Relative Clauses in Hittite[1]
Howard Berman
University of Chicago

Hittite was spoken in the second millennium B.C. in what is now central Turkey. It belongs to the Anatolian branch of Indo-European. With a few insignificant exceptions our knowledge of it is based on about 27,000 fragments of clay tablets inscribed in cuneiform which have been excavated at Boghazköy.

The Hittite material used in this paper is taken chiefly from Held 1957. This brief work contains a large amount of data arranged in an easily accessible manner. Without it, the amount of labor necessary in preparing this paper would have been multiplied several times.

I shall present the various types of Hittite relative clauses in an order convenient for describing their derivation. In my translations I have adhered to the order of the Hittite clauses, and have translated the Hittite relative pronoun by English interrogatives for reasons that will become apparent. The following sentence is an example of a relative sentence:

Sentence 1 (KUB V 7 I 10): ^{D}Kalliswaken kuedani ANA HUR.SAG artari nuwa HUR.SAG KU.BABBAR GAR.RA ēsta. "On what mountain (the god) Kallis stands, the mountain was inlaid with silver."

A good English translation would be "Kallis stands on a mountain which was inlaid with silver." This sentence contains two underlying sentences, ^{D}Kalliswakan ANA HUR.SAG artari "Kallis stands on a mountain" and nuwa HUR.SAG KU.BABBAR GAR.RA ēsta "The mountain was inlaid with silver." Both underlying sentences contain the identical noun phrase HUR.SAG "mountain." To form sentence 1, a transformation is necessary which will place a form of the pronoun kui- before the first occurrence of the noun phrase. I call this KU-insertion, since all forms of the pronoun kui- have KU as their first cuneiform sign. Relative clauses thus precede their respective main clauses.

This is the pair of rules generating all relative clauses in Hittite:

Rule 1: $S \rightarrow S_1 + S_2$ in which S_1 and S_2 contain an identical NP.
Rule 2: (applied to S_1) $(x) + NP + (x) \rightarrow (x) + KU + NP + (x)$

Rule 2, that of KU-insertion, occurs elsewhere in the grammar, in the formation of interrogative sentences. The following sentence is an example of an interrogative sentence:

Sentence 2 (KBo V 3 III 53): nas kuedani uddanī ser BA.UG₆? "For what reason did he die?" (The sentence is ambiguous and could also mean "For what reason was he put to death?")

This is derived by KU-insertion from the sentence nas uddanī ser BA.UG₆ "He died for a reason" (or "He was put to death for a reason.") KU-insertion occurs only in relative and in interrogative sentences. I suggest that these two kinds of sentences share a

semantic feature, and that KU-insertion occurs where this feature is present. Both contain the feature "additional information to be supplied about the following NP:" In relative sentences the additional information is supplied by the speaker. In interrogative sentences the additional information is not supplied by the speaker, and the sentence is understood as a request for the information from the hearer.

The underlying semantics of sentence 1 is thus: "Additional information to be supplied about the mountain on which Kallis stands: the mountain was inlaid with silver." The underlying semantics of sentence 2 is "Additional information to be supplied about the reason for which he died:" (or "was put to death:")

Sentence 1 is unusual in that it has undergone no transformations which are ordered later than KU-insertion. Most Hittite relative sentences undergo at least one of seven additional transformations.

One of these transformations is pronominalization:

Rule 3: The second of two identical NP's may optionally be replaced by a pronoun. $NP_i + (x) + NP_i --> NP_i + (x) + PN$

The following sentence contains an example of pronominalization:

Sentence 3 (VBoT 2, 14ff.): kīkan tuppi kuis DUB.SAR-as halzāi nan ᴰPA hattannas LUGAL-us hilamnassa UTU-us assūli pahsantaru. "What scribe reads this tablet, let the god PA, the king of wisdom, and the sun-god of the hilammar-building protect him in good health."

