be bound by another correlative clause.

Now if we turn to Hittite, the pronoun used is in "*wh*-format", and the interpretation is reportedly definite, however the qualifying features of correlative-hood stops there. What defines "determinate" preposed correlatives is that the *wh*-word is not in initial position, and as demonstrated in Chapter 4, Hittite is a *wh*-in situ language Secondly, in both clauses, CP level adverbs are attested: the clause initial connector *nu*. Thirdly, stacking is possible in Hittite. Consider the following example in (251):

(251) UḪ$_7$-*naš*   UN-*aš*   *kue*   *uddār*   *memišket*   *taruppiyat kue*   *malkiyat*
    sorcery-GEN.SG man-NOM.SG WH-ACC.PL word-ACC.PL speak-ITER.PST.3SG braid-PST.3SG WH-ACC.PL spin-PST.3SG
    kue   *ēššešta*   *kuedani pedi*   *nu*   *apātt=a*   *ŪL IDI* UḪ$_7$-*naš*   UN-*aš*
    WH-ACC.PL make-PST.3SG WH-DAT.SG place-DAT.SG CONN that-ACC.SG NEG know sorcery-GEN.SG man-NOM.SG

(CTH 434.1: KUB 17.27 ii 28–30 (MH/NS))

'Which words the magician was speaking, which ones he braided together, which ones he spun, in which place he made (them), *those also* he did not know, the magician.'

It could be the case that those cross-linguistic generalizations hold only for correlatives in certain languages such as Hindi, as most earlier research on the properties of correlatives have been based on Hindi or closely related Indo-Iranian languages. If this is happens to be the case, then more cross-linguistic research on correlatives is needed. For instance, it has been recently reported that some languages do indeed allow stacking in correlatives, such as Sanskrit. Davison (2009) argues that stacking in Sanskrit is possible due to a difference in adjunction site: Sanskrit allows for symmetric adjunction with correlatives adjoining at the

CP level, whereas in Hindi we find asymmetric adjunction: the correlative adjoins at the IP level.

However, it could be the case that these types of constructions in Hittite are not correlative relatives in the strict sense, but represent some other construction. Hence I will continue employing the same terminology of *wh*-word and not relative pronoun throughout this body of work. Additionally, I will not attempt to cover all types of clauses in this thesis, and I leave the matter as an open ended question: further research is much needed. However, I am inclined to expect a variety of constructions to be identified in Hittite in the future, as more research is conducted on the topic.

Concerning previous accounts of the "determinate" preposed relative, as mentioned above, I see no grounds to derive an interpretation of existence and specificity based on fronting any constituent whatsoever above the *wh*-word. For these clauses, I follow Hahn (1946, 1949) in that in these constructions the *wh*-word shows the same distributional behavior as for the indefinite function. I argue here that both the semantics obtained in "determinate" clauses and the surface distribution of the *wh*-word in these clauses are most simply accounted for under the proposals made in Chapter 2 and Chapter 3 of this thesis, namely:

(i) Hittite *wh*-words are indefinites whose core is a polarity item (Chapter 2).

(ii) *wh*-words in Hittite are prosodically deficient and require a suitable prosodic host, feature which is inherited from PIE, and shared by the cognate forms of Hittite *kuiš*: for example Latin *quis* and ancient Greek *tis* (τις) (Chapter 3).

If indeed we are dealing with the indefinite polarity *wh*-item, and in the absence of a binder, then it must be bound by Rule of Existential Closure, and being prosodically deficient, we ought to observe Prosodic Inversion. Let us examine the Hittite data in more detail in the following section.

5.3.1 Same Polarity Item, Same Behavior

5.3.1.1 Existential Closure

From these premises, certain predictions are made. First, the existential interpretation of the *wh*-word in "determinate" clauses is obtained via the rule of existential closure for indefinites à la Heim (1982), hence we should observe the *wh*-word in the periphery of the inflected verb in its clause (i.e. the *wh*-form remains in the vP), and we should not think in terms of avoidance of being in clause initial status. Secondly, since the *wh*-word is a polarity item by nature, and not an interrogative as was previously assumed, we predict that the same prosodic requirements should be met for *wh*-words in "determinate" relative clauses, with the *wh*-word undergoing Prosodic Inversion à la Halpern (1995) in the absence of a suitable host. In a previous account, Huggard (2011) noticed the following distributional pattern within "determinate" preposed relative clauses:

(252)   Possible surface distribution of *wh*-words in "determinate" clauses:
      a.   [[N *ku-*] . . .]
      b.   [XP [*ku-* N] . . .]
      c.   [XP [N *ku-*] . . .]
      d.   [N XP [*ku-*] . . .]

Crucially missing from this schema is the observation that the *wh*-phrase in these clauses is within close nexus to the finite verb. In clauses that contain multiple overt elements, the *wh*-word is preceded by more than one constituent, but always remains within the periphery of the verb. Under the Held-Garrett approach, which seeks avoidance of first position, such attested clauses are problematic. Under the present analysis, where the *wh*-word *must* be bound by Rule of Existential Closure, this is predicted and unproblematic. Take for instance the following passage in (253) from the "Apology" of Ḫattušili:

(253) *nu=mu*　　LUGAL.MEŠ *MAḪ-RU=YA* *āššawaš*　*memiyanaš kuiēš*　*ešer*
CONN=1SG.DAT king-NOM.PL　　foremost=mine　good-GEN.SG word-GEN.PL　WH-NOM.PL be-PST.3PL

[(*n=at=m*)]*u*　　*āššawaš=pat*　*memiyanaš kišantat*
CONN=3PL.NOM=1SG.DAT good-GEN.SG=same word-GEN.PL　in.a.state-PST.MID.3PL

(*The Apology of Ḫattušili* CTH 81.A: KUB26.45 iv 50–51(NH))

'There were some *kings senior to me* on good terms with me. They remained on *the same good terms* with me.' (translation mine)

In (253), the nominative plural *wh*-word *kuiēš* remains stranded behind, in its base generated position in [Spec, *v*P], while the head NP *kings senior to me* is fronted to mark a change in topic within the discourse. As will be immediately noticeable from all other examples in this section, the position of the *wh*-word should be analyzed with respect to the verb, and not clause-initial position.

5.3.1.2　Lack of Prosodic Stress and Prosodic Inversion

With regards to the lack of prosodic stress of the *ku-* *wh*-word in these types of clauses, one important source of evidence comes from metrical texts. As reported by Kloekhorst (2014: 657), at least four compositions in Hittite have been identified as being poetic and adhering to metrical structure. They are the Song of Ullikummi, the Hymn to Ištar[22], both identified by Güterbock (1951), The Song of Neša[23] (Durnford 1971) and the recitation portion of the Ritual of Iriya[24] (Melchert 2007). The Hittite meter is a stress based meter where there must be four stressed units per verse. Consequently, in verses containing more than four words, some will not count as accented. As Kloekhorst (2014: 621–2) reports, following the research from Durnford (1971), Melchert (2007) and Kloekhorst (2011), three types of words are prosodically distinguished:

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[22]CTH 717: KUB 24.7 i-ii 26 (NS).

