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Hittite Adjective Orders

1 Abstract

Hittite (also known as Nešite), a member of the Anatolian family, is the earliest attested (c. 1650 - 1180 BCE) Indo-European language. This paper draws upon formal semantics in arguing that the theoretical categories of ‘intersective’ and ‘subsective’ adjectives productively build upon previous theories of adjective ordering in Hittite.

1.1 Definitions and Introduction

Many different semantic systems have been proposed for describing adjectives cross-linguistically and accounting for their ordering when multiple adjectives modify the same noun. Several such theories sub-categorize adjectives based on their semantics and relation to the noun, including Dixon’s seven crosslinguistically-derived categories (1982: 16) and Hetzron’s fourteen categories arranging adjectives from the most ‘subjective’ types to the most ‘objective’, with strict linear orderings between them (1978: 178 - 181). Cinque (1994) and Scott (2002) also followed this strict linearly-ordered style of approach. However, Truswell has since demonstrated that such approaches underperform in terms of generating attested linearized-orderings and that their underlying semantic mechanisms are either unattested or directly disproven (2009: 525-529). Others adapted Hetzron’s method by employing the idea of ‘subjectivity’ but discarding strict linearized ordering (Scontras et al. 2017; Smiranova et al. 2019); while the subjectivity-approach is more compelling, it as of yet lacks better definition in the experiments performed and therefore remains more a descriptive than explanatory method.

Formal semantics offers a more convincing approach to adjectives via their classification as ‘intersective’ or ‘subsective’. Intersective adjectives remain the same semantically regardless of the noun modified, for example, a *stone lion* and a *stone statue* are ‘stone’ in the same way: an intersective adjective x remains the same semantic descriptor no matter the noun modified. Subsective adjectives, on the other hand, are descriptors whose semantics can change depending on the noun they modify, for

example, a *big planet* is not ‘big’ in the same way that a *big dog* is: subsective adjectives instead pick out a subset of the noun they combine with that meets the criteria they set (Partee 1995: 11-13). The strength of these classifications is that (a) they focus upon the semantic combination and outcome of an adjective modifying a noun, and (b) there is also explanatory force, with it making logical sense for subsective adjectives to depend on the noun they combine with in order to provide a relative meaning, and intersective adjectives to maintain semantic stability independent of the noun modified.

Furthermore, intersective and subsective adjectives can demonstrate a preference in ordering in cases where they appear in tandem modifying the same noun.

(1) The huge white horse charges.

*The white huge horse charges.

For example, set (1) offers two versions of the same sentence, the latter of which results in an infelicitous outcome in Standard English, indicating the preference for the subsective adjective (*huge*) to precede the intersective (*white*), a pattern further substantiated in corpus based studies (Truswell 2009: 527). Another example indicates a length constraint on an adjective chain.

(2) A happy young blind black Belgian sheepdog (Hetzron 1978: 179)

Example (2) shows two subsective adjectives (*happy* and *young*) preceding three intersective (*blind*, *black*, and *Belgian*), with five adjectives in total modifying the same noun, the maximum in Standard English.¹

It is, however, important to note that classifying some adjectives as definitively subsective or intersective is in rare instances difficult if not impossible due to ambiguous readings and other semantic constraints. Partee makes mention of this fact in her proposal of these categories (1995: 42, 53-54) and

¹ The maximum constraint differs in other languages as is shown in Latin in example (3) below

elaborates on it with the idea that some of these ambiguous cases such as “new” might in fact have two meanings, one subsective in certain cases and one intersective in others.

Syntax and syntactic movement also have a role in adjective ordering, though less focus is placed on it in this paper due to limitations of time and scope. One syntactic theory that is inextricably linked with adjectives, at least in Romance and Germanic languages, is Noun Movement. This is the idea that nouns shift from their base structure position up a tree structure in the process moving over adjectives in order to attain their final surface structure position. This theory allows for a unified theory for Romance and Germanic languages where these types of languages generate adjectives in one position in the base structure, prenominal, and then through different amounts of Noun Movement are able to generate the variety of surface structures, prenominal, postnominal, and both, that are observed in different languages (Bernstein 1993: 32-33). If this syntactic movement was broadly applicable across Indo-European languages it might explain how Hittite noun-adjective phrases are able to have both prenominal and postnominal adjectives (see further below), just as it explains the appearance of the same phenomenon in Romance languages like French.

1.2 Adjective Positioning in Classical Latin

Latin adjectives behave quite differently to those in English. Instead of being restricted solely to the prenominal position of a phrase, adjectives can occur prenominal, postnominally, or separated from the noun they modify by multiple intervening words (due to the inflected nature of the language). However, just because adjectives *can* appear in either position does not mean they always do so, as demonstrated by the tendency for one semantic category of adjective to be prenominal and the other postnominal. Bauer (2009) terms these categories ‘descriptive’ and ‘distinctive’, with descriptive adjectives coming before the noun in unmarked structures and distinctive coming after the noun. In this approach, ‘descriptive’ adjectives behave like the ‘subsective’ category of adjectives discussed above, in so far as they are relative to and depend semantically upon the modified noun, while ‘distinctive’ adjectives likewise resemble ‘intersective’ adjectives in denoting certain states and properties that remain the same regardless of the noun in question (Bauer 263 - 265, 2009). For example *Romanus*

("Roman"), a distinctive adjective, is commonly postnominal, as in *puer Romanus* ("a/the Roman boy"), while *tardus* ("slow"), a descriptive adjective, is usually prenominal, as in *tardus puer* ("a/the slow boy"). As such it seems that the general pattern of adjective ordering in Latin is {subsecutive}; noun; {intersective}.