The sentences which underlie sentence 3 are kīkan tuppi DUB.SAR-as halzai "A scribe reads this tablet" and nu DUB.SAR-an ᴰPA hattannas LUGAL-us hilamnassa ᴰUTU-us assūli pahsantaru "Let the god Pa, the king of wisdom, and the sungod of the hilammar-building protect the scribe in good health." KU-insertion changes the first clause to kīkan tuppi kuis DUB.SAR-as halzāi "What scribe reads this tablet." Pronominalization changes the second occurrence of DUB.SAR-an "scribe" into the pronoun an "him." A later obligatory rule contracts nu and an, yielding nan. The output of these rules is sentence 3. Pronominalization is a frequently applied transformation and is by no means restricted to relative sentences.

Another optional transformation which occurs frequently in relative sentences is deictic insertion. A form of the demonstrative pronouns kā- "this," apā- "that," or uni "that" is placed before the NP in the main clause which is identical with the NP that underwent KU-insertion in the relative clause.

Rule 4: $S_i(x) + KU + NP_i + (x) + S_2(x) + NP_i + (x) --> S_i(x) + KU + NP + (x) + S_2(x) + deictic + NP_i + (x)$

The following sentence contains an example of deictic insertion:

Sentence 4 (KBo IV 2 III 56f.): GUD pūhugarinma kuedani UD-ti unuēr nuza ᴰUTU-ŠI apēdani UD-ti warpta. "On what day they adorned the substitution ox, on that day his majesty bathed."

The sentences which underlie sentence 4 are GUD pūhugarinma UD-ti unuēr "They adorned the ox on a (certain) day" and nuza ᴰ UTU-ŠI unuēr "His majesty bathed on a (certain) day." KU-insertion UD-ti warpta changes the first clause into GUD pūhugarinma kuedani UD-ti unuēr "On what day they adorned the substitution ox." Deictic insertion changes the second clause into nuza ᴰUTU-ŠI apēdani UD-ti warpta "On that day his majesty bathed."

The NP which follows the demonstrative pronoun apā- may optionally be deleted. This transformation occurs after the insertion of the inflectional endings for gender, number, and case, and since in the surface structure apā- agrees in gender, number, and case with the deleted NP

Rule 5: $\text{apā-}\begin{bmatrix} \alpha\,\text{gender} \\ \beta\,\text{number} \\ \gamma\,\text{case} \end{bmatrix} + NP\begin{bmatrix} \alpha\,\text{gender} \\ \beta\,\text{number} \\ \gamma\,\text{case} \end{bmatrix} --> \text{apā-}\begin{bmatrix} \alpha\,\text{gender} \\ \beta\,\text{number} \\ \gamma\,\text{case} \end{bmatrix}$

The following sentence shows the application of rule 5:

Sentence 5 (KUB XXI 15 I 17f.): IR-anniyamu kue KUR.KUR.MEŠ piyan ēsta numukan apēya arha dattat. "And what lands had been given to me in servitude, those too were taken from me."

This sentence is derived from two underlying sentences, IR-anniyamu KUR.KUR.MEŠ piyan ēsta "Lands had been given to me in servitude" and numukan KUR.KUR.MEŠ-ya arha dattat "Lands too were taken from me." By KU-insertion the first sentence becomes IR-anniyamu kue KUR.KUR.MEŠ piyan ēsta "What lands had been given to me in servitude." The second sentence undergoes deictic insertion and becomes numukan apēya KUR.KUR.MEŠ arha dattat "Those lands too were taken from me." apē is neuter nominative plural in agreement with KUR.KUR.MEŠ. The noun KUR.KUR.MEŠ is then deleted after apē, giving numukan apēya arha dattat "Those too were taken from me."

In all sentences which have undergone KU-insertion, both relative and interrogative, the NP after the KU may optionally be deleted. Like the transformation deleting the NP after apā-, this transformation occurs after the inflectional endings for gender, number, and case have been inserted.