[23]CTH 16.b.A: KBo 3.40a +KBo 3.40b rev 13–15 (OH/NS).

[24]CTH 401.1A : KUB 30.36 ii 3–16 and CTH 401.1B: KUB 30.33 i 12–19; KBo 13.131 obv. 1–9.

(i) words that always count as unstressed in the meter.

(ii) words that sometimes count as unstressed in the meter.

(iii) words that always count as stressed in the meter.

Of particular interest here is that *kui-* always counts as unstressed in the meter when in "determinative" relatives, but stressed in interrogatives. Consider the following contrastive examples from the Song of Ullikummi, where I represent the stressed words in bold:

(254)   a.   **memian**=*da*   *kuin*   **mema**[(**ḫḫi**)] | *n*[(=*u*=*mu*   **G)EŠTU**-**an** *parā*]
             word-ACC.SG=CL-2DAT.SG WH-ACC.SG say-NPST.1SG   CONN=CL-1DAT.SG ear-ACC.SG   forth

        ēp
        take-IMP.2SG

        'The word I say to you, hold your ear out for me!'

        (CTH 345.I.1.C: KUB 33.102 ii 32–33 (?/NS))

        b.   **ku**[**in**]   *namma* *šallanuēr* | ^d**GUL**-*šuš* **DINGIR.MAḪ**^{MEŠ}-*uš*
             WH-ACC.SG further   raise-PST.3PL   Fate.Goddess   Mother.Goddess

        'Who have they further raised, the Fate Goddess and the Mother Goddess?'

        (CTH 345.I.1.A: KUB 33.93 + iv 9–10 (?/NS))

Although a translation from a Hurrian myth, the same phenomenon of Prosodic Inversion is observed in (254a.) between the *wh*-word *kuin* and its head noun *memian*, as in native Hittite texts involving the indefinite usage of *ku-* and *ku-ki/ka*, as proposed in Chapter 3. This phenomenon is widely observed in the corpus. Let us now turn to non-metrical texts.

As predicted by the present proposal, in the absence of any prosodically marked element within its cliticization domain and syntactic scope domain, the *wh*-element undergoes Prosodic Inversion. This is most evident when the only available prosodic host is the verb itself. Consider the following examples in (255) and (256):

(255) nu=za=kan   zašḫimuš   kuieš   uškezzi   n=aš   memiškezzi
       CONN=REFL=PTCL dream-ACC.PL WH-ACC.PL see-ITER.NPST.3SG CONN=3.PL.ACC tell-ITER.NPST.3SG

<div align="right">(CTH 406: KUB 7.5 iv 6–7 (MH/NS))</div>

(i)'The dreams that he sees, he tells them.' <small>(translation in terms of preposed RCs)</small>

(ii)'He sees some dreams, and he tells them.' <small>(translation mine)</small>

As predicted, the unaccented *wh*-form *kuieš* in (255) undergoes Prosodic Inversion within its cliticization domain, in this case its own DP, and surfaces after its head Noun. In the absence of any overt material within the vP, the *wh*-word is observed to surface after the finite verb of the clause, as shown here in (256a), and above in (212a), which I repeat here as (256b):

(256) a. 'And then, (during the competition) ten runners come, ...'

       nu   taruḫzi   kuiš   dan pedašš=a kuiš   nu=šmaš   II TUG^HI.A
       CONN win-NPST.3SG WH-NOM.SG second place=and WH-NOM.SG CONN=them-OBL 2 cloth
       ERÍN.MEŠ [p]ianzi
       troop   give-NPST.3PL

<div align="right">(CTH 627.1.j.D: IBoT 1.13 15–18 (?/NS))</div>

(i)'The one who wins and the one who is in second place, to them they give two uniforms.' <small>(translation in terms of preposed RCs)</small>

(ii)'One wins, and one is second place. To them they give two uniforms.' <small>(translation mine)</small>

   b. 'If a man puts filth into a pot or a cistern, formerly they paid six half-shekels of silver.

       paprizzi   kuiš   3 GÌN KUBBABAR pāi
       sully-NPST.3SG WH-NOM.SG 3 half-shekels of silver give-NPST.3SG

<div align="right">(CTH 291.I.a.A: KBo 6.2 I 56ff. (OH/OS))</div>

(i)'the one who sullies, gives three half-shekels of silver.' <small>(translation in terms of preposed RCs)</small>

(ii) 'One that sullies gives three half-shekels of silver.' <small>(translation mine)</small>

<div align="center">159</div>

In (256a) the presence of *nu* overtly marks both clauses as being CPs[25]. The relationship between the two is not entirely clear to me. Either the first clause is an extraposed free relative (there is no head Noun), or we are dealing with two syntactically independent CPs that are co-referent through the discourse. Concerning the type of relative in (256b), this would be a free relative in the subject position and denotes a generic context: it does not select a specific person, but rather describes what to do in a generic situation that an individual pollutes a pot or cistern and what his/her punishment will be[26]. Similar to (256b), is the example that was presented above in this chapter under (209b), which I repeat here as (257):

(257) ^{LÚ}K]AŠ$_4$.E [(*taruḫzi*   *kui*)]*š*   2 ^{NINDA}*wagataš*   1 MA[NA KÙ.BABBAR]
runner-NOM.SG win-NPST.3SG WH-NOM.SG 2 wagada.bread-ACC.SG 1 mina   silver
LUGAL*waš* [(*kiššaraz=š*)]*et dāi*
king-GEN.SG   hand-ABL.SG=his   take-NPST.3SG

<div align="right">(CTH 627.1.h.A: KBo 25.12 ii 10–12 (OH/OS))</div>

'The runner who wins takes two wagada-breads and one mina of silver from the hand of the King.'

The semantics is clearly restrictive: it is the runner who wins this specific race that takes 2 breads, not a generic statement that applies to general winners of races. This is an internally headed free relative embedded in the subject position [Spec, IP] of the matrix clause. The semantics matches this analysis, and is further supported by the absence of *nu* between *kuiš* and the direct object *two breads and one mina of silver*, as previously argued by Probert (2006). I would like to draw the attention to where the *wh*-word *kuiš* surfaces: after the verb, and not after its head noun as would be expected and observed in the other examples of this type. I suggest that this reflects inter-speaker variation, a proposal that I

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[25]I take *nu* to be a sentential adverb adjoining to Force' in the CP domain. It is a sentence connector denoting the prosecutive sequence of the discourse, and does not co-occur with other C-related lexemes such as *našma* 'or if', *namma* 'furthermore', *takku* 'if'.

