

**Second-position is first-position:
Wackernagel's Law and the role of clausal conjunction***

Abstract

We show that the notion “second-position” (Delbrück 1878, Wackernagel 1892) involves a misunderstanding of coordinate structures and of the prosodic weight of sentence-initial words in early IE languages. Conjunctions begin and end life between their conjuncts; material from the right conjunct is moved only if post-positives (Dover 1960) require it. This puts “second-position clitics” either between clauses (conjunctions) or at the beginnings of clauses (pronouns and particles), leaving nothing in second-position.

1. *Introduction*

Based on the comparative syntax of early Indo-European (IE) languages, Delbrück (1878) and Wackernagel (1892) proposed that PIE had a set of “second-position clitics” that followed the first stressed word of the sentence. Their thesis has been so influential that second-position in a sentence is often referred to as Wackernagel's position, even outside of IE. Within IE, their conjecture has attained the status of a law: “One of the few generally accepted syntactic statements about Indo-European is Wackernagel's Law, that enclitics originally occupied the second position in the sentence” (Watkins 1964: 1036).

Much contemporary work has sought to reevaluate the status of Wackernagel's Law for early IE languages within current linguistic theory. This body of recent work offers a descriptive precision that was not available to the frameworks within which Delbrück and Wackernagel worked; and it has given rise to several analytic trends with respect to second-position phenomena in these languages (Garrett 1990, 1996, Luraghi 1990, 1998, 2001 for Hittite; Hale 1996 and Hock 1996 for Sanskrit; Janse 1992, Hock 1996, and Taylor 1990, 1996

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for Greek; see also Anderson 1993 for more general discussion of the status of Wackernagel's Law in current theory).¹ We argue here that nothing regularly occurs in second position in any of these languages and offer an analysis under which these items lie outside of the clause (conjunctions) or in clausal first-position (pronouns and particles). In what follows we will use Dover's (1960) term "postpositive" to refer to these items.

In early IE languages, postpositive conjunctions (Greek δέ 'and', Latin =ve 'or') are always the first in any string of such elements. We propose that such a conjunction lies external to the clause that forms its right conjunct, and that all subsequent postpositive elements are therefore clause-initial. These postpositive elements (pronouns and particles) always follow conjunctions when they are present. Again, conjunctions fall between the clauses they conjoin, so any elements that immediately follow them are clearly clause-initial rather than clause-second. We base our conclusions on the syntax of three early IE languages for which the 'second position' phenomenon is especially plain: Ancient Greek, Latin, and Hittite. We expect exactly similar results for Sanskrit, Avestan, and other early daughters of PIE, though we lack the language expertise to state this with any degree of confidence. The conjunctions we have in mind include normal (for lack of a better term) and postpositive conjunctions like the following:

(1) Conjunctions

	normal	postpositive
Greek	καί 'and' ἀλλά 'but'	=τε 'and' δέ 'and'
Latin	et 'and' at 'but'	=que 'and' =ve 'or'
Hittite	nu 'and'	=ya 'and' =ma 'but'

¹ We do not consider here analyses of the placement of second-position elements in modern languages, for which there is an enormous body of literature (see the seminal work of Klavans 1982, the collected articles in Halpern & Zwicky 1996, and important references such as the work of Franks & King 2000, among many others). It is an open question as to whether the analysis proposed here for early IE may extend to all modern cases.

Some postpositives are phonological clitics (=) and others are not. Thus Greek =τε ‘and’ is a clitic and loses its tone to a preceding word, while δέ ‘and’ is not enclitic and retains its tone. Latin too has postpositives that are clitics (=que ‘and’) and postpositives that are not (*enim* ‘for’). Hittite is unique among these languages insofar as all postpositives are enclitic (=ya ‘and’, =ma ‘but’, etc.). Regardless of their clitic status, all postpositive conjunctions show up in the same part of the sentence as normal conjunctions do, or so we will try to show.

Traditional analyses place postpositive conjunctions inside the right-hand conjunct, on a par with other elements in ‘second-position’. We argue here that postpositive conjunctions fall between their conjuncts syntactically, as all conjunctions do, never within one of their conjuncts. This puts postpositive elements that follow conjunctions in first position.

2. Conjunction below the clause

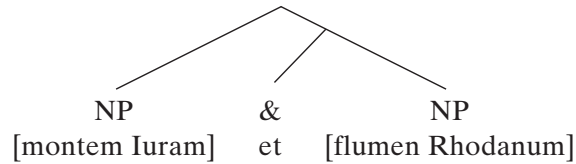
Our analysis of postpositive elements rests upon a proper understanding of conjunctions, so we begin here with simple cases of conjunction below the clause, specifically, conjoined noun phrases. As we will see, normal conjunctions (*καί*, *et*) come between their conjuncts and postpositive conjunctions appear to follow the first word of their second conjunct.