Rule 6: $KU\begin{bmatrix} \alpha\,\text{gender} \\ \beta\,\text{number} \\ \gamma\,\text{case} \end{bmatrix} + NP\begin{bmatrix} \alpha\,\text{gender} \\ \beta\,\text{number} \\ \gamma\,\text{case} \end{bmatrix} --> KU\begin{bmatrix} \alpha\,\text{gender} \\ \beta\,\text{number} \\ \gamma\,\text{case} \end{bmatrix}$

Compare the following two sentences:

Sentence 6: (KUB XII 12 VI 33f.): nukan ANA NINDA.SIG kuis kittari nu DINGIR-LUM iskanzi. "Who is put on the flat bread, they anoint the god." A good English translation would be "They anoint the god who is put on the flat bread."

Sentence 7 (KBo V 3 III 53): ᶠMariyas kuis ēsta? "Who was Mariyas?"

Sentence 6 is a relative sentence. The two sentences which underlie it are nukan ANA NINDA.SIG DINGIR-LUM kittari "A god is put on the flat bread" and nu DINGIR-LUM iskanzi "They anoint the god." The first clause undergoes KU-insertion and becomes nukan god."

ANA NINDA.SIG kuis DINGIR-LUM kittari "What god is put on the flat bread." The NP DINGIR-LUM "god" is then deleted after kuis, giving nukan ANA NINDA.SIG kuis kittari "Who is put on the flat bread." The second clause does not undergo any transformations.

Sentence 7 is an interrogative sentence. Its underlying form is ᴵMariyas kuis antuhsas esta? "What man was Mariyas?" Following rule 6, antuhsas "man" has been deleted after kuis, giving ᴵMariyas kuis esta "Who was Mariyas?"

In all of the examples I have given so far, the relative pronoun kui- has not been in initial position in its clause. There is a reason for this. As Held pointed out in his dissertation, Hittite has two kinds of relative clauses, determinate and indeterminate. A determinate relative clause modifies an NP whose referent is definite or specific. All of the relative clauses I have cited so far have been of this kind. An indeterminate relative clause modifies an NP whose referent is indefinite or hypothetical. This nuance of meaning may be conveyed by translating kui- in such clauses as "whatever" or "whoever." In indeterminate relative clauses, KU is moved by a transformation to initial position if it is not already there at that stage of the derivation. Later transformations may place introductory particles before KU, so that it may not be in initial position in the surface structure. Determinate relative clauses on the other hand may not begin with KU. If KU is in first position in a determinate relative clause it is moved by a transformation into second position. When the position of KU is shifted in indeterminate relative clauses, the following NP is shifted with it. When the position of KU is shifted in determinate relative clauses, the NP which it modifies does not change its position. Thus we have the following pair of rules:

Rule 7: In indeterminate relative clauses, (x) + KU + NP + (x) --> KU + NP + (x)
Rule 8: In determinate relative clauses, KU + NP + (x) --> NP + KU + (x)

It would be desirable to collapse rule 7 and rule 8 into one rule by some sort of α-notation, but I know of no convention that would do this. I shall call rule 7 indeterminate placement and rule 8 determinate placement. The following sentences show the application of these two rules:

Sentence 8 (KUB VI 41 I 16f.): nuza kuit ᴰUTU-ŠI dahhun natza ᵁᴿᵁKU.BABBAR-si arha uwatenun "Whatever I, my majesty, took for myself, I brought it to Hattusas."
Sentence 9 (IBo III 4 I 11f.): DUMU-ŠU-mawassizakan kuis ANA ᴳᴵˢGU.ZA ABIŠU esat nuwa apassa karu ᴸᵁKAL-anza esta. "But his son who sat on the throne of his father, that one too was formerly strong."