[26]See de Vries (2002: Chapter 2) for details distinguishing free relatives, hanging free relatives and correlatives.

argue for in the next section: for some speakers *ku-* requires to be hosted by the first Prosodic word in its domain, for others, it requires a Phonological phrase, and hence there are two surface order possibilities, as represented in (258).

(258)   a.   <u>Enclitic to Prosodic Word</u>

       [[~~kuiš~~ [$^{\text{LÚ}}$KAŠ$_4$.E]$_\omega$=*kuiš*]$_\omega$ [*taruḫzi*]$_\omega$]$_\varphi$

   b.   <u>Enclitic to a Phonological Phrase</u>

       [[~~kuiš~~ [$^{\text{LÚ}}$KAŠ$_4$.E]$_\omega$ [*taruḫzi*]$_\omega$]$_\varphi$=*kuiš*]$_\varphi$

So far, the data presents a variety of constructions, none of which match the standardized definition of correlatives. There is, however a consistent match between the distribution of the marked indefinite *kuiški* and the coreferential *kuiš* in Existential "Correlatives" and other types of constructions presented in this section.

5.3.1.3   Prosodic Inversion: Inter-speaker variation

Up until now, I have presented data that contained minimal lexical items within the *wh*-clause, and the account has been straightforward: if nothing is present in the syntactic hierarchy to host the lexically deficient *ku-*, then we observe Prosodic Inversion. Now what happens when there is more content in the *wh*-clause? In light of the proposal above, namely that *kui-* requires either a prosodic word or a phonological word as a host, and based on a reexamination of the evidence, I suggest that the distribution type [XP [$_{\text{DP}_{\text{WH}}}$ *ku-* N] ...] and [XP [$_{\text{DP}_{\text{WH}}}$ N *ku-*] ...] do not represent variation based on different discourse factors as argued in Huggard (2011), but rather reflect inter-speaker variation, as proposed above in (258) to account for the surface distribution observed in (257). This has become most evident when comparing two copies of the New Hittite document "Ten Year Annals of Muršilli II". To illustrate, I have chosen a passage from Year 3. I begin with the CTH 61.I.A (KBo 3.4 ii 38–44) version in (259), in which that scribe displays the [DP$_{\text{SUBJ}}$ [$_{\text{DP}_{\text{WH}}}$ *ku-* N] V] treatment. Following in (260) is the selection from the CTH 61.II.2A (KUB 14.16 iii 20–22) version.

That scribe shows [DP$_{\text{SUBJ}}$ [DP$_{\text{WH}}$ N *ku-*] V] variant. Again, to facilitate the comparison, I have split (259) and (260) into (a) and (b) parts. However, each example does represent a passage of continuous text.

(259)   Previous lines: "I fought against Mt. Arinnanda. The Sun Goddess of Arinna, my Lady, the Stormgod, my Lord, Mezzulla and all the gods ran before me. I conquered Mt. Arinnanda."

a.   *nu=za* $^{\text{d}}$*UTU-ŠI kuin*   NAM.RA   *INA* É.LUGAL *uwatenun*   *n=aš*
CONN=REFL Majesty-his WH-ACC.SG deportee-ACC in   palace   bring-PST.1SG CONN=3SG.NOM

1 SIG$_7$ *LIM* 5 *ME* NAM.RA *ēšta*
15, 500   deportee   be-PST.3SG

(CTH 61.I.A: KBo 3.4 ii 38–42, *Ten Year Annals of Muršili II*, year 3 (NH/NS))

'I, His Majesty, brought some deportees to the palace. There were 15, 000 deportees.'

(translation mine)

b. $^{\text{URU}}$KÙ.BABBAR-*aš=ma=za* EN.MEŠ ÉRIN.MEŠ ANŠE.KUR.RA.MEŠ=*ya*
Hattuša-GEN.SG=CJN=REFL   lords   infantry   cavalry=CJN

kuin   NAM.RA.MEŠ *úwatet*   *nu=ššan* *kappuwauwar* NU.GÁL *ēšta*
WH-ACC.SG deportee   bring-PST.3SG CONN=PTCL count-VN   not.exist be-PST.3SG

(CTH 61.I.A: KBo 3.4 ii 42–44, *Ten Year Annals of Muršili II*, year 3 (NH/NS))

'But the lords, infantry and cavalry of Hattuša brought some deportees. Of them there was no counting.' (translation mine)

In (259), there is no Prosodic Inversion: the scribe writes the *wh*-word *kuin* in its syntactic position, preceding the noun that it modifies. Now compare (259) to the copied version in (260), where the scribe applies Prosodic Inversion: *kuin* surfaces after its head noun.

(260)   Previous context: 'When the captives prostrated themselves at my feet, I brought the captives down from Mount Arinnanda.'

a.   *nu=za*   *ammuk INA* É=*YA*   1 [SI]G$_7$ *LIM* 5 *ME* NAM.RA.MEŠ *uwatenun*
CONN=REFL I   in   house=my 15, 500   deportee-ACC   bring-PST.1SG

(CTH 61.II.2A: KUB 14.16 iii 20–21 (NH/NS))

'*I* brought into my house 15, 000 deportees.' (translation mine)

b. ^{URU}*Ḫattušaš=ma=za* [ÉRIN.MEŠ ANŠE.KUR.RA.ME]Š $^{ÉRIN.MEŠ}$*šārikuwašš=a*
  Hattuša-GEN.SG=CJN=REFL infantry cavalry š-troops=CJN

  NAM.RA *kuin*   *úwatet*   *nu=š*[*šan kappuwa*]*uwar* NU.GÁL *ešta*
  deportee WH-ACC.SG bring-PST.3SG CONN=PTCL count-VN not.exist be-PST.3SG

  (CTH 61.II.2A: KUB 14.16 iii 21–22 (NH/NS))

'But the infantry, cavalry and š-troops of Hattuša brought some deportees. Of them there was no counting.' (translation mine)

Within lexicalist theory, prosodic deficiency is specified in the lexicon (Zec & Inkelas 1990; Halpern 1995), via frames such as represented in (261):

(261) a. [[   ]$_\omega$ _____]$_\omega$ Enclitic to a Prosodic Word.

       b. [[   ]$_\varphi$ _____]$_\varphi$ Enclitic to a Phonological Phrase.

       c. [_____ [   ]$_\omega$]$_\omega$ Proclitic to a Prosodic Word.

       d. [_____ [   ]$_\varphi$]$_\varphi$ Proclitic to a Phonological Phrase.

Under the assumption that the prosodic status is lexically determined, then one may also assume that vocabulary items may be specified for prosodic constituency: *ku-* may be enclitic to a prosodic word, or to a phonological phrase. So far, it seems to be a matter of synchronic inter-speaker variation. This is a very interesting topic which deserves much further attention. A question that it immediately raises is: Are there other functional lexemes which show a similar behavior? May we gain further insight into the prosody of the language through syntactic irregularities? My intuition tells me that the answer to both questions is yes.