Most early IE languages have full form conjunctions that come between their conjuncts in the familiar fashion. Using square brackets to indicate syntactic constituency we represent conjoined phrases as follows:

- (2) [σκήπτρον]_{NP} καὶ [στέμμα]_{NP}
 sceptre and fillet
 ‘sceptre and fillet’ (Homer, *Iliad* 1.28)
- (3) [montem Iuram]_{NP} et [flumen Rhodanum]_{NP}
 Mount Jura and river Rhone
 ‘Mount Jura and the Rhone river’ (Caesar, *Bello Gallico* I.6)

Following much recent work in the syntax of coordination, we assume that conjunctions appear between the elements they conjoin in a configurational structure that groups the conjunction with the right-hand conjunct (Munn 1993, Johannessen 1998, Zoerner 1999):

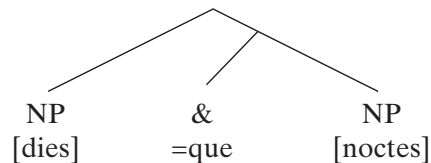
(4) configurational structure for coordination



But our argument does not depend on having this exact structure for conjunction: we require only that a conjunction is distinct from the elements it conjoins. Even if the conjunction forms a constituent with the following conjunct (as it does in 4), it is clearly not part of either conjunct: the first word of the second conjunct above is not *et* but *flumen*. This corresponds with the semantics of the construction, where the coordinated terms are [*montem Iuram*] and [*flumen Rhodanum*], and *et* functions as a Boolean operator that takes the individual terms and yields their semantic coordination (creating a single category of the same type as the individual terms). This much should be noncontroversial.

As we have seen, a number of early IE languages also have post-positive conjunctions. We assume that the syntactic and semantic structure for these is still [conjunct & conjunct], as in the following case from Latin:

(5) syntactic constituency



The actual spoken form is of course quite different, with the second conjunct fronted to the left of *=que*:

- (6) dies noctes=que _____
 days nights=and _____
 'days and nights'

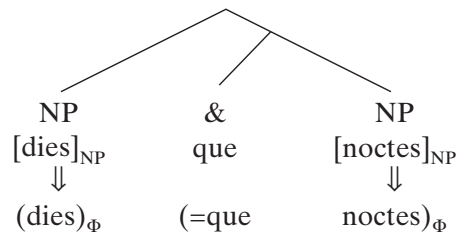
(We underline here the word that has moved and indicate the position from which it has moved with underline as well.) *Noctes* has clearly been moved from the position in which it is interpreted semantically, but the movement has probably not taken place in the syn-

tax. For one thing, syntactic movement of a conjunct is banned across languages under the Coordinate Structure Constraint (Ross 1967). Second, syntactic movement from the complement of a head (=que) to a position within that head's maximal projection is also banned across languages under constraints on Extreme Locality or Anti-locality (Grohmann 2001, Abels 2003, Kayne 2005). Finally, there is the problem of where *noctes* would move to if it did move to a syntactic position. *Noctes* is a phrase but the specifier position to the left of =que is already filled with *dies*, blocking movement of *noctes* into that position. The only other position available is the position of the head, already filled by =que; even if =que were to allow something else in its slot, it could only allow a head, not a phrase. For these reasons, a syntactic analysis of the movement is untenable.

We attribute the movement to the phonology (Agbayani & Golston 2010): the second conjunct (or part of it, see below) moves to the beginning of its phonological phrase because phonological phrases in Greek must begin with real words rather than postpositives. We flesh out that proposal now for sub-clausal coordination and extend it to clausal coordination below. The term second-position is not generally used for sub-clausal coordination, but it has exactly the same properties as clausal coordination and therefore bears looking into.

Following Selkirk (1986, 1995) we assume that each maximal projection in the syntax forms a phonological phrase (Φ) at its right edge, forcing the conjunction into the phonological phrase formed around the second conjunct. Using parentheses to indicate prosodic constituency the difference between syntactic and prosodic constituency looks like this:

(7) prosodic structure: right alignment of XP with Φ



The right edges of the NPs above give us the right edges of the phonological phrases $(dies)_{\Phi}$ and $(=que\ noctes)_{\Phi}$. So while =que is not part of either NP, it is part of the phonological phrase that contains the sec-

ond NP. Note that the semantics is read off of this representation, where the conjunction sits between its conjuncts.