As well as certain Indo-European languages demonstrating distinct positions for intersective and subsecutive adjectives in relation to nouns, there are also some shared similarities in the use of coordination to alleviate ungrammatical or marked structures. A study done by Rodie Risselada (1984) attempted to distinguish semantic types that adjectives could be categorized into. Her methodology involved finding pairs of Latin adjectives that were modifying the same noun but separated by coordination. Risselada argued that coordination was used in Latin to separate adjectives with the same underlying features in order to curb ungrammaticality/marked structures. While the method of classifying adjectives into numerous, in Risselada's case fifteen, categories is underproductive due to the artificial limits it imposes on what adjective types can occur together, such an approach that uses coordination to understand what kinds of adjective orders are ungrammatical/marked is an attractive one. Risselada's adherence to the Hetzron method of classifying adjectives found no applicable trend, but as a direction for future investigation (including outside Latin), the analysis of coordinated adjective structures remains a promising one.

While many of the underlying categories and even ordering preferences of adjectives seem to be shared between Latin and English, these languages differ as to the number of adjectives that are allowed to be lined up together. English permits a sequence of five adjectives to modify a single noun, as shown in example (2) above. Number (3) below is a rare example of three adjectives in Latin (in this case all intersective) being used to modify the same noun without the use of coordinating words.

(3) *statuas marmoreas muliebres stolas quae Caryatides dicuntur* (Vitruvius 1,1,5)

The stola-clad female marble statues which are called the Caryatides²

² All Latin and Hittite translations included are my own or modified from the cited source

The rarity of even three adjective phrases across extant Latin literature indicates that this is likely the upper limit of nested adjectives that Latin can bear. An interesting future research project could evaluate whether three uncoordinated adjectives is indeed the maximum number a single Latin noun can tolerate, and whether this restriction is the driving force behind the anecdotally large proportion of coordinated adjective phrases encountered in Latin.

1.3 Adjective Positioning in Hittite

Adjective placement in Hittite also shows great fluidity due to the inflected nature of the language, being found both prenominal and postnominal, a tendency that previous studies suggest was used to distinguish between attributive and predicate adjectives.

Hoffner and Melchert³ (2008: § 17.3-4. 271), the authors of the most recent and comprehensive grammar of Hittite, observe that attributive adjectives in Hittite typically precede the noun they modify, while predicate adjectives, on the other hand, tend to follow the noun they modify, fortifying their claims through ‘minimal pair’ type examples such as KUR-*e* *šalli ešta* (“the land was great”) versus *šalli* KUR-*e* (“the great land”), with the adjective *šalli* (“great”) prenominal when attributive, but postnominal when predicate. However, as we will see below (Section 2), another explanation exists, in so far as that it is generally *subsective* type adjectives that tend to congregate at so-called ‘attributive’ prenominal landing positions, while it is generally *intersective* type adjectives that tend to congregate at so-called ‘predicate’ postnominal landing positions. At any rate, enough exceptions to Hoffner and Melchert’s observations exist to seriously raise the possibility that a greater range of linguistic behaviors may be necessary to explain adjectival placement in Hittite.

Moreover, participles, which typically have a stative meaning in Hittite, are generally analyzed separately from adjectives by Hittitologists, given that while attributive adjectives allegedly prefer prenominal positions, *both* attributive and predicate participles appear to congregate postnominally (Frantikova 2015: § 2.4.1 183, cf. Hoffner and Melchert 2008: § 25.39 339). The attributive participle *andus* (“warm”), for example, is postnominal in ^{NA}*paššilus andus* (“warm pebbles”), and the predicate

³ See also (Laroche 1982: 134) for additional discussion

participle *arḫa ḫarran* (“destroyed”) likewise postnominal in the phrase *kī TUPPU arḫa ḫarran ēšta* (“this tablet was destroyed”). Section 2 will show, however, that Hittite participles have behavioral patterns that can be productively analyzed by employing the same subsecutive/intersective adjectival approach as introduced above. Although many explanatory difficulties are still encountered, such an approach appears to productively build upon or problematize the patterns advanced by Frantíkova and Hoffner and Melchert.

While the main focus in this paper is on adjectives (including participles) in Hittite, some examples of quantifiers are also considered, given that they not only share some of the modificational properties of adjectives but also show interesting patterns, or lack thereof, in ordering. These quantifiers include *humant-* (“all, entire”) and *dapiant-* (“all, entire”), which regularly follow the noun they modify, while *mekk(i)-* (“much”) and *tepu-* (“a little, few”) sometimes follow and at other times precede (Hoffner and Melchert 2008: § 17.6 & 9. 271-272). Additionally, other Hittite words that act as quantifiers could be added to this list, a suggestion that will be discussed further in section 2. Quantifiers, in their semantic ability to modify nouns, are important to consider as they have the ability to take up or displace positions that would otherwise be occupied by adjectives. Such obstructions by quantifiers can therefore cause shifting in the order of the constituents of a noun phrase and in doing so complicate or obscure underlying trends.