The sentences which underlie sentence 8 are nuza ᴰUTU-ŠI uttar dahhan "I, my majesty, took a thing for myself" and nuza uttar ᵁᴿᵁKU.BABBAR-si arha uwatenun "I brought a thing to Hattusas." KU-insertion changes the first clause into nuza ᴰUTU-ŠI kuit uttar

dahhun "I, my majesty, took what thing for myself." I assume that at this stage of the derivation the object kuit uttar "what thing" is between the subject ᴰUTU-ŠI "my majesty" and the verb dahhun "I took." The normal word order in Hittite is SOV, but the rules of determinate and indeterminate placement are not affected by the rule which makes SOV the normal order of constituents. Determinate and indeterminate placement placement must therefore follow the SOV order rule. Since determinate and indeterminate placement have not yet applied at this stage in the derivation, I assume that the order of the constituents is still SOV. Indeterminate placement then puts kuit uttar into initial position. Rule 6 is applied and uttar is deleted after kuit. The relative order of application of rule 6 and rule 7 is undetermined. They could be applied in the reverse order of the one I have described and would yield the same result. It is uncertain how nu and za are introduced into the sentence, but they must be put into first position by a late rule, since no constituent ever precedes them in their clause in the surface structure. Much is uncertain in the analysis of Hittite particles, and they would be a rewarding object of study using a transformational model. Because of these uncertainties I hesitate to give sentences which represent the intermediate stages in the derivation. The application of rule 6, rule 7, and the particle placement rule yields nuza kuit ᴰUTU-ŠI dahhun "Whatever I, my majesty, took for myself." The only transformation which affects the second clause is pronominalization. The noun uttar is replaced by the enclitic pronoun at. The order of at relative to the introductory particles nu and za is determined by a late transformation which inserts it immediately after nu and before za. nu and at are then contracted by an obligatory rule into nat. The resulting clause is natza ᵁᴿᵁKU.BABBAR-si arha uwatenun "I brought it to Hattusas."

The sentences which underlie sentence 9 are DUMU-ŠU-mawassizakan ANA ᴳᴵˢGU.ZA ABIŠU esat "But his son sat on the throne of his father" and nuwa DUMU-ya karu ᴸᵁKAL-anza esta "The son too was formerly strong." The first clause undergoes KU-insertion and becomes kuismawassizakan DUMU-ŠU ANA ᴳᴵˢGU.ZA ABIŠU esat. The order of the particles ma, wa, si, za, and kan is fixed and they always follow the first word of the sentence. kuis is in initial position and the clause would be translated "But whatever son of his sat on the throne of his father." The underlying semantics of the sentence specify a determinate relative clause, so that the determinate placement rule is applied and kuis is moved into second position. The clause becomes DUMU-ŠU-mawassizakan kuis ANA ᴳᴵˢGU.ZA ABIŠU esat "But his son who sat on the throne of his father." The second clause undergoes deictic insertion and becomes nuwa apassa DUMU karu ᴸᵁKAL-anza esta "That son too was formerly strong." The enclitic -a "and, too" is placed after the first word of an NP. The clitic -a "and, too" is placed after the first word of an NP. The alternation between -ya after DUMU and -a after apas with the doubling of the s is graphic. DUMU is then deleted after apas, giving nuwa apassa karu ᴸᵁKAL-anza esta "That one too was formerly strong."

In all the relative sentences I have given so far, the relative clause precedes the main clause. There are, however, a few

---

(Page 6)

examples of relative sentences in which the relative clause follows the main clause. Held quotes 41 examples in his dissertation, but upon examination only 20 indisputable examples remain. Held (1957:9) analyzed approximately 800 relative sentences, so that the percentage of relative clauses which follow their main clauses is about 1 in 40. These clauses undergo all transformations which preposed relative clauses undergo. The shifting of a relative clause to a position following its main clause appears to be subject to one constraint. The verb of the main clause must be in the non-past tense. Hittite verbs have two tenses, past and non-past.

Rule 9: $S_i + S_1 \rightarrow S_2 + S_1$ in which S_i has undergone KU-insertion and S_1 contains a verb in the non-past tense.

In the following sentence, the main clause precedes the relative clause:

Sentence 10 (KUB IX 31 II 9f.): nu 8 DUMU.MEŠ-us uwadanzi SAL-nissan kuieš nāwi pānzi. "They bring eight boys who have not yet gone to a woman."