The syntax of (7) is fine, but the phonology has a rough patch: the phonological phrase that includes the second conjunct begins with what Dover (1960) calls a postpositive (=que), a word that cannot occur at the beginning of a phonological phrase. Given a constraint against phrase-initial postpositives, the syntactically bizarre but pronounceable order (*noctes=que*)_φ is preferable to the syntactically faithful but unpronounceable order (=que *noctes*)_φ. In cases like this, where the second conjunct consists of a single word, the conjunction is phrase-final because the moved word (*noctes*) constitutes the entire final conjunct. This is shown for Greek below:

- (8) (σκήπτρον)_φ (τιμάς=τε _____)_φ
 scepter honors=and
 ‘scepter and honors’ (Aeschylus, *Prometheus Vincitus* 171)
- (τελευτήν)_φ (κεφαλήν=τε _____)_φ
 end head=and
 ‘end and head’ (Plato, *Timaeus* 69a)

Thus the left edge of the second phonological phrase begins with a conjunction (καί in (2) above), or with some word that follows (τιμάς and κεφαλήν in (8)) in case the conjunction is a postpositive. In either case, we assume that the conjunction stays in its base position. We stress this point to contrast our analysis of postpositive conjunctions with analyses where postpositive elements prosodically “flip” or “drop down” into the following phrase (Janse 1992, Halpern 1995, Anderson 1996, Garrett 1996, Hale 1996, Hock 1996, Taylor 1996, Embick & Noyer 2001). Such analyses take these postpositive elements to be prosodically light, stressless elements that need to be phonologically incorporated into a prosodically heavier “host”. In this sense they follow closely the original conception in Delbrück 1878 and Wackernagel 1892, who incorrectly stated that second position clitics had to be preceded by *ein betontes Wort*. But the apparent host for a postpositive is often prosodically as light or lighter than the postpositive itself and not all postpositives in these languages are phonologically enclitic, as we have seen. Thus the host may be the same prosodic weight as the postpositive, and both may bear pitch accent, as shown below (L = light syllable, H = heavy):

- (9) L L
 (τὸ δὲ _____ ποιᾶσαι)_φ
 the and making
 ‘and the making’ (Aristotle, *Poetics* 1454a)

Or the host may be the same prosodic weight as the postpositive element, but lack pitch accent:

- (10) H H
 (αἱ γὰρ _____ τοιαῦται)_φ
 the for same
 ‘for the same ones’ (Aristotle, *Poetics* 1455a)

Or the host may be lighter than the postpositive element and lack pitch accent:

- (11) L H
 (ὁ οὖν _____ Πολέμαρχος)_φ
 the so Polymarchus
 ‘for Polymarchus ...’ (Plato, *Republic* 327a)

Given data like this, it is clear that the phonological weight of both the postpositive word (δὲ, γὰρ, οὖν) and its so-called host (τὸ, αἱ, ὁ) are completely irrelevant for their linear ordering. Cases like (9–11) simply cannot be construed as a postpositive following *ein betontes Wort*.

Let us now turn to the corresponding facts in Latin and Hittite. The postpositive conjunction pattern for Latin is illustrated below, where =*que* is postpositive and cannot occur at the left edge of a phonological phase, forcing the movement of some other word from its right-hand conjunct.

- (12) (Labiemum)_φ (Terbonium=*que* _____)_φ
 Labienus Trebonius=*and*
 ‘Labienus and Trebonius’ (Plautus, *Mostellaria* 1.22)
- (oppida)_φ (vicos=*que* _____)_φ
 towns villages=*and*
 ‘towns and villages’ (Caesar, *Bello Gallico* 1.28)

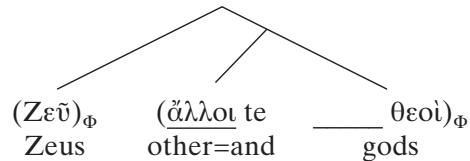
Again, the first word of the second conjunct is fronted so that the phonological phrase won’t begin with =*que*, a postpositive. Similarly in Hittite, where the conjunction =*ya* (=a after a consonant, with gemination) forces a word from its right-hand conjunct to move:

- (13) (UD.KAM-ti)_φ (GE₆.KAMti=ya _____)_φ
 by.day by.night=and
 ‘by day and by night’ (KUB 33.98 ii 11)
- (nepis)_φ (tekann=a _____)_φ
 heaven earth=and
 ‘heaven and earth’ (KBo 6.29 ii 12-13)

When the second conjunct is longer than a single word, only some of the words move, as seen in the following example from Greek, where ἄλλοι and σιάλους move but θεοὶ and εὔοντας remain in place:

- (14) (Zeῦ)_φ (ἄλλοι τε _____ θεοὶ)_φ
 Zeus other and gods
 ‘Zeus and other gods’ (Homer, *Iliad* 6.476)
- (αἶγας ἀνιεμένους)_φ (σιάλους θ’ _____ εὔοντας)_φ (ἐν ἀὐλῆ)_φ
 goats flaying hogs and roasting in yard
 ‘flaying goats and roasting hogs in the yard’ (Homer, *Odyssey* 2.300)

- (15) phonological movement from the right conjunct



Note that since the conjunction has not moved, ἄλλοι is no longer the first word of the second conjunct. It has left NP-initial position and is now outside of the right conjunct altogether. Thus =τε is in situ and ἄλλοι is outside of the NP it is interpreted with.