2 Hittite Examples

A variety of Hittite literary genres were sampled in collecting data, including annals, ritual texts, mythological texts, laws, royal instructions, and oracular reports⁴. Illustrative examples were

⁴ The texts and corpora surveyed were “The Song of Emergence” (CTH 344) as translated by Gary Beckman, *The Abhiyawa Texts* as collected and translated by Gary Beckman, Trevor Bryce, and Eric Cline, “The Expansion of the Cult of the Deity of Night” (CTH 481) as translated by Jared L. Miller, *Royal Hittite Instructions and Related Administrative Texts* as collected and translated by Jared L. Miller, *The Laws of the Hittites* as collected and translated by Harry A. Hoffner Jr., *The Elements of Hittite* teaching examples as collected by Theo Van Den Hout, and *Hittite Local Cults* as collected and translated by Michele Cammarosano.

sought. In the examples below, the underlined phrase in both the Hittite and English shows the adjective(s) and modified noun⁵.

2.1 Attributive Hittite Adjectives before Nouns (AN type)

The AN type marker serves as shorthand to indicate that the adjective(s) come prenominal in the examined noun-adjective phrases.

(4) *nu-wa-mu ma-a-an i-da-a-lu-un me-mi-an ku-iš* [*me-ma-i*]

“and if a person [speaks] an evil word to me...” (Beckman et al. 2011: § 27.45 90 -91)

The AN type example found in (4) with the phrase *i-da-a-lu-un me-mi-an* (“evil word”) and the thirteen other collected attestations of the same adjective *idālu-* (“evil”) apparently support Hoffner and Melchert’s observation that attributive adjectives favor prenominal positions.⁶ However, most such AN type adjectives, when scrutinized, are also found have substantive meanings, demonstrated by comparing the word ‘evil’ in example (4) *i-da-a-lu-un me-mi-an* (“evil word”) in another context, *i-da-a-lu ḫi-in-kán* (“evil death”)(Miller 2013: § 2.6 206). In this comparison it can be seen that what is *idālu-* (“evil”) for a word, saying something slanderous or cursing someone, is not the same as what is *idālu-* for a death, a torturous painful process, thus indicating the subsectivity and relateness of this adjective.

(5) *na-aš-ta [ḫ]a-aš-šu-uš kat-ta šal-la-a-i ḫu-uš-ši-li-pá* [*t pé-eš-ši-ia-an-du*]

And throw down the ashes into the large pit (Miller 2013: § 10.10 192)

⁵ For the conventions of transliterating Hittite, which presents many challenges due to the scribal use of Sumerograms and Akkadograms as well as the syllabary nature of the Hittite cuneiform writing system, see Hoffner and Melchert (2008): Ch. 1 “Orthography and Phonology”, pp. 9-50 . Such conventions are followed in this paper.

⁶ AN adjectives surveyed: *tarḫuilaš* (“strong”), *idāluš* (“evil”), *āššuš* (“good”), *daššuš* (“mighty”), *šalliš* (“large”), *nakkīš* (“important”), *kurur* (“hostile”), *párkuīš* (“pure”), *mišriwanza* (“beautiful”), *ḫarkīš* (“fair”), *ḫarraš* (“unclean”), and *šanezziš* (“sweet”)

The prenominal preference for subsecutive adjectives is further illustrated by example (5), whereby the adjective *šal-la-a-i* (“large”) occurs in the prenominal position in the phrase *šal-la-a-i bu-uš-ši-li-pát* (“large pit”). *šal-la-a-i* (“large”) can be seen to be subsecutive from how “large” for a “large pit” is going to be different from “large” for a “large land” (*šalli KUR-e*)(Hoffner and Melchert 2008: § 17.3-4. 271).

(6) *na-aš A-NA DUMU.É.GAL GÙB-li-it ŠU-it pa-a-i DUMU.É.GAL-ma-aš GÙB-la-az ki-iš-ša-ra-az LUGAL-i pa-a-i*

And he gives them to the palace attendant with his left hand, and then the palace attendant gives them to the king with his left hand (Van Den Hout 2011: § 9.8.1.13 132)

This final example, however, shows why any argument claiming that subsecutive adjectives prefer to appear in the prenominal position must be understood as just that: a preference. In this example the same phrase of interest is repeated twice, *GÙB-li-it ŠU-it* (“left hand”) and *GÙB-la-az ki-iš-ša-ra-az* (“left hand”). Both of these phrases use the same intersective adjective, *GÙB-li-/GÙB-la-az*, in the prenominal position. What this example shows is that AN type adjectives are occasionally intersective. The data shown in this section anecdotally suggests a general preference for subsecutive adjectives in prenominal position, but that this preference is not prohibitive of intersective adjectives sometimes occurring in the same position.

2.2 Attributive Hittite Adjectives after Noun (NA type)

The NA type marker serves as shorthand to indicate that the adjective(s) come postnominally in the examined noun-adjective phrases.

As outlined above in section 1.3, NA type attributive adjectives are traditionally understood as exceptions to the ‘favored’ AN ordering, with this postnominal position usually viewed as being occupied by predicate adjectives. However, the frequency of such ‘exceptions’, the explanations behind

them, and the confirmation that they are even exceptional appear to all be anecdotal observations open to doubt.

- (7) [na]-aš-ta ^mMa-ad-du-wa-at-ta-aš-pát ne-ku-ma-an-za [iš-pár-za-aš-ta]
and naked Madduwatta [escaped] by himself (Beckman et al. 2011: § 9.51 78)

The NA attributive type in (7) has the adjective *ne-ku-ma-an-za* (“naked”) following the modified noun ^m*Ma-ad-du-wa-at-ta-aš-pát* (“Madduwatta”). The adjective, *nekumant-* (“naked”), is not a participle, even if its morphology does show similarities to the -nt- infix forming participles from verbs (a verb, *nekumantae-*, “to undress oneself”, is in fact derived from the adjective).⁷ The point of greater interest, however, is that ‘naked’ is an intersective adjective located in the postnominal position, an intriguing observation given the tendency outlined above for subsecutive adjectives to generally congregate preminally.