Taking them up in their usual order, the sentences which underlie this sentence are SAL-nissan DUMU.MEŠ nāwi pānzi "The boys have not yet gone to a woman" and nu 8 DUMU.MEŠ-us uwadanzi "They bring eight boys." The first clause undergoes KU-insertion and becomes SAL-nissan kuieš DUMU.MEŠ nāwi pānzi "What boys have not yet gone to a woman." DUMU.MEŠ is then deleted after kuieš, giving SAL-nissan kuieš nāwi pānzi "Who have not yet gone to a woman." The main clause has undergone no additional transformations. Its verb is uwadanzi "they bring" which is in the non-past tense. Rule 9 may therefore be applied. This yields nu 8 DUMU.MEŠ-us uwadanzi SAL-nissan kuieš nāwi pānzi "They bring eight boys who have not yet gone to a woman."

This completes the rules required to generate relative clauses in Hittite. At this point I would like to return to rule 1 and discuss one aspect of it in greater detail. Rule 1 generated two sentences which contained an identical noun phrase, but in the surface structure we occasionally find that the noun in the relative clause is not lexically identical with the noun in the main clause. In the following sentences the two nouns are not identical:

Sentence 11 (KUB VI 46 11f.): nuza ANA DINGIR.MEŠ kuit arkuwar iyami nukan AWATE.MEŠ ANA DINGIR.MEŠ anda sunni "What prayer I make to the gods, report (literally: fill in) the words to the gods."

I will not analyze this sentence in detail. The interesting thing about this sentence is that the word arkuwar "prayer" which has undergone KU-insertion corresponds to AWATE.MEŠ "words" in the main clause. One might be tempted to analyze AWATE.MEŠ as being derived from an underlying genitival construction arkuwar AWATE.MEŠ "the words of the prayer." Hittite however does not delete a noun in the genitive case without replacing it by a possessive pronoun or by a personal pronoun in the genitive or the dative case, and the clause in question contains neither. I think the solution to the

(Page 7)

problem posed by the two lexical items not being identical will be found if we examine their semantic relationship. This relationship will be clarified by the following sentence:

Sentence 12 (KUB VI 45 I 27f.): nuza AWATE.MEŠ kue ANA DINGIR.MEŠ EN.MEŠ arkuwar DÙ-mi nu kī AWATE.MEŠ DINGIR.MEŠ EN.MEŠ dattin istamastiniyat. "The words which I make into a prayer for the gods and lords, receive these words, O gods and lords, and hear them."

Since words are made into a prayer, one of the semantic features of arkuwar "prayer" is that it consists of AWATE.MEŠ "words." Thus there is partial semantic identity between arkuwar and AWATE.MEŠ. Rule 1 may therefore be amended to read:

Rule 1: $S \rightarrow S_1 + S_2$ in which S_1 and S_2 contain NP's which are semantically wholly or partially identical.

It is not necessary to change the wording of rule 2, but the NP upon which it operates is no longer required to be identical with an NP in the following clause. One may ask how different the two NP's can be and still be sufficiently identical semantically to meet the requirement of the amended rule 1. Unfortunately examples like sentence 11 are far too infrequent to provide an answer. It would appear from the analysis of sentence 11 that rule 1 and rule 2 may be applied before lexical insertion has taken place.

According to rule 1, relative sentences must contain two corresponding NP's. This constraint enables us to identify certain Hittite particles as containing underlying NP's. The following sentence contains an example of such a particle:

Sentence 13 (KUB VII 49 8ff.): nu piran kuit 1 NINDA ān dāi nussan ᴰIŠTAR GUŠKIN asasi "What one hot bread he puts in front, on it he sets the gold Istar(-statue)."

The sentence which underlies the first clause is nu piran 1 NINDA ān dāi "He puts one hot bread in front." Since 1 NINDA ān "one hot bread" undergoes KU-insertion, it must correspond to an NP in the second clause. The only available candidate for the surface form of such an underlying NP is the enclitic particle -san, whose s is doubled after the particle nu by an orthographic convention. Held (1957:25-26) also gives examples of the enclitic particle -kan corresponding to an NP in a relative clause. An analysis of Hittite particles will of course have to account for these facts.