5.3.1.4 Who did What and What went Where

In the present section, I wish to present some examples from the corpus that support a paratactic analysis rather than a correlative one. I have provided competing translations, one which I call "standard translation," which follows the analysis that these clauses represent "nested" preposed correlative relatives, as well as my own, which follows my analysis that

suggests a indefinite interpretation. Most of these types of examples are found in ritual instructions, where the Hittites want to be explicit about the procedures involved. In the two following examples in (262) and (263), there are two referents that are referred to. In (262), there is mention of the vessel in which the deity figurine is washed, and what should be done with the water that was used to wash the deity. In (263), the instructions concern the barley mash and the fired-clay pot. In both examples, the *wh*-phrase is not bound by the rule of Existential Closure. Consequently, the Spell-Out domain is the CP phase, and in such cases I suggest that the hosting requirement is that of a Phonological word (as in (261b) above), under the assumption that Prosodic Inversion is a last resort strategy (Halpern, 1995).

(262) DINGIR-*LIM*=kan kuedani   ANA ^{DUG}GÌR.GÁN anda arranzi   n=ašta
       god=PTCL   WH-DAT/LOC.SG in   vessel   in   wash-NPST.3PL CONN=PTCL
       wātar   *kuit*   ANA ^{DUG}GÌR.GÁN anda n=at   *PANI* DINGIR-*LIM*
       water-NOM.SG WH-NOM.SG in   vessel   in   CONN=ACC.3SG before god
       apēz=pat   IŠTU ^{DUG}GÌR.GÁN dāi
       that-ABL.SG=same with   vessel   put-NPST.3SG

                                        (CTH 714.1.A: KUB 27.16 i 30–33 (NH/NS))

       (i)'The water which is in the vessel in which they wash the deity, he puts before the deity with that very same vessel.' (translation in terms of preposed RCs)

       (ii) 'They wash the deity in [some vessel]ᵢ.There is [some water]ⱼ in [the vessel]ᵢ. He puts [it]ⱼ in front of the deity with [that exact same vessel]ᵢ.' (translation mine)

(263) 'The barley mash that he (the priest) is holding he [puts] on the table . . . '

       kattan=ma=šši   *kuin*   [(^{DUG}GAL.GIR₄ ḫarzi   nu=ššan BA.B)A.ZA]
       down=CNTR=3DAT.SG WH-NOM/ACC.SG   fire-clay vessel   hold-NPST.3SG CONN=PTCL barley-mash
       kuiš   *katta āršzi*   n=[(an=kan   parā pēdai   )]
       WH-NOM.SG down flow-NPST.3SG CONN=3ACC.SG=PTCL forth carry-NPST.3SG

                    (CTH 491.1.A: KUB 43.58 ii 14–15 (MS) (with duplicate CTH 491.1.B: KUB 15.42 (NS)))

       (i)'But one carries out/removes the barley mash that flows down into the fired-clay vessel that he holds under it.' (translation in terms of preposed RCs)

(ii) 'But *under it* he holds some fired-clay-vessel. Some barley mash flows down there. He carries it out.' (translation mine)

The correlative strategy theoretically allows for multiple correlatives. They contain two or more relatives which correspond to two or more correlates/referents in the main clause. Consider the following example in (264) from Hindi:

(264) [$_{\text{CP-correl}}$ *jis laRkii-ne jis laRke-ke saath khelaa*] *us-ne   us-ko   haraayaa*
       REL girl-ERG   REL boy-GEN   with   played   that-ERG that-ACC defeated

(Example from Lipták 2009: 25)

(i) 'Which girl played with which boy, she defeated him.' (literal translation)

(ii) 'The girl who played with a boy, she defeated him.'

Thus if Hittite had true correlatives, we would expect to find examples of that type, namely the hypothetical and to my knowledge unattested version of (262) in (265):

(265) [with which water in which vessel they wash the deity] [they put that water in that vessel in front of the deity].

These types of complicated and somewhat circular co-referent constructions are not rare. It is highly possible that I have simply not found such examples of "double *wh*-words" yet in the corpus for "determinate" preposed clauses, although they are attested for *wh*-conditional correlatives, as shown in (266) and (267):

(266) *kuiš=wa   kue   wetešket   kinuna=war=at kāša BEL* S[ÍSKUR] *pippaš*
       WH-NOM.SG=QUOT WH-ACC.PL build-PST.3SG now=QUOT=them   behold ritual client   destroy-PST.3SG
       (i) 'Whoever has built whatever (cult stones), behold! the ritual client has now overturned them.'
       (ii) 'If anyone has built any (cult stones), behold! the ritual client has now overturned them.'

(*Ritual of Maštigga for Domestic Quarrel*, CTH 404.3: KBo 24.1+ Ro 141–5 (MH/MS))

(267) *kuiš* *kuēz* *dam[me/išḫanza]* [*n*]=*an* *zik=pat* ^dUTU LUGAL *ŠAMÊ*
　　　WH-NOM.SG WH-ABL.SG oppress-PCP　　　CONN=CL-3ACC.SG you=PTCL sun-god king　　heaven

ḫuišnuške[ši]
rescue-NPST.ITER.2SG

(i) 'Whoever is oppressed by whatever, you, the Sun-god, King of Heaven, always rescue him.'

(ii) 'If anyone is oppressed by anything, you, the Sun-god, King of Heaven, always rescue him.'

(*Ritual of the River*, CTH 433: KUB 36.83 i 14-15 (MH?/NS))

In (268), two alternative situations are presented, but they are not constructed like the *wh*-conditionals presented above. Arguably, this is an instruction of what to do in a real event and is a generic description, versus a possible worlds/situations event as in *wh*-conditionals. I propose that the use of the *wh*-word in this example is similar to that in Multiple Partitive constructions, and may be translated as "the one ...the other ..." (see (242) above)

(268) LUGAL-*uš* GAD-*an* *arḫa peššiyazi* *ta* *mān* DUMU.MEŠ.É.GAL *kuēz*
　　　king-NOM.SG napkin-ACC.SG away throw-NPST.3SG CONN if　palace-officials　　　WH-ABL.SG

paršnan *ḫarkanzi* *n=at* *apezza* *peššiyazi* *n=at* DUMU.MEŠ.É.GAL
squatted-PCP have-NPST.3SG CONN=it that-ABL.SG throw-NPST.3SG CONN=it palace-officials

danzi *mān=ma* LÚ.MEŠ *MEŠEDI kuēz≪zi≫ paršnan* *ḫarkanzi* *n=at*
take-NPST.3PL if=but　bodyguards　　WH-ABL.SG　squatted-PCP have-NPST.3SG CONN=it

apezza *peššiyazi* *n=at* LÚ.MEŠ *MEŠEDI dānzi*
that-ABL.SG throw-NPST.3SG CONN=3ACC.SG bodyguards　　　take-NPST.3PL