- (8) [tá]k-ku U[N-an] an-na-nu-uh-ḫa-an ku-iš-ki ḫa-ap-pa-ra-iz-zi
If anyone sells a skilled person (Hoffner 1997: § 149 122-123)

The NA attributive type in (8) has the postnominal adjective *an-na-nu-uh-ḫa-an* (“skilled”) in conjunction with the modified noun UN-*an* (“person”). This adjective *an-na-nu-uh-ḫa-an* seems unobjectively intersective in the sense of an acquired state of knowledge. Its postnominal position supports the trend introduced in the example above and continued below.

- (9) ḫa-ar-i-ya-aš na-ak-ki-ya-aš
Inaccessible valleys (Hoffner and Melchert 2008: § 17.10. 273)

⁷ For derivations see Kloekhorst (2008): 602-603.

Example (9) likewise provides an interesting data point for the reanalysis of the positioning of adjectives in Hittite. Here is another intersective adjective, *na-ak-ki-ya-aš* (“inaccessible”), that also occurs in the postnominal position, this time with the noun *ḫa-ar-i-ya-aš* (“valleys”).

- (10) [... 1-NU-TIM] ^{KUŠ}E.SIR *ḫa-at-ti-liš* 1-NU-TIM [^{TUG}SAG.DUL (?)]
 [... 1 set of] Hattian shoes, 1 set [of shoes? wit]h straps (Cammarosano 2018: § 2.4 276)

Example (10) contains another instance of an attributive intersective adjective, *ḫa-at-ti-liš* (“Hattian”), occurring postnominally, this time with the noun ^{KUŠ}E.SIR (“shoes”). The context whence this example derives is an inventory of a temple storeroom; given that it appears as part of a list, an attributive (as opposed to predicative) reading makes better sense.

- (11) [*ták-k*]u ARAD LÚ ^{URU}*Lu-ú-i-u-ma-na-aš* IŠ-TU KUR *Lu-ú-ia-az ku-iš-ki ta-a-i-ez-zi*
 If anyone abducts the male slave of a Luvian man from Luvian land.
 (Hoffner 1997: § 21 31)

Another postnominal attributive ‘exception’ is found in (11). Here the adjective, ^{URU}*Lu-ú-i-u-ma-na-aš* (“Luvian”), follows the Sumerogram covering the noun that it modifies, LÚ (“man”). This adjective is clearly intersective in nature given that ethnic adjectives by definition shouldn’t permit subsecutive readings.

- (12) *ták-ku* MÀŠ.GAL *e-na-an-da-an* *ták-ku* DÀRA.[MÀŠ *an-na-nu-ub-ḫa-an*]/*ták-ku*
UDU.KUR.RA *e-na-an-da-an* *ku-iš-ki da-a-[i-ia-zi]*/ma-*ab-ḫa-an* ŠA MÀŠ.GAL
šar-ni-ik-ze-el a-pé-e-el-la QA-TAM-MA-pát

If anyone steals a trained goat, a skilled deer, or a trained mountain goat, their disposition is the same as of the theft of a plow ox. (Hoffner 1997: § 65 76)

Example (12) contains three instances of postnominal attributive adjectives. The adjective *e-na-an-da-an* (“trained”) follows two different nouns, MÀŠ.GAL (“goat”) and UDU.KUR.RA (“mountain goat”), while the adjective *an-na-nu-ub-ḫa-an* (“skilled”) follows the noun DÀRA.MAŠ (“deer”). All of these adjectives are clearly attributive in use due to the presence of the verb *da-a-i-ia-zi* (“steals”), precluding any possibility of them being predicate adjectives with an inferred form of the verb “to be”. The postnominal position of the attributive adjective *an-na-nu-ub-ḫa-an* (“skilled”) is also found in (8) above.

- (13) ^{MUSEN}*ḫaranan busuwandan*
live eagle (Hoffner and Melchert 2008: § 17.8. 272)

Example (13) is another of Hoffner and Melchert’s exceptions to the usual position of the attributive adjective. This example shows an intersective adjective *busuwandan* (“live”) following the noun that it modifies ^{MUSEN}*ḫaranan* (“eagle”). Though the adjective (in Hoffner and Melchert’s reading) *busuwandan* has a similar morphology to a participle (and is in fact understood as such by Kloekhorst 2008: 354), it is yet another example of postnominal attributive usage. Hoffner and Melchert present the fact that this adjective looks like a participle as a potential reason for this ‘abnormal’ placement, an excuse that is unnecessary when analyzing adjectives using intersective/subjective methodology.

- (14) *luliyas naduwanza*
reedy marsh (Hoffner and Melchert 2008: § 17.8. 272)

The example shown in (14) is another exception listed by Hoffner and Melchert. The adjective *naduwanza* (“reedy”) follows the noun that it modifies *luliyas* (“marsh”) and like the above example has a morphology that is similar to that of Hittite participles, again presented by Hoffner and Melchert

as a possible reason driving its ‘unusual’ position (2008: § 17.8. 272). The meaning “reedy” is yet again consistent with the properties of an intersective adjective, and yet again it appears postnominally.