Latin data show the same thing:

- (16) (cunctis oppidis)_φ (castellis=que desertis _____)_φ
 defeated towns fortresses=and deserted
 ‘the towns defeated and fortresses deserted’ (Caesar, *Bello Gallico* 2.29)
- (vir magni ingeni)_φ (summa=que _____ prudentia)_φ
 man great talent superior=and wisdom
 ‘a man of great talent and superior wisdom’ (Cicero, *Legibus* 3.45)

A moment's reflection on the semantics of coordination again requires that *castellis* and *summa* have moved from a position following the conjunction:

- (17) [magni ingeni] _____ =que [summa prudentia]
 (magni ingeni)_Φ (summa =que _____ prudentia)_Φ

The same holds in Hittite, where postpositive conjunctions like =*ya* cannot be phrase-initial and require some word from the following conjunct to precede them, like *patanna* 'of.feet' or ^{LÚ.MEŠ}IS.GUŠKIN 'golden grooms' below:

- (18) (ginuwas GAD.HI.A)_Φ (patann=a _____ ^{GIŠ}GI^R.GUB)_Φ
 for.knees veils of.feet=and stool
 'veils for the knees and a stool for the feet' (StBoT 25.25 I 10)
 (ANŠU.KUR.RA.MEŠ)_Φ (^{LÚ.MEŠ}IS.GUŠKIN=ya _____ humandan)_Φ
 charioteers golden.grooms=and all
 'charioteers and all the golden-grooms' (StBoT 24 ii 60–61)

Interestingly, Hittite has no non-postpositive counterpart to =*ya* for phrasal conjunction: all conjunctions below the clause are postpositive.

The analysis that we have proposed moves words to an easily defined and independently motivated position, the beginning of a phonological phrase. The movement is driven by words that are postpositive and thus cannot occur phrase-initially. The fact that the moved element always comes from the following conjunct suggests that the conjunction is more closely connected to what follows than to what precedes, and this is what motivates the structure in (4).

3. Conjunction of clauses

Our analysis of clausal conjunction parallels our analysis of sub-clausal conjunction. Our only assumptions are that conjunctions fall between their conjuncts and that postpositives cannot occur at the beginning of a phonological phrase. That said, there are three types of clausal conjunction to discuss here: cases where the conjunction is not postpositive, cases where it is postpositive, and cases where it is absent (asyndeton).

If the conjunction is not postpositive (Greek *καί*, Latin *et*, Hittite *nu*) it surfaces between the clausal conjuncts, as the syntax and semantics would lead us to expect (§3.1). However, if the conjunction is postpositive (Greek *δέ* or *=τε*, Latin *enim* or *=que*, Hittite *=ya* or *=ma*), the first word of the second conjunct moves to the front of the phonological phrase that contains it (§3.2). Finally, if the conjunction is merely implied (asyndeton), nothing has to move because the phonological phrase that contains the rightmost conjunct already begins with a proper word; if there are other postpositives at the beginning of the clause, a word from that clause moves to keep the postpositives from occurring phrase-initially, just as it would if one of those postpositives were a conjunction (§3.3).

3.1 Normal conjunctions

We begin with the simplest case, clauses conjoined by conjunctions that are not postpositive:

- (19) [ἐνταῦθα ἔμειναν ἡμέρας τρεῖς]_{CP} καὶ [ἦκε Μένων]_{CP}
 there waited days three and came Menon
 ‘they waited there three days and Menon came’ (Xenophon, *Anabasis* 1.2.6)

Again, we take it as uncontroversial that *καί* falls between the clauses it conjoins and that no one will be tempted to claim that the verb *ἦκε* is in second-position just because it follows the conjunction orthographically. Similarly for regular conjunctions like *et* in Latin, which fall between their conjuncts as expected:

- (20) [consulem interfecerat]_{CP} et [eius exercitum sub iugum
 consul had.killed and his army under yoke
 miserat]_{CP}
 sent
 ‘he had killed the consul and sent his army under the yoke’
 (Caesar, *Bello Gallico* 1.12.5)