(CTH 612.b.A: KBo 4.9 vi 5ff (OH/NS))

(i) 'The king throws away the napkin. If he throws it to the side on which the palace officials are squatting, then the palace officials catch it, but if he throws it to the side on which the bodyguards are squatting, then bodyguards catch it.' (and they give it to the table-men) (translation in terms of preposed RCs)

(ii) 'The King throws away the napkin. If the palace officials are squatted on the one side, and he throws it on that side, then the palace officials take it. (*Alternatively,*) If the bodyguards are squatted on the other side, and he throws it on that side, then the bodyguards take it.' (translation mine)

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The duplicate to (268) uses a different construction, using postposed restrictive relative clauses:

(269)   *nu* LUGAL-*uš* GAD-*an*   *arḫa* ≪*p*[*eššiyaz*]*i*≫*? peššiyazi*   *n=at*   *mān ANA*
        CONN king-NOM.SG napkin-ACC.SG away throw-NPST.3SG   throw-NPST.3SG CONN=it if   DAT

        LÚ.MEŠ *MEŠEDI andan pe*[*šši*]*yazi* LÚ.MEŠ *MEŠEDI kuēz*   *par(a)šnanteš n=at*
        bodyguards   in   throw-NPST.3SG bodyguard   WH-ABL.SG squatted-PCP   CONN=it

        LÚ.MEŠ *MEŠEDI danzi*   *mān=at ANA* DUMU.MEŠ É.GAL=*ma anda*
        bodyguards   take-NPST.3PL if=it   DAT   palace-officials=CNTR   in

        peššiyazi   DUMU.<MEŠ> É.GAL *kuēz*   *par(a)šš(a)nanteš n=at*
        throw-NPST.3SG palace-officials   WH-ABL.SG squatted-PCP   CONN=it

        DUMU.MEŠ É.GAL *danzi*
        palace-officials   take-NPST.3PL

        'The king throws away a napkin. If he throws it within the bodyguards, on the side that the bodyguards are squatting, the bodyguards take it. But if he throws it within the palace officials, on the side that the palace officials are squatting, the palace officials take it.'

                                     (CTH 612: KUB 25 1 ii 1–9 OH/NS)

There is evidence that the construction seen in (268) is genuine, and not some type of scribal error. In an entirely different composition from (268), the "Grand Festival of Arinna" (CTH 634: KUB 25.3 iii 27–34 (OH/NS)), the same construction is attested[27]. Clearly, this was a recurring part of several state festivals which could be formulated in at least two ways.

The example in (270) also expresses a real, generic event that happens on a regular basis, and not a hypothetical event.

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[27]The festival fragment KUB 10.21 ii 23-28 and iii 19ff. (CTH 669 (OH/NS)), which could belong to the same composition as CTH 634, but not to CTH 612, also display the same construction.

(270) ᵈUTU^{ŠI}=za kuwapi EZEN KI.LAM iyazi   GAL LÚ.MEŠ ^{GIŠ}BANŠUR=ya ŠA
His Majesty=RFLX when K-Festival   do-NPST.3SG chief men   table=and   of

LUGAL kuin   EZEN É ᵈḪalikiyaš ēššūwanzi tiyanzi   nu=za   ᵈUTU^{ŠI}
king   WH-ACC.SG festival house H-GEN.SG make-IMPF.INF set.in-NPST.3PL CONN=RFLX His Majesty

EZEN.MEŠ mašiyanki   MU.KAM-ti iyazi   apūn=ma   EZEN
festival-PL as.much.as-INDF in year   make-NPST.3SG that-ACC.SG=BUT festival

šakuwašvsaran=pat ēššanzi
wholly=same   make-IMPF.NPST.3PL

(CTH 568.A: ABoT 14 iii 8–15 (NH/NS))

(i)'As often as His Majesty performs festivals during the year, they shall perform in full that festival of the house of Halki which the king's table-men also undertake to perform whenever the king performs the KI.LAM festival.' (translation in terms of preposed RCs)

(ii) 'When His Majesty performs the KI.LAM festival, the king's chief table men also begin to perform [some festival of the house of Ḫalkiya]ᵢ. His Majesty performs festivals [however many times]ⱼ in a year. *That festival*ᵢ they shall be performing [wholly with the same frequency]ⱼ.' (translation mine)

In (270), the first two clauses clearly belong together: the second clause is not introduced by *nu* and is overtly conjoined to the first one through the additive enclitic conjunction *=ya*. The adverbial *wh*-word in the third clause *mašiyan*, is overtly marked as an indefinite with the postfix *=ki*: for this reason it cannot be interpreted as a relative pronoun, but only as an indefinite. The last clause has the emphatic enclitic *=pāt* which denotes exact identity to what was previously mentioned in the discourse (see (263) above) on the adverb, and hence I take it that the instruction is that table-men ought to perform their festival/ritual in the same manner and frequency as the king.

I have left many open questions in this section concerning the exact syntactic nature of these clauses, which future research needs to address. However a few common characteristics define a type that has not been identified. I propose to name these "Existential Correlated Structures." I hesitate to use the term correlative, as there seems to be a variety of syntactic structures present in the corpus.

(271) <u>Hittite Existential Correlated Structures</u>:

Generalization:

When referring to entities whose existence is established, and when co-indexed anaphorically to a demonstrative DP, enclitic pronoun, or PRO in an immediately following clause, the *wh*-word *ku-* must be bound by Rule of Existential Closure and remain within the nuclear scope of the clause in which it is base generated, i.e. remain within the *v*P. Furthermore, it may be subject to Prosodic Inversion as a last resort strategy.

Schema: $[_{CP_{\text{ku-}}} \ldots [_{vP} \ldots ku_i\text{-} \ldots] \,] \; [_{CP_{\text{anaph}}} \ldots \text{DP}_i/\text{CL}_i/\text{PRO}_i \ldots]$

5.4   Post-positioned Clauses

In this section, I present other constructions that are co-referent, but where the *wh*-clause surfaces after the matrix clause. Semantically, contra Garrett (1994), they may either restrictive or non-restrictive. Syntactically, these are possibly reduced clauses (IP), as the *wh*-clause is not introduced by the CP clause connector *nu*. Furthermore, they must be right-adjoined to their matrix clause. I base this conclusion on the fact that there is no Prosodic Inversion in these clauses. I will develop this argument below. The first example (272) is from the ritual of Ašḫella against an Epidemic in an Army Camp. As such it is an instruction as to what Ašḫella does in the case that a deity of an enemy land sent disease onto the Hittite army camp. A woman and rams are used as scapegoats:

(272) *n=aš*   *pānzi*   *ANA* ZAG   LÚ.KÚR *anda arḫa pittalanzi*   *kuedani pedi*
        CONN=them go-NPST.3PL in   boundary enemy   in   PVB abandon-NPST.3PL wh-DAT.SG place-DAT.SG
        anzel   *ŪL aran[(zi)]*
        our-GEN NEG arrive-NPST.3PL

                                                                        (CTH 394: KUB 9.32 Ro. 26–27 (MH/NS))

(i)'They proceed to abandon them (the sheep and woman) in a boundary territory of the enemy which our (troops/people) do not reach' (translation in terms of RC)

(ii)'They go and abandon them (the sheep and woman) in a boundary territory of the enemy in some place our (troops) do not reach.'/'They go and abandon them in the enemy boundary territory in which place we do not reach.' (translation mine)

I take (272) to be ambiguous in whether it may be restrictive or appositional. As to the relationship between the two clauses, had they been two independent CPs, we would expect to observe Prosodic Inversion between the *wh*-word *kuedani* and its head noun *pedi*, as the verb/material in the matrix clause would not be visible to the material in the second clause. Yet the matrix clause serves as the prosodic host to the embedded *wh*-word. The next example in (273) has an interesting construction. There are three clauses and two *wh*-words. The *wh*-word of the first clause is correlated with a demonstrative in the third clause, whereas the *wh*-word in the second clause is co-referent with the demonstrative in the first clause.

(273) LUGAL-*uš*=*ma apēdani* MU-*ti*   *kuedani* LÍL-*ri paizzi*   DINGIR-*LIM*=*za*
King-NOM.SG   that-DAT.SG year-DAT.SG WH-DAT.SG campaign go-NPST.3SG god=RFLX
kuedani MU-*ti*   *iyazi*   *nu*=*za*   LUGAL-«*i*» *apēdani* LÍL-*ri šer* …
WH-DAT.SG year-DAT.SG do-NPST.3SG CONN=RFLX king-NOM.SG   that-DAT.SG campaign for
ariyanzi
make.an.oracular.inquiry-NPST.3PL

<div align="right">(CTH 712.A: KUB 27.1 i 23–27 (?H/NS))</div>

(i)'They make an oracular inquiry about the campaign on which the king goes in the year in which he worships the god.' (translation in terms of RC)

(ii) '*The King* goes on a certain campaign in that year in which he worships the gods. And for the King[28], they shall make an oracular inquiry about that campaign.' (translation mine)

The second clause is clearly restrictive: it is the year on which he worships the gods that he goes on a military campaign. This second clause is also an IP and is most likely right-adjoined to the IP of the first clause. Whether the CP of the first clause is left adjoined to the third clause remains an open question.

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[28]LUGAL-*i* 'for the king' emended for LUGAL-*uš* 'king-nom.sg'. Common translation removes LUGAL-*uš* altogether. I take only the case ending to be scribal error, not the whole word.

The next three examples in this section in (274), (275) and (276) are also unambiguously restrictive. They are all postposed suggesting that they originate in the matrix clause and get extraposed.

(274) *nu=kan* MÁŠ.GAL UDU ŠAḪ *apedani* *ANA* DINGIR-*LIM šipandanzi kuiš=kan*
       CONN=PTCL billy-goat   sheep hog that-DAT.SG to   deity-DAT.SG   offer-NPST.3PL WH-NOM.SG=PTCL

       DINGIR-*LUM kī*   ÚŠ-*kan*   ŠÀ KARAŠ *iyat*
       deity-NOM.SG   this-ACC.SG plague-ACC.SG in army   make-NPST.3SG

       'They offer the billy goat, ram and hog to *that deity* that caused this plague in the midst of the army.'

       (CTH 394: HT 1 iv 23–25 (NH/NS))

(275) *namma* Ì.DÙG.G[A] SÍG SA₅=*ya apāt=pat*   *dānzi*   *ANA* KASKAL.M[(EŠ)]
       then   fine oil   red thread=CJN that-ACC.SG=only take-NPST.3PL over   paths

       kuit   *ḫūittiya[uw]anzi ḫarkanzi*
       WH.ACC.SG draw-INF   hold-NPST.3PL

       (CTH 479: KBo 27.202 + KBo 35.200 iii 3638 (MH/NS))

       'They take *that* fine oil and red thread (and not the other threads and oils) that they hold for attracting over paths.'

The next example is from the *Ritual of Hantitaššu*, which is informative in determining what is occurring in these types of structures.

(276) [*nu=š*]*šan* ŠÀ ᴳᴵˢPISAN TÚG.ḪI.A *dāi*   *kuin*   *ŪL* [*g*]*inuškanzi*
       CONN=PTCL in   chest   clothes   put-NPST.3SG WH-ACC.SG NEG open-ITER.NPST.3PL

       (CTH 395: KBo11.14 iv 17–18 (OH/NS) ,with dupl. KUB 43.57 iv 15–16)

       'He (the ritual client) puts his clothes into a chest that they do not open.'

In (276), the *wh*-word *kuin* surfaces to the *left* of the negation, indicating that it has moved out of the vP. This is also true in (272) above. Thus the *wh*-expression in these constructions is not bound by Rule of Existential Closure. Secondly, if an item is specified in the lexicon to be an enclitic, it will behave as an enclitic and not suddenly become proclitic.

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Hence the simplest analysis is that we are dealing with a single syntactic structure with the finite verb of the matrix clause serving as the prosodic host to the *wh*-item of the *wh*-clause.

The following two examples, (277) and (278) suggest that embedded relatives did in fact continue to occur past the OH period. Both are post-nominal restrictive relative clauses. The first example in (277) is from the *Annals of Muršili* (NH), and occurs in a Left Dislocated phrase.

(277) ᵐ*Ḫūtupianzan=ma* DUMU.LUGAL DUMU ᵐ*Zidā* GAL ᴸᵁ*MEŠEDI* **ᵐ*Zidāš kuiš***
Ḫ-ACC.SG=CNTR   prince   son   Z.   chief body.guard Z.   WH-NOM.SG
ANA ABI=YA* ŠEŠ=ŠU *ēšta   *nu* *ABU=YA uni*   ᵐ*Ḫūtupianzan* DUMU
to   father=my   brother=his be-PST.3SG CONN father=my that-ACC.SG Ḫ-ACC.SG   son
ᵐ*Zidā* GAL ᴸᵁ*MEŠEDI INA* KUR ᵁᴿᵁ*Palā watarnaḫta*
Z.   chief body.guard DAT land Pala   order-PST.3SG

(*Annals of Muršili* CTH 61.II.7.A: KBo 5.8 ii 18–22 (NH/NS))

'(As for) Ḫutupianza, a 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.'