- (15) *baranan*^{MUSEN} *leliwandan*
flying eagle (Hoffner and Melchert 2008: § 17.8. 272)⁸

Example (15) is another of Hoffner and Melchert’s exceptions, with the adjective *leliwandan* (“flying”) in the unexpected postnominal position, at least according to their analysis. While Hoffner and Melchert translate the phrase as “swift eagle”, Güterbock and Hoffner (1989: 61) instead offer the possible definitions ‘traveling swiftly’, ‘flying’, ‘winged’. The latter two definitions are intersective, fitting neatly into the idea that the postnominal position in Hittite is broadly the landing place of intersective adjectives, and therefore a compelling reason for the modification of Hoffner and Melchert’s translation.

- (16) DINGIR.MEŠ-*aš* *ZI-an-za da-aš-šu-uš*
 The mighty soul of the gods (Van Den Hout 2011: § 5.8.1.11 80)

- (17) *da-aš-šu-ša-aš-ši^d* *A-nu-uš* DINGIR.[M]EŠ-*aš* *ḫa-an-te-ez-zi-ya-aš-me-iš pi-ra-an-še-[et]/*
ar-ta
Mighty Anu, foremost of the gods, stood before him (Beckman 2011: 26-27)⁹

Example (16) is yet another of the NA attributive type, with the adjective is *da-aš-šu-uš* (“mighty”) following its noun *ZI-an-za* (“soul”). An interesting contrast, however, is found in example (17) where the same adjective *daššu-* (“mighty”) is of the AN attributive type, *da-aš-šu-ša-aš-ši^d* *A-nu-uš* (mighty Anu). Accounting for ‘exceptions’ such as in (17) is difficult, though this is not a reason to abandon the subsecutive/intersective approach. As noted above, subsecutive attributive

⁸ Hoffner and Melchert translate “the swift eagle”

⁹ For more *daššu-* constructions see KUB 17.1 ii 4 - 5

adjectives show a preference for AN position, and it is notable here that out of the surveyed NA attributive type adjectives (*nekumanz*, *annanuhhan*, *daššuš*, *nakkiyaš*, *hattiliš*, ^{URU}*Luúiumanaš*, *enandan*, *busuwandan*, *leliwandan*, and *naduwanza*)¹⁰, all are intersective save *daššuš* (“mighty”) in (17). Though further investigation is necessary, a preferential pattern of the type ‘subsecutive attributive adjectives in AN position’ and ‘intersective attributive adjectives in NA position’ might suggest that the adjective *daššu-* (“mighty”) in fact has two different semantic uses, one intersective and the other subsecutive, with the intersective an ‘absolute’ kind of ‘mighty’, and the subsecutive a more subjective ‘mighty’ dependent on the modified noun. In any case, this data indicates that it is more productive to look at adjective ordering using the subsecutive and intersective categories in terms of preference from the semantic perspective, rather than simply listing as ‘exceptions’ patterns that don’t fit anecdotal observations.

2.3 Attributive Color Adjectives in Hittite (NA type)

Color adjective examples, though of the NA type, are separated in this paper from other NA type examples because cross linguistically color adjectives tend to behave differently from other types of adjectives. As such their semantics and positioning can vary depending upon the person comprehending them, and must be treated with caution. Furthermore, colors also cannot straightforwardly be classified as subsecutive or intersective, with some seemingly able to have both meanings (Boleda et al. 2012). However, despite the above cautions, in Hittite there does appear to be a trend for color adjectives to occur in the postnominal position. This potentially suggests that the examples below, at least, *were* understood in the intersective sense, in other words seen as absolute states and not subjectively interpreted grades or hues.

- (18) *kar-na-ša* BABBAR-aš
white chair (Beckman et al. 2011: § 5.7 178)

¹⁰ And data not included e.g. *dampupūin* (“unskilled”)

Example(18) has a postnominal attributive adjective, BABBAR-*aš* (“white”) modifying the noun *kar-na-ša* (“chair”). An attributive, rather than predicate, interpretation is indicated (as in the case of (10) above) by the fact it derives from a list - the inventory of a palace storeroom.

- (19) *ka-[ru-]ú-i-li-ya aš-kán* DINGIR.MEŠ-*iš*! *ku-i-e-e[š]* / [*KI-pí* GE-*i*...]
the Primeval Deities, who [are in the black earth] (Beckman 2011: 26)

Example (19) has the adjective, GE-*i* (“dark”, “black”) used attributively in postnominal position with the noun, KI-*pí* (“earth”). While Beckman, from whose edition of the text this example derives, actually translated the adjective as “dark”, a more accurate translation might be “black”, given that the intersective - by my argument - positioning of an adjective argues against a subjective meaning like ‘dark’.

- (20) *SIG ha-an-za-na-aš ... da-an-zi*
they take black wool (Miller 2004: § 6.31 276)

The phrase taken in (20) shows another example of this “exceptional” ordering for attributive color adjectives. Here the adjective, *ha-an-za-na-aš* (“black”), can be seen to follow the Sumerogram covering the noun that it is modifying, SIG (“wool”). Once again it seems reasonable to understand an intersective adjective occurring in the postnominal position.

- (21) *SIG mita/i*
red wool (Hoffner and Melchert 2008: § 17.10 273)

The example in (21) shows an instance of another color adjective being used attributively in the postnominal position. As in the example above the adjective, *mita/i* (“red”), can be seen to follow the Sumerogram covering the noun that it is modifying, SIG (“wool”). This color adjective in the

postnominal position should therefore quite reasonably be understood as having an absolute meaning of ‘red’ (as opposed to other shades or colors), as with the other intersective color adjective examples of this section.