Hittite clauses conjoined by ubiquitous *nu* receive the same treatment:

- (21) nu [=kán Mursilin kuennir]_{CP} nu [eshar ieir]_{CP}
 and =prt Mursilis killed and blood shed
 nu [Hantilis nahsariyatati]_{CP}
 and Hantilis was.afraid
 ‘And they killed Mursilis and they shed blood and Hantilis was afraid’
 (2 Bo TU 23 1 33–35)

The proposed syntax for a case like this is as follows:

- (22)
-
- ```

graph TD
 Root[] --- CP1[CP]
 Root --- Amp[&]
 Root --- CP2[CP]
 CP1 --- CP1a["[eshar ieir]"]
 CP1 --- CP1b["they shed blood"]
 Amp --- Ampa["nu"]
 Amp --- Ampb["and"]
 CP2 --- CP2a["[Hantilis nahsariyatati]"]
 CP2 --- CP2b["Hantilis was afraid"]

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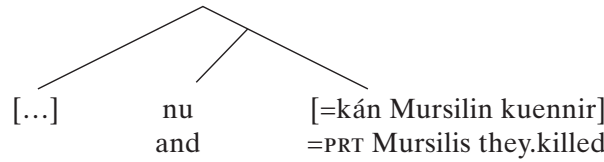
As long as the conjunction isn't postpositive, nothing more transpires and everything is pronounced where it is interpreted. Note that while there is good reason to think that the conjunction and the following conjunct form a syntactic constituent of some kind (as well as a prosodic constituent), we do not take the conjunction to be part of the clause that follows. *Hantilis* is the first word in its clause, not the second.

Now consider the first clause in (21), repeated below, with its syntactic bracketing:

- (23) nu[=kán Mursilin kuennir]<sub>CP</sub>  
 and =PRT Mursilis they.killed  
 ‘and they killed Musilis’ (2 Bo TU 23 1 33)

Orthographically (i.e. in cuneiform, not show here), the particle *kán* appears as a suffix on *nu* and is thus said to be second in the sentence. However, given the structure for coordination adopted here, *nu* (by virtue of its semantics and syntax) falls outside of the clause that =*kán* belongs to; this is another case where a postpositive (=kán) is clearly at the beginning of the clause. The only way to treat it as clause-second is to treat the conjunction as clause-initial, which is untenable.

(24)



The same holds for all other sentential postpositive pronouns and particles in Hittite: they are clause initial and can be placed there by syntactic means. No notion of second-position is required.

Similarly for Greek, where postpositive pronouns like *min* are actually clause-initial, not in second position as traditionally claimed:

(25) *καί* [μιν φωνήσας ἔπεα πτερόεντα προσηύδα]<sub>CP</sub>  
 and him addressing words winged spoke  
 ‘and addressing him, he spoke winged words’

(Homer, *Odyssey* 15.259)

Again, if the conjunction lies outside of the clause, *min* is straightforwardly clause-initial:

(26)

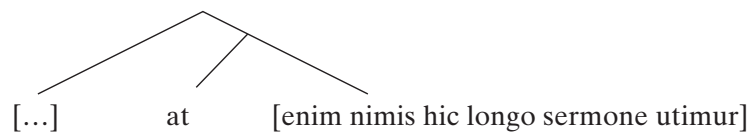


Postpositives in Latin like *enim* ‘surely’ show the same thing once we realize that a conjunction is never the first word of its right-hand conjunct:

(27) *at* [*enim nimis hic longo sermone utimur*]  
 but surely too.much here long speech we.use  
 ‘But surely we are making our discussion too long here’

(Plautus, *Trinummus* 3. 3. 79)

(28)



If *at* sits between its conjuncts, as it must, *enim* sits at the beginning of its clause, not in second position, a notion that is no longer required.

Returning to Hittite, this language has many more postpositives than the simple case above would suggest. (21) above shows the com-

mon pattern, with the particle =*kán* immediately following the clausal conjunction *nu*. A short text illustrates how common this is and how clear it should be that Wackernagel clitics like =*us* ‘them’ and =*as* ‘he’ are clause-initial in the most mundane sense:

- (29) nu [utnee arha tarranut] n[=us arunas  
and countries away strengthened and=them of.sea  
irhus ieit]  
boundaries made  
‘And he weakened the countries and he made them boundaries  
of the sea,’  
n[=as <sup>URU</sup>Halpa pait] nu [<sup>URU</sup>Halpan harnikta]  
and=he Aleppo went and Aleppo destroyed  
‘and he went to Aleppo, and he destroyed Aleppo’ (2 Bo TU 23  
1.27–28)