The second example is from the Middle Hittite period and occurs in the *Ritual of Ammiḫatna*. The relative clause occurs within the main clause immediately following the noun it specifies:

(278) *nu*   4 ᴺᴵᴺᴰᴬ*mōlātin pittalwan* **MUN-*an kuedani ŪL išḫuwān*** *memall=a pittalwan*
CONN 4 m.bread-ACC.SG plain-ACC.SG salt-ACC.SG   WH-DAT.SG NEG pour-PCP   meal=CJN plain-ACC.SG
dāi
take-NPST.3SG

(*Ritual of Ammiḫatna* CTH 471.A: KBo 5.2 ii 15–16 (MH/NS))

'And s/he takes four plain m-breads **to which salt isn't poured** and plain flour.'

I take this example in (278) to be indicative of the relative clause as being embedded within the main clause.

The very last example that I present in (279) is from a MH treaty containing a post-nominal nominal relative clause that employs the reduplicated *kuiš kuiš*. The full reduplication of the *wh*-word denotes a definite entity, but of which the speaker either ignores the specificity or does not care to know. These types of relatives are interesting and require further research:

(279)   *namma=ma=za damain*   *BELAM kui«e»š=aš*   *kuiš*   [UN-*aš*]   *ANA*
       further=CNTR=REFL other-ACC.SG lord   WH-NOM.SG=CL-3NOM.SG WH-NOM.SG person-NOM.SG DAT.SG
       ^dUTU-*ŠI* EGIR-*an arḫa lē*   *kuinki*   *šākti*
       His.Majesty behind   PVB   NEG-IMP WH-ACC.SG-IND know-IMP.2SG

                                            (*Ḫukkana Treaty* CTH 42.A: KBo 5.3 i 14–15 (MH/NS))

'Furthermore, do not recognize any other lord, whatsoever person he is, behind the back of His Majesty!'

Note how the indefinite *kuinki* is stranded in its base generated position within the vP, between the imperative negation *lē* and the finite verb, while the NP *damain* BELAM 'other lord' is topicalized along with its relative clause.

The examples from this section come from OH, MH and NH periods, and I did not detect any issues of diachronic effect, with the exception that embedded relatives occur at all linguistic periods of Hittite, although marginally in MH and NH. Furthermore, the embedded relatives in OH identified by Probert (2006) do not descriptively split the main clause, unlike the ones presented here in MH and NH.

5.5   New Perspectives

5.5.1   Summary

In this chapter, I have approached the issue of correlatives from a novel perspective: I took into account the underlying nature of *wh*-words along with the semantics, syntax and prosody of Hittite. The re-analysis of Hittite and Anatolian "indeterminate" correlatives

as *wh*-conditionals – conditional clauses without an overt subordinating item– is not only cross-linguistically supported, but also attested in the ancient Indo-European languages. Hence the Anatolian languages did not innovate a specialized system of relativization, but rather productively exploited the polarity nature of the inherited *wh*-word as a mechanism to denote conditionality. Whether this productive use of *wh*-conditionals is a consequence of the collapse of the verbal system in the transition from PIE to Proto-Anatolian down to two moods –indicative and imperative– is an interesting question which merits further research. With respect to the semantic-syntax interface, positing [Spec, CNTRFoc] as the landing site for the *wh*-word is consistent with the data (via overt marking with *=ma*), and with the semantics of conditionals. It is also consistent from the perspective of the syntax-phonology interface: there is no evidence of Prosodic Inversion in these constructions. Experimental studies on living languages have shown that contrastive focus assigns a high tone H* to that syntactic position, which explains the lack of Prosodic Inversion in these clauses and the ability for the *wh*-word to support clitics not only in these constructions, but also in Multiple Partitive correlated constructions.

As for the constructions grouped as existential correlatives, all *ku-* forms in the preposed clause display similar characteristics as indefinites in other clause types: they may have a presuppositional or an existential interpretation. When an existential interpretation is required, they are bound by existential closure and remain within the *v*P. When presuppositional, they move out of the *v*P. Moreover, they are also prosodically deficient and require a prosodic host[29]. Evidence from copies of the same text suggest that there was inter-speaker variation: for some speakers, a prosodic word is suitable, for others the host must be a phonological word. A summary of the present proposal for preposed clauses argued for in this chapter are presented below in (280):

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[29]One difference between the prosodic behavior of *kuiš* and *kuiški*, is that Prosodic Inversion is less frequently observed with *kuiš* and seems to be a last resort strategy. Furthermore, *kuiš* in the majority of cases is satisfied with a phonological word to its left, whereas *kuiški* in the majority of cases requires a prosodic word within its Spell-Out domain. I am unsure of the cause of this difference at the present time, and this topic requires further research.

(280) Summary for Preposed *wh*-clauses[30]

Semantics	Syntax	Prosody
$\forall$ (independent)		
	$[_{CP_{\text{ku-}}}$ $[_{\text{cntrfoc}}$ ku_i- CNTRFOC^o=(ma)] ... IP...]	H*
$\exists$ (under scope of mān)		No prosodic host required due to high tone assigned
		Prosodic word treatment
		$[$ $[_{\text{ku-}}$ $[\underline{\hspace{1.2cm}}]_\omega=ku$-$]_\omega$ $[\underline{\hspace{1.2cm}}]_\omega$ $]_\varphi$
$\exists$	$[_{CP_{\text{ku-}}}$ ... $[_{vP}$ ... ku_i- ...]]	(inter-speaker variation)
		Phonological word treatment
		$[$ $[(\text{ku-})$ $\underline{\hspace{1.2cm}}]_\omega$ $[\underline{\hspace{1.2cm}}]_\omega$ $]_\varphi=ku$-$]_\varphi$

The data in the corpus display a variety of relative clauses that were not previously identified. In postposed restrictive correlatives, the *wh*-word is bound by its co-referent in the main clause, and the adjoined relative is a reduced IP. Free relatives also occur in Hittite as well as embedded post-nominal relatives. In light of this data, the schema proposed by Held (1957) is simply no longer tenable, nor can it be subject merely to modification. Although I do not have a full account for all types of "relatives" in Hittite, the present proposal does account for the semantics, syntax and prosody of the *wh*-word.

5.6 Closing Comments

Throughout this thesis, I have maintained a unified account for the distribution and interpretation of *wh*-words in Hittite. Based on cross-linguistic comparanda, Hittite *wh*-words display the typical behavior of indefinite polarity items, much like the *wh*-words in Mandarin Chinese and Japanese. As such, they are of a different nature than English *wh*-words.

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[30]Concerning the inter-speaker variation treatment of *ku-* in $\exists$-constructions, it seems that Prosodic Inversion occurs possibly as a last resort: if there is already a phonological word present to the "left" of the *ku-* word, then it remains in its syntactically determined position. This would be the case in example (259a,b) above.