The examples of color adjectives shown above are all in the postnominal position, interesting in and of itself, as it indicates a preferred landing place for attributive color adjectives in Hittite. This data is also interesting because the colors collected here are those that are understood as universal colors throughout the languages of the world (Berlin and Kay 1969).¹¹ Even allowing for the fact that colors can prove problematic in definition in terms of being subsective or intersective, the postnominal trend of color adjectives in Hittite aligns nicely with the proposal that intersective attributive adjectives of all other types display a preference for the postnominal position. Without a larger data set, no definite conclusions should yet be drawn, but nevertheless the idea shown here represents a promising avenue for future research.

2.4 Attributive Hittite Participles in Various Positions (NPart and PartN type)

The NPart type marker serves as shorthand to indicate that an attributive participial adjective appears postnominally, while the PartN type marker indicates that an attributive participial adjective appears prenominally.

As noted earlier, Hittite participles are usually stative in meaning and thus frequently adjectival in their relationship to a noun. Hittitologists such as Hoffner and Melchert (2008: § 25.41. 339) have previously separated attributive participles from their discussion of attributive adjectives on the grounds that they are generally postnominal (whereas attributive adjectives in their reading should generally be prenominal). The following analysis raises doubts about such a methodology.

- (22) ^{HUR.SAG}*li-iḫ-ša-a-š* GIŠ.HUR šī-ia-an-te-eš ŠA ^d*pī-ir-wa ḫar-zi*

Mount Liḫša holds the sealed wooden tablets of Pirwa.

(Camarosano 2018: § 5.21 262 - 263)

¹¹ It would be interesting to investigate in the future if there is a distinction in placement between such intersective colors as the above and other more advanced/abstract colors such as green and purple, for example.

The example found in (22) shows such an example of a postnominal attributive participial adjective (NPart). Here the adjective *ši-ia-an-te-eš* (“sealed”) follows the noun it modifies, GIŠ.HUR (“wooden tablet(s)”). Looking at this from the intersective-subjective approach, it is seen that the stative meaning ‘sealed’ clearly is of the intersective class. As we have seen in sections 2.2 and 2.3 above, this is the precise spot where we should expect to find an intersective adjective.

(23) *na-aš-ma p[a-la]-ab-ša-an da-ia-an ú-e-da-i[z-zi]*

Or carries a stolen blanket (Miller 2013: § 7.13 130)

Example (23) shows an NPart type phrase with the attributive participle, *da-ia-an* (“stolen”) following the noun it modifies, *pa-la-ab-ša-an* (“blanket”).¹² The participle again represents an intersective adjective, which, as noted above, seems to prefer the NA type position.

(24) 1 NINDA a-a-an

1 warm bread loaf (Miller 2004: § 27.59 293)

The example found in (24) shows another attributive use of a postnominal participial adjective, *a-a-an* (“warm”), modifying the noun NINDA (“bread loaf”). A translation ‘warm’ is not straightforwardly intersective, though the verb itself (*ā(i)-ari*) means ‘to be hot’ or ‘to become hot’, so it is possible that we should understand an intersective meaning like ‘baked’ or ‘hot’ (as contrasted with ‘cold’).

(25) *a-a-an-du-uš^{NA} paššiluš*

Warm pebbles (Hoffner and Melchert 2008: § 25.42 339)

¹² the presence of the transitive verb *ú-e-da-iz-zi* (“carries”) precludes the possibility of a predicate reading.

However, problems are still encountered even from the standpoint of intersective/subjective theory. Example (25) stands in direct contrast to another example, ^{NA}*paššilus anduš* (“warm pebbles”), provided by Hoffner and Melchert (2008: § 25.41 339). Interestingly, in each example the same noun ^{NA}*paššilus* (“pebbles”) is found with the same participle *anduš* (“warm”), but with the participle prenominal in the one case, and postnominal in the other. It is possible that the differences in placement that are observed are due to polysemy of the verb (*ā(i)-ari*) that the participle is derived from, the one intersective (i.e. ‘hot’ as opposed to ‘cold’), and the other subjective meaning (i.e. ‘warm’), though this idea is of course undermined somewhat by the fact that the noun remains the same in both examples; further examination of the exact context these phrases are found in is therefore necessary.

(26) *ták-ku ḥa[r-kán-ta-an A.ŠÀ-an ku-iš-ki ḥar-zi*

If anyone holds an abandoned field (Hoffner 1997: § 33 47)

Example (26) is of interest for being of the PartN type, with the participle, *ḥar-kán-ta-an* (“abandoned”), preceding its modified noun, *A.ŠÀ-an* (“field”). “Abandoned” seems straightforwardly intersective in interpretation, and so in direct contrast to the postnominal trend advocated in this paper. Perhaps other factors are at play, including the possibility that the adjectival participle was fronted to this position, a phenomenon that anecdotally, at least, appears to commonly occur within the Hittite laws, the genre of text whence this example derives. Alternatively, it could be a marked phrase that violates the constraints of unmarked Hittite grammar.

(27) *witantuš URU.HI.A-uš*

Fortified cities (trans. H&M)(Hoffner and Melchert 2008: § 25.42 339)

The example above in (27) shows another intriguing case of a PartN type. The participial adjective *witantuš* (“built up”, i.e. “fortified” à la Hoffner and Melchert) precedes the noun it modifies here, *URU.HI.A-uš* (“cities”), and seems to again be straightforwardly intersective in interpretation. It

is possible that fronting of the adjective is again occurring or that there is some other interpretation possible that is subjective in meaning though currently eluding our understanding.