Each of these clauses is conjoined to the preceding clause with *nu*; the object =*us* ‘them’ (whose vowel forces elision of the vowel in *nu*) and the subject =*as* ‘he’ (whose vowel also elides the vowel in *nu*) are first in their respective clauses, clause-initial just like their cousins in Greek and Latin. These clause-initial postpositives are of course pronounced with the preceding conjunction, as the vowel elision clearly shows, but this doesn’t make them part of that conjunction any more than it makes the conjunction part of its right-hand conjunct.

### 3.2 Postpositive conjunctions

Greek, Latin, and Hittite also have postpositive conjunctions, as we have seen, which provided much of the impetus for the traditional notion of second-position (except that Delbrück and Wackernagel didn’t know about Hittite, which had yet to be deciphered). Like their phrasal counterparts, postpositive clausal conjunctions like δέ ‘and’ (often elided to δ’ before vowels) cannot occur at the beginning of a phonological phrase and so require phonological movement of something else to phrase-initial position:

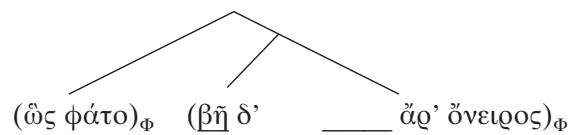
- (30) (ἐγρετο δ' \_\_\_\_\_ ἐξ ὕπνου)<sub>φ</sub> (θείη δέ \_\_\_\_\_  
 awoke and \_\_\_\_\_ out sleep godly and \_\_\_\_\_  
 μιν ἀμφέχουτ' ὀμφή)<sub>φ</sub>  
 him engulfed voice  
 'he awoke from sleep and the godly voice engulfed him'  
 (Homer, *Iliad* 2.41)

(ὡς ἔφατ' Ἀλκίνοος)<sub>φ</sub> (τοῖσιν δ' \_\_\_\_\_ ἐπιήνδανε  
 so spoke Alcinous them and \_\_\_\_\_ pleased  
 μῦθος)<sub>φ</sub>  
 speech  
 'so spoke Alcinous and his speech pleased them'  
 (Homer, *Odyssey* 13.16)

(ὡς φάτο)<sub>φ</sub> (βῆ δ' \_\_\_\_\_ ἄρ' ὄνειρος)<sub>φ</sub>  
 so spoke went and \_\_\_\_\_ then Dream  
 'so he spoke and Dream then left' (Homer, *Iliad* 2.16)

Again, we assume here that the conjunction δέ always surfaces between its conjuncts, but cannot occur first in its phonological phrase. For this reason some word that follows (ἐγρετο, θείη, τοῖσιν, βῆ) moves just past the postpositive to shield it from the left edge of the phonological phrase. As with the sub-clausal conjunctions discussed above, we merely assume that the base position for conjunctions is between conjuncts and that postpositives may not be phrase-initial.

- (31) movement from the right conjunct



Identical data occur in Latin, where the postpositive conjunction =*que* cannot occur phrase-initially and thus requires a word from what follows (*duas* and *multos* below) to move to phrase-initial position:

- (32) (duas=que ibi \_\_\_\_\_ legiones)<sub>φ</sub> (conscribit)<sub>φ</sub>  
 two=and there \_\_\_\_\_ legions enrolls  
 'and enrolls two legions there' (Caesar, *Bello Gallico* 1.10.3)

(arcebat longe Latio)<sub>ϕ</sub> (multos=que per \_\_\_\_ annos)<sub>ϕ</sub>  
 kept far Latium many=and for \_\_\_\_ years  
 (errabant)<sub>ϕ</sub>  
 wandered  
 'she kept them far from Latium, and for many years they wan-  
 dered'

(Virgil, *Aeneid* 1.31-2)

Similarly for Hittite, with the conjunctions =*ya* 'and' and =*ma* 'but':<sup>2</sup>

- (33) (apass=a \_\_\_\_ ARAD)<sub>ϕ</sub> (DINGIR-LIM eesdu)<sub>ϕ</sub>  
 he=and servant of.deity become  
 'and may he be a servant of the deity' (StBot 24 iv 79)
- (kedani=*ma* ANA \_\_\_\_ BULUG)<sub>ϕ</sub> (GIMan hasatarset  
 this=but to \_\_\_\_ malt as offspring  
 NU.GÁL)<sub>ϕ</sub>  
 not.exist

'but as with this malt there is no offspring' (KBo VI 34 II 31)

The conjunctions (=ya and =ma) logically belong between their conjuncts, as the syntax requires, the semantics makes clear, and the phonology fails to allow. A word following the postpositive (*apass*, *kedani*) must therefore move to the front of the phonological phrase to keep =*ya* and =*ma* from being phrase-initial. Other postpositive elements line up at the front of their clause following the conjunction, in what is clearly clause-initial position:

- (34) (apiya=*ya*=at \_\_\_\_ QATAMMA=*pat* taparta)<sub>ϕ</sub>  
 that=and =it same.way=very ruled  
 'and at that (time) he ruled it in the very same way' (KUB 14.4 i  
 11-12)
- (sessar=*ma*=wa=si \_\_\_\_ akuwanna udandu)<sub>ϕ</sub>  
 beer=but=QUOT=him drinking they.bring  
 'but 'they will bring him beer for drinking' he said' (KUB 33  
 102 C II 26)

<sup>2</sup> Hittite is a head-final language (OV with postpositions), so heads like *eesdu* 'become' and NU.GÁL 'not exist' are phrased phonologically with the XPs to their left (i.e., with their complements).