Hittite belongs to the Anatolian branch of Indo-European. The other Anatolian languages are Luwian, its descendent Lycian, Palaic, and Lydian. In formulating the rules generating relative clauses in Hittite I have used only cuneiform Hittite material. Although these rules are arbitrary and language specific, several of them appear among the rules which generate the relative clauses which I have examined in Luwian and Lydian. These rules include the placing of the relative clause before the main clause, KU-insertion, and determinate and indeterminate placement. I shall give an example from Lydian.

Lydian was spoken in what is now Western Turkey in the second half of the first millennium B.C. The inscriptions in it

which have come down to us are written on tombstones in an alphabet derived from the Greek alphabet.

Sentence 14 (Gusmani 1964:251, No. 3, lines 3-4): ak qis qisred fakas̆ silavad fat nid ẽns̆∖ibid akm∧ levs̆ sarẽtas̆ "Whoever preserves, cares for, and does not harm (this tomb), let (the god?) levs̆ be well-disposed toward him."

In this sentence the relative clause precedes the main clause. The relative pronoun qis has been put in first position by indeterminate placement and is preceded in its clause only by the introductory particle ak. Points of similarity between Lydian and the other Anatolian languages are not frequent. The occurrence of identical and arbitrary rules in the formation of relative clauses in Lydian and in Hittite is significant.

FOOTNOTE

[1] I wish to express my gratitude to Eric Hamp, Jerrold Sadock, and James McCawley for their comments on an earlier version of this paper.

BIBLIOGRAPHY

Gusmani, Roberto. 1964. Lydisches Wörterbuch. Heidelberg: Carl Winter.

Held, Warren. 1957. The Hittite relative sentence. (Language dissertation, 55.) Baltimore: Waverly Press.

RELATIVE CLAUSES IN ANCIENT GREEK

Douglas Q. Adams

University of Chicago

This paper is divided conceptually into two parts. The first half will be devoted to showing the kind of underlying structures relative clauses come from in Classical Attic Greek and their relationship to the surface form of the relative pronouns and the surface form of those sentences which have relative clauses embedded in them. In the second half of the paper we will go slightly further afield to discuss the situation with regard to relative clauses in the Homeric language and to discuss, though somewhat inconclusively, the moods and tenses found in relative clauses and their relationships with other elements in the sentence.

I spend so much time investigating the rules which produce relative clauses, something which is basically only a restatement of what can be found in the handbooks, for two reasons. Firstly, the handbooks were not written with the needs of today's linguists in mind and hence the necessary information is often fragmentary, scattered, and hard to run down. Simply gathering all this information in one place may, in itself, be a genuine service. Secondly, traditionally oriented grammarians have not, it seems to me, discussed this material in the most perspicuous manner with the result that relative clauses have been needlessly divided into several categories and what should be seen as basically the same is discussed as if it were completely independent.

Relative clauses in Classical Greek are traditionally divisible into two large classes: (1) definite (relative pronoun hós) and (2) indefinite (relative pronoun hóstis). (Besides these two types of relative pronoun sometimes others are adduced, e.g. hósper. This, and similar formations, is nothing more than the definite relative pronoun with the emphasizing enclitic per added - "the very man which", etc.) Crosscutting this distinction is another often made, based on the use of the clause in the wider sentence: (1) adjectival (if the clause modifies another noun in some way) or (2) substantival (if it is used as a noun itself). We will first treat adjectival usage. Some examples of definite, adjectival, relative clauses are given below.[1]

(1) hòn gàr theoì philoûsin, apothnéiskei   Men. Sent. 425
     "whom the gods love, dies young"

(2) pléthei hoíper dikásousin   P. Phdr. 260a
     "to the multitude who judge"

(3) dià tèn pleonksían, hò pâsa phúsis diṓkein péphuken
     "for gain, which every nature naturally follows"
                                                 P. Rp. 359

(4) Lázaros, hòn égeiren ek nekrôn Iēsoûs   Jn. 12: 1
     "Lazarus, whom Jesus had raised from the dead"