- (28) *paršiyandus* NINDA.KUR.RA.HI.A
broken breads (Hoffner and Melchert 2008: § 25.42 339)

Example (28) shows another confounding example of the PartN type. Here again a participial adjective *paršiyandus* (“broken”) precedes the noun it modifies NINDA.KUR.RA.HI.A (“breads”) and again with an intersective meaning. As outlined above, factors driving the ordering behavior are wide ranging and without further research cannot be accurately determined.

As Hoffner and Melchert found, the preference, but not rule, for attributive participles to occur in postnominal positions at first sight appears the inverse of their other observation that attributive adjectives are generally of the prenominal type. However, as we have seen, the trend is better described as ‘subjective attributive adjectives prefer AN position’ and ‘intersective attributive adjectives prefer NA position’. Therefore, the preference, but not rule, for attributive participles in postnominal positions might more productively be explained by the fact that participles, which typically have stative meanings, are overwhelmingly intersective in type. The previously described trend of attributive participles always occurring postnominally is a misattribution of the ordering of these participial adjectives based upon their derivational morphology rather than their semantics. There are, however, also some edge cases of the PartN type which still require explanation. Without further research no conclusive answers can account for them, with external factors such as topicalization or other pragmatic reasons at play.

2.5 Quantifiers in Hittite

Another interesting trend that this survey has found in patterns of Hittite word order is a number of quantifiers that look adjectival. In modern syntactic and semantic thought quantifiers are typically thought of as determiners (Matthews 2014), a completely different part of speech from

adjectives, but which in Hittite appear to behave in a more closely related way. The examples below show some of the variety of quantifiers and ordering in Hittite.

- (29) [HUR.SAG.MEŠ ÍD.MEŠ TÚL.HI.A A.AB.BA GAL DINGIR.MEŠ bu-u-ma-an-te]-eš
ke-e-da-aš me-mi-ya-na-aš / [ke-e-da-ni li-in-ga-i ku-ut-ru-we-ni-eš a-ša-an-du
 [the mountains, the rivers, the springs, the great sea, [and] all gods, let them be
 witnesses] to these stipulations [and this oath ...](Beckman et al.2011: § 20.23 65 - 66)¹³

The example in (29) shows one of the most frequent quantifiers *bu-u-ma-nt-* (“all”). In this example the quantifier *bu-u-ma-an-te-eš* occurs postnominally in relation to its noun, DINGIR.MEŠ (gods).

- (30) [KA]RAŠ-za-kán *ku-u-i-eš te-pa-u-eš* i[s-pár]-[te-er] *a-pa-a-at- [ma]-kán*
[bu-u-ma-an] a[r-ha ha]-[as-pí]-ir-pát
 [in regard to the few army[men]]—who [escaped]—they also disposed of all
 of it. (Beckman et al. 2011: § 8.48 76 - 77)

The example in (30) shows another quantifier in Hittite, *te-pa-* (“few”). In this example the quantifier *te-pa-u-eš* can be seen to agree with KARAŠ (“army (men)”) and therefore is used attributively. The relative pronoun *ku-u-i-eš* occurs between the adjective and noun in this phrase and seems to have caused a right-dislocation of the adjective which is similar to an example shown in section 2.6 (e.g. (34)).

- (31) *kap-[pu-u] [-wa-an-te-eš-p]át an-tu-uh-še-eš* iš-[pár-te]-er [a-pa]-[a-at-ma-kán]
[bu-u-ma]-an ar-ha ha-aš-pí-ir
 only a few men escaped, but they disposed of all of it (Beckman et al. 2011: § 9.52 78 - 79)

¹³ For more *humant-* constructions see (Beckman et al. § 20.20 66, 2011), (Beckman et al. § 8.44 - 45 76, 2011), and (Beckman et al. § 4.40 104, 2011)

The example in (31) shows another quantifier, *kap-pu-u-wa-an-te-eš-pát* (“few”), this time preceding its noun, *an-tu-uh-še-eš* (“men”). While this quantifier seems synonymous with *te-pa-u-eš*, it is complicated by the fact that *kap-pu-u-wa-an-te-eš-pát* is actually a participle derived from the verb *kappue-* (“to count, calculate”). Without further research, it is unclear as to why this participle has a quantificational meaning though it could simply be a semantic innovation.

Quantifiers, as seen in examples (29 - 31), can occur attributively in both prenominal and postnominal positions. The quantifier *humant-* in particular is thought to have the postnominal position that it shows in (29) because of its morphological similarity to Hittite participles (Hoffner and Melchert 2008: § 17.7 272), though as shown in the previous section, such postnominal participles might be better analyzed as intersective type adjectives. Further research is necessary, but quantifiers in Hittite appear to straddle the line between the categories of ‘determiner’ and ‘adjective’ - perhaps such a distinction is not in fact a productive one in Hittite.

2.6 *Kuiski*: Another Mystery of Ordering in Hittite

Kuiski is an indefinite pronoun meaning “some”/“any”. It can be used in attributive combination with a noun (cf. Hoffner and Melchert 2008: § 8.3. 149-150) or as an independent pronoun (i.e., “someone, anyone”). The examples that follow explore not only the ordering of this word but show that its semantics and behavior mimic that of the quantifiers described in section 2.5.