In Chapter 2, I extend Cheng's (1991) proposal concerning the nature of *wh*-words in in situ languages, suggesting that Hittite is not a language that displays lexical incorporation of the [+wh] feature. Furthermore, the *core* of the *wh*-word is a polarity item. As such, the core is only licensed in a polarity triggering environment, namely interrogative clauses, conditional clauses, under the scope of negation, and in the presence of the postfix *-ki* (specific, weak existential reading) or of the additive-focus geminating enclitic *-(y)a* (universal/distributive reading). Moreover, since the *core* does not have inherent quantificational force, it requires a binder, which provides quantificational force.

In Chapter 3, following Diesing (1992) I argue that the surface positioning of *wh*-words as indefinites in Hittite involves two factors: the syntax-semantics interface, and the syntax-phonology interface. Depending on the desired semantic interpretation, two *syntactic* positions are available. For an existential interpretation, the indefinite subject *wh*-word will remain in its base generated position in [Spec, vP] and is bound by rule of Existential Closure (Heim, 1982). In contrast, to receive a presuppositional reading, the indefinite will raise to [Spec, IP]. Once the indefinite is placed by the Syntax, its final surface position is determined by the syntax-phonology interface to satisfy *prosodic* restrictions: lexically, the core of the *wh*-word in Hittite is prosodically underspecified, As such, it is subject to "Prosodic Inversion" à la Halpern (1995). That the indefinite in Hittite– and in Anatolian– is prosodically deficient matches the prosodic status of its cognates in other ancient IE languages[31], and is thus considered a feature retained from PIE.

In Chapter 4, I argue that the *wh*-form consists of [$_D$ $\varnothing_{[+wh]}$] plus the core *kui-* for the interrogative reading. Hittite *wh*-in situ is triggered by an intonational Q-morpheme, and is underspecified as [Q:], enabling it to license both yes-no questions and *wh*-questions. I further propose that the accentual nature of *wh*-words in Hittite interrogatives is not *lexically* specified, but rather is the outcome of the stress assignment by the intonational Q-morpheme.

In this final chapter, I have argued that the peculiar relativization constructions in

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[31]Included among these are Tocharian A and Tocharian B, see Koller (2015: 141–8).

Hittite–and by extension in Anatolian–are best explained under the analysis that the underlying nature of *wh*-words is that of a polarity item. This approach captures the semantics, syntax and the prosodic features exhibited by the *wh*-word in these environments: *ku*-is *always* prosodically deficient on the lexical level, it acquires its prosodic status via the syntax-phonology interface, and its interpretation is derived from its syntactic environment.

Certain diachronic implications are made by such a proposal. The first key consequence is that the pronoun to be reconstructed for Proto-Anatolian is neither a straightforward indefinite or interrogative, but rather an indefinite/polarity deictic that can have specific or non-specific reference depending on the context, and which acts as a variable in the syntax. The PA *$k^w i$-/*$k^w o$- deictic may refer to an animate being, inanimate entities, times, places, propositions and events. At the end of Chapter 4, I presented a hypothesis set forth by Lyons (1977) on how indefinites may be used as interrogatives, and the interpretation of interrogative versus indefinite is dependent on stress and intonation assignment, which Hittite seems to support.

In the same body of work, Lyons (1977: 760–1) also proposes a route by which indefinite pronouns could come to function as relative pronouns, with restrictive relative as the source construction. Based on the Classical Greek usage of τίς/τις (*tís/tis*), Lyons proposes "Quasi-English", where *someone*, and *something* are employed indifferently in interrogatives and indefinite statements in order demonstrate his reasoning.

The speaker who utters (281a) *The man who broke the bank at Monte Carlo is a mathematician* is asserting that a particular person is a mathematician and taking for granted/presupposing that someone did in fact break the bank at Monte Carlo (281b), and that the someone is a man (281c). For Quasi-English, the presuppositions are embodied in a clause which can modify a Noun – *someone broke the bank at Monte Carlo* – and which is inserted into NPs to yield (281d).

(281) a. The man who broke the bank at Monte Carlo is a mathematician.

  b. Someone broke the bank at Monte Carlo.

c. Someone is a man.

d. The [someone broke the bank at Monte Carlo] man is a mathematician.

This is the path by which Lyons suggests indefinite pronouns may come to function as relative pronouns. Hittite may very well represent a *real* language that reflects Lyon's Quasi-English. Consider (282) and (283), seemingly internally-headed relative clauses:

(282) | *nu* | *uni* | *kuin* | 9 *LIM* | ÉRIN.MEŠ | *Pitaggatalliš uwatet* | *n=aš=mu* |
|---|---|---|---|---|---|---|
| CONN | that-ACC.SG | WH-ACC.SG | 9 thousand | troop | P-NOM.SG   bring-PST.3SG | CONN=it=me |

zaḫḫiya	*tiyat*	*n=an*	*zaḫḫiyanun*
battle-DAT.SG	stand-PST.3SG	CONN=it	battle-PST.1SG

(CTH 61.II.7.A: KBo 5.8 iii 24ff. (?/NS))

(i) 'Those aforementioned 9000 troops which Pitaggatališ brought, made battle with me and I fought them[32].'(translation Held 1957: 18, example (58))

(ii)'Piggatališ brought those certain 9000 troops. They stood in battle with me. I fought them.'(translation mine)

(283) | *namma* | *kī* | *kuit* | *TUPPU* | *tuk* | *Ala[kšanduš iya]nun* | *n=e=ta=kán* |
|---|---|---|---|---|---|---|
| gfurther | this-ACC.SG | WH-ACC.SG | tablet | you-DAT.SG | A.   make-PST.1SG | CONN=it=you=PTCL |

MU.KAM-*ti peran*	*3-Š[U ḫalziyan]du*
year-DAT.SG	in.front 3-times recite-IMP.ACT.3PL

(CTH 76.A: KUB 21.1 iii 73–74 (NH/NS))

(i)'Furthermore, this tablet which I made for you, Alekšanduš, let it be read aloud to you three times each year.' (translation Held 1957: 18, example (59))

(ii) 'Furthermore, this certain tablet I made for *you*, Alakšanduš, let them recite in front of you three times a year!'(translation mine)

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[32]In Hittite, ERIN.MEŠ 'troops' is grammatically a singular and takes here singular agreement. As such, the enclitic pronouns are glossed as "it" but translated in English with a plural pronoun.

The Anatolian evidence supports such an analysis. However, many questions remain open and further research is much needed. What is the situation in the other branches? What is the true nature of the reflexes of PIE $*k^wi$-/$*k^wo$- in the various archaic Indo-European languages? Given that historical linguists in the field of Indo-European studies have access to the output product of linguistic computation, meaning that the written texts have been computed by the syntactic, semantic and phonological systems of the once-living native speaker who produced them, then we should take into consideration these various components of language. Hence, I suggest that any future investigation to account for the attested distribution of lexical items ought to take into consideration the syntax-semantics interface as well as the syntax-phonology interface. I encourage further research in this direction, and consequently the generalizations which have been stated in this thesis may be subject to modification or refutation on the basis of additional language data.

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