Again, *=ya* and *=ma* are in situ and lie outside of the clause, where sentential conjunctions belong. This puts the postpositives (*=at*, *=wa*, *=si*) in clause-initial position. Because *=ya* and *=ma* are themselves postpositive, some word to the right of *=ya* and *=ma* (*apiya* and *sessar* in these cases) are forced to move to the beginning of the phonological phrase.

In these languages the postpositive conjunctions (Greek δέ, =τε; Latin *enim*, =*que*; Hittite *=ya*, *=ma*) are always the first in any string of postpositives, a fact that we must clearly attribute to the syntax, where the conjunctive head is always external to the clause that contains the other postpositives. The postpositive elements that immediately follow the conjunction are syntactically initial in their clause and merely lean on the conjunction phonetically. There is no reason to think that this phonetic cliticization moves them out of their clause; it is just that they are parsed with the preceding material in speech. A parallel case might make the argument clearer. In an English sentence like *Kate's nice [keits nais]*, the auxiliary verb ('is') is phonetically cliticized to the subject, as shown by the voicing assimilation between it and the preceding [t]. Nonetheless, we do not count [s] as part of the grammatical subject, or claim that it is no longer part of the predicate, or say that it has moved out of the predicate to cliticize to the subject. Similarly for *=at*, *=wa*, and *=si* above: they are phonetically cliticized to the preceding word but belong syntactically with the clause that follows.

Not one of these postpositives is second in its clause. The conjunctions (*=ya*, *=ma*) are in situ between their conjuncts and are not part of any clause. The rest of the postpositives (*=at*, *=wa*, *=si*) are clause-initial, just phonetically enclitic on what precedes them. So far this is all completely parallel to conjunction below the clause. If the conjunction is a proper word, its conjuncts surface on either side of it. If the conjunction is a postpositive, a word from the following clause must be fronted past it. That word is usually a single word syntactically. But a phonological word ( $\omega$ ) can also consist of one or more function words (preposition, article, etc.) and a following content word (noun, verb, adjective, adverb), as has been shown by Selkirk and others. The following Latin examples show how this works:

- (35) (sub occasum) $\omega$ =que \_\_\_\_\_ solis  
 before setting=and \_\_\_\_\_ of.sun  
 'and before the setting of the sun' (Caesar, *Bello Gallico* 2.11)



(ob eas)<sub>ω</sub>=que \_\_\_\_\_ res  
 from those=and \_\_\_\_\_ things  
 ‘and from those things’(Caesar, *Bello Gallico* 2.35)

(We assume that =*que* is subsequently incorporated into ω but omit this for clarity). Note that such cases provide another strong piece of evidence that the movement here is not syntactic – *sub occasum* and *ob eas* do not form syntactic constituents here and so cannot have been moved syntactically:

(36) =que [<sub>PP</sub>sub [<sub>NP</sub> occasum [<sub>NP</sub>solis]]]  
 and before setting of.sun  
 =que [<sub>PP</sub>ob [<sub>NP</sub> eas [<sub>NP</sub>res]]]  
 and from those things

They do, however, form prosodic words, supporting the claim that the movement is phonological (Agbayani & Golston 2008, 2010).

When function words are followed by words that are themselves XPs, they are incorporated into the phonological phrases those XPs form. We see this with (τῆ δεκάτῃ)<sub>φ</sub>, (ἐκ τῶν ἔμπροσθεν)<sub>φ</sub>, and (καὶ τῶν παρ’ ἑαυτῷ)<sub>φ</sub> in the examples that follow:

(37) (τῆ δεκάτῃ δ’)<sub>φ</sub> (\_\_\_\_\_ ἀγορῆνδε)<sub>φ</sub> (καλέσσατο  
 the tenth and \_\_\_\_\_ to.assembly called  
 λαὸν)<sub>φ</sub> (Ἀχιλλεύς)<sub>φ</sub>  
 host Achilles  
 ‘and on the tenth day Achilles called the host to assembly’  
 (Homer, *Iliad* 1.54)

(ἐκ τῶν ἔμπροσθεν δὲ)<sub>φ</sub> (\_\_\_\_\_ ἀνάσκεψαι)<sub>φ</sub>  
 from the previous and \_\_\_\_\_ consider  