- (32) [ar-ḫa i-d]a-a-lu-un *ku-in-ki* *me-mi-ia*-[an *pé-e-ḫu-te-ez-zi*]

He carries out some evil act (Miller 2013: § 3.15 130)

The example in (32) shows *kuiski* in attributive agreement with a noun that also has another attributive adjective in agreement. Here *ku-in-ki* occurs between the adjective *i-da-a-lu-un* (“evil”) and the noun *me-mi-ia-an* (“word, act”), all of which form the phrase “some evil act”. The fact that *ku-in-ki* occurs between the other attributive adjective and the noun that both modify suggests that

kuiski has the ability to cause the displacement of adjectives, here left-dislocating the adjective one position. A similar type of dislocation was seen in the case of the relative pronoun in (30) above, except in that case the adjective was observed to be right-dislocated one position.

- (33) *n[(u-u)]n-na-aš HUL-lu-un me-mi-an / ku-in-ki ha-at-ra-a-iz-zi*
or writes to us some evil word (Miller 2013: § 23.9-10 200)

The example found in (33) shows another example of attributive *kuiski* modifying a noun with a second attributive adjective in agreement. *ku-in-ki* is instead postnominal this time, following the noun, *me-mi-an* (“word, act”), which in turn has a prenominal attributive adjective, *HUL-lu-un* (“evil”), in agreement - *memian*, the ‘word’, is embraced by its dependent attributive adjectives. Clearly attributive *kuiski* has the ability to occur in different landing positions, a characteristic that requires further investigation.

- (34) *na-aš-ma-kán^{LÜ} a-ra-aš^{LÜ} a-ri ku-iš-ki / ku-ru-ra-aš me-m[(i-a)]n pé-ra-an pé-e-hu-te-ez-zi*
Or some peer says a hostile word against another peer (Miller 2013: § 23.6-7 200)

The example from (34) shows another interesting example of *kuiski* being used attributively. In this example *ku-iš-ki* is postnominal, modifying ^{LÜ}*a-ra-aš* (“peer”), but in fact one word right-distracted from it, with the dative indirect object ^{LÜ}*a-ri* (“peer”) intervening between the two words.

- (35) *ma-a-an a-ra-ab-ze-na-an-ma ku-in-ki ERIN^{MES} -an na-aš-šu ERIN^{MES URU} KA₄A.AŠ.GA*
ku-u-ru-ra-aš / na-aš-ma ERIN^{MES URU} KUM.MA.HA ku-i-na-an im-ma ku-in ERIN^{MES}
LUGAL-us ha-l-za-a-i

If the king summons some foreign troops, either hostile Kaskean troops or Kummahean troops or any troops (Miller 2013: § 37.35-36 114)

The ordering in example (35) mirrors that of (32). Here *ku-in-ki* is found intervening between attributive adjective *a-ra-ab-ze-na-an* (“foreign”) and noun *ERIN^{MES}-an* (“troops”), which together form the phrase “some foreign troops”. What draws interest in comparing this example with that in (32) is the fact that the non-*kuiski* attributive adjectives are different semantic classes, intersective, in the one case (*a-ra-ab-ze-na-an-ma* “foreign”), and subsecutive (*i-da-a-lu-un* “evil”) in the other, yet both are positioned before *kuiski*. This could indicate that *kuiski* is able to essentially override usual adjectival behaviors, pushing them into positions they would not normally occur. This is an avenue that should be investigated in the future, since it may help explain otherwise confounding (counter-)examples.

These few examples suggest that the indefinite pronoun *kuiski* at times appears to behave like quantifiers do in section 2.5. *Kuiski* also has strange and seemingly disruptive effects on the ordering of both itself and other attributive adjectives used in conjunction. As such *kuiski* presents an interesting path to pursue in future work regarding Hittite syntax.

3 What This Means

Though the evidence shown here is limited in scope, a few main points can be seen. It is clear from the variety and number of “exceptions” cited by previous theories seeking to account for the landing spots of attributive adjectives in Hittite that more research is warranted. Both the prenominal and postnominal positions have much more complexity than explained only by appeals to attributive versus predicate types. The ordering that is seen in Hittite, if it is broadly assumed that subsecutive adjectives occur prenominally and intersective adjectives occur postnominally, has a syntactic structure by which nouns and intersective adjectives can combine semantically and syntactically before they combine with subsecutive adjectives as the sentences and truth conditions are synthesized up the tree. This is an important property because subsecutive adjectives are context dependent and therefore necessitate that the context free components (nouns and intersective adjectives) combine prior to the addition of context dependent components. Color adjectives, which in other languages seem to either

have both intersective and subsecutive meanings or to defy that method of categorization all together, show a suggestive trend in Hittite to occur postnominally, though further research is necessary in broadening the data sample. This trend poses a very interesting direction for future study, as the examples collected here were only of the colors red, black, and white, colors known to be acquired early in the evolution of language (Berlin and Kay 1969). Attributive participles were also seen to behave consistently with observations made in relation to other attributive adjectives. This supports the idea that separating all participles from other morphological adjectives analytically is a somewhat arbitrary division based upon differences in lexical derivation rather than a meaningful syntactic or semantic distinction. The maximal Hittite adjective string was not found to extend beyond the count of a single adjective, though attributive quantifiers and indefinite pronouns could be added to the count. Perhaps Hittite lacked complex noun phrases in the written form of the language, or this is just a bias arising from the types of documents preserved or the limited, unrandom data collection sample used in this paper. Finally, other adjective-like noun phrase constituents, like quantifiers and *kuiski*, were examined and showed relative freedoms in ordering that were difficult to explain. These are only a few of the many directions that ordering, both of adjectives and more broadly, in Hittite provide for further study.

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