 ‘and consider this from the previous cases’ (Plato, *Cratylus*  
 389A)

(καὶ τῶν παρ’ ἑαυτῷ δὲ)<sub>φ</sub> (\_\_\_\_\_ βαρβάρων)<sub>φ</sub>  
 also the near himself and \_\_\_\_\_ barbarians  
 (ἔπεμελεῖτο)<sub>φ</sub>  
 took.care.of  
 ‘and he also took care of the barbarians near him’ (Xenophon,  
*Anabasis* i.i.5)

Note that these data argue against a morphological affixation account of conjunction placement, since the conjunction does not function as an affix that attaches to any kind of morphological or morpho-syntactic word (Embick & Noyer 2001). As the final case above makes very clear, the apparent host (*ob eas* ‘from those’) is neither a morphological word nor a syntactic constituent. Thus, there is no straightforward morphological or syntactic source for postpositive conjunctions. The crucial observation here is that the postpositive conjunction is always preceded by something that is not itself postpositive, suggesting that what drives the surface position of the conjunction is neither morphological nor syntactic.

### 3.3 *Asyndeton*

It often happens in these languages that things are conjoined asyndetically, without an overt conjunction. Consider the following from Greek, where the postpositive particle *κέν* follows the adverb *τότε* ‘then’:

- (38) (τότε κέν μιν \_\_\_\_\_ ἱλασσάμενοι)<sub>φ</sub> (πεπίθοιμεν)<sub>φ</sub>  
 then PRT him \_\_\_\_\_ appeasing let.us.persuade  
 ‘then let us persuade him by appeasing him’ (Homer, *Iliad* 1.100)

This clause is conjoined asyndetically to the preceding clause, i.e., without an overt conjunction like *καί* or *δέ*. Since the elements *κέν* and *μιν* are postpositives a proper word from what follows (*τότε* in this case) must be fronted. The same takes place in Latin, where the interrogative *=ne* is postpositive:

- (39) (tantae=*ne* \_\_\_\_\_)<sub>φ</sub> (animis caelestibus)<sub>φ</sub> (irae)<sub>φ</sub>  
 such=INTER souls heavenly anger  
 ‘is there such anger in the heavenly souls?’ (Virgil, *Aeneid* 1.11)

Since *=ne* is postpositive, a word from what follows (*tantae*) moves to the beginning of the phonological phrase. Hittite provides similar cases, including many with strings of postpositive elements like *=mu=za=kan* below:

- (40) (istamassanzi=*tta* \_\_\_\_\_)<sub>φ</sub>  
 listen=you  
 ‘they listen to you’ (KUB 21.27 iv 31)

(DINGIR-LUM=mu=za=kán \_\_\_\_\_)<sub>ϕ</sub> (GAŠAN-Y)<sub>ϕ</sub>  
 goddess=me=REFL=PRT lady-my  
 (humandaza=pat daskisi)<sub>ϕ</sub>  
 always=PRT rescue2s.iter  
 ‘goddess, my lady, you always rescue me’ (StBoT 24 i 50)

All of the postpositive elements here are clause-initial. The single word that precedes them is not in situ but has been moved to the beginning of its phonological phrase to keep the postpositives postpositive. We can therefore do away with analyses that place these elements in “second-position in the sentence”. Note that from a syntactic perspective this is a desirable result, since second-position is hard to define in a configurational syntax (Keenan & Stabler 2001).

#### 4. Conclusion

This paper argues that the notion second-position is superfluous for early IE languages. We began with the notion that conjunctions are syntactically external to their conjuncts. For phrasal coordination this means that the conjunction is part of neither XP syntactically; for clausal coordination it means that the conjunction is part of neither clause. Once this is granted, it turns out that “second-position clitics” are uniformly found in clause-initial position, except of course for the postpositive conjunctions (δέ, =τε; *enim*, =*que*; =*ya*, =*ma*), which surface in situ between their conjuncts. Thus a proper understanding of conjunctions eviscerates the notion second-position because the relevant elements are demonstrably clause-initial. Second-position (in the sentence) is actually first-position (in the clause). This allows us to dispense with the syntactically difficult notion “second-position” for the very languages it was designed for over a century ago.

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