

UNBALANCED COORDINATION IN MAASAI*

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Maasai has two different kinds of coordination: one conjoins clauses, the other smaller phrases. Both kinds of coordination exhibit cases of *unbalanced coordination*, in which one of the conjuncts differs from the other(s) with respect to some grammatical properties. A syntactic account is given for these differences based on the hypothesis that conjunctions are the heads of conjunction phrases and conjunction phrases have the hierarchical structure that X¹-Theory assigns to every phrase.

1. INTRODUCTION

This paper is about some syntactic properties of coordination in Maasai, a VSO language of the Nilotic family spoken in Kenya and Tanzania. Even though the data herein are from the Kisongo dialect, grammars of Maasai do not mention any dialectal variation concerning coordination (cf. Hollis (1905), Tucker and Mpaayei (1955), Mol (1995)). Thus, the discussion and the conclusions that follow should be considered to hold for Maasai in general. From now on, I just refer to Maasai rather than Kisongo Maasai.

Maasai has two different conjunctions that are both translated into English by the conjunction *and*. They are *oo* and *n-*. I call the first kind of coordination *oo coordination* and the second kind *n- coordination*.

After presenting and discussing the data in detail, I conclude that *oo* conjoins only non-clausal constituents, while *n-* conjoins only clausal constituents (§2). Then, I introduce Johannessen's (1998) notion of *unbalanced coordination* (§3) and argue that examples can be found in both kinds of coordination in Maasai (§4). After sketching Johannessen's (1998) analysis of coordination as a hierarchical structure (§5), I give a syntactic account for balanced and unbalanced coordination in Maasai along those lines (§6).

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2. COORDINATION IN MAASAI

2.1. *oo* Coordination

The conjunction *oo*¹ conjoins only non-clausal constituents. For instance, it can conjoin nouns (1). When *oo* conjoins nouns with the prefixed determiner, which inflects for gender and number, the determiner must occur on all the conjuncts (cf. (2) vs. (3)-(4)).

- (1) kulo [sokwani oo diain]
these.M.PL buffalos and dogs
 ‘these buffalos and (these) dogs’
- (2) ol-osokwan oo ol-dia
the.M.SG-buffalo and the.M.SG-dog
 ‘the buffalo and the dog’
- (3) *ol-osokwan oo dia
the.M.SG-buffalo and dog
- (4) *osokwan oo ol-dia
buffalo and the.M.SG-dog

The *oo* conjunction can also conjoin names (5), temporal expressions (5), locatives (7), and PPs (7).

- (5) tobiko oo natobiko
 ‘Tobiko and Natobiko’
- (6) en-ai olon oo nole
the.F.SG-other day and yesterday
 ‘the day before yesterday and yesterday’
- (7) ene o ende
 ‘here and there’
- (8) t-en-□□□□ oo t-en-dukutuk
by-the.F.SG-car and by-the.F.SG-motorbike
 ‘By car and by motorbike’

¹ [oo] can undergo some phonological changes. Usually, it shortens in normal speech ([o]) and turns into the glide [w] before [ε] ([natobiko w esidai], ‘Natobiko and Esidai’). It becomes hard to distinguish when it is followed by [ɔ]/[ɔ̄] ([natobiko oloitu], ‘Natobiko and Oloitu’). The -ATR form [ɔ̄] seems to alternate with the +ATR form [oo], but the conditioning factors are not clear to me. From now on, I will only use the form [oo] in every context for the sake of simplicity.

² All the data are given in IPA notation.

2.2. *n-* Coordination

The conjunction *n-* conjoins only clauses. It always occurs as a prefix on the verb of the second conjunct:

(9) ε-ḵomũ toret εnaipafa **n-**εḵomũ resoĩ nairobi
 3SG-went-to Toret the-lake and-3SG-went-to Resoĩ Nairobi
 ‘Toret went to the lake and Resoĩ went to Nairobi.’

(10) ε-naara toret **n-**ε-mueĩ natobiko ḡole
 3SG-be-tired Toret and-3SG-be-sick Natobiko yesterday
 ‘Toret was tired and Natobiko was sick yesterday.’

Hollis (1905), Tucker and Mpaayei (1955) and Mol (1995) do not consider the forms *n-V* as the result of prefixing the conjunction *n-* to verbal stems, but as independent verbal forms. They label these forms *N-tense* forms and suggest that they are a kind of narrative form. According to them, only the independent words *na* or *naa* are actual conjunctions. An example of these forms is given in (11) with the glosses that they would likely assign to *na*.

(11) tōrrōnō **na** sapuk elde osokwan
 bad “and” big that buffalo
 ‘That buffalo is bad and big.’

However, their distinction is misleading. As it happens, not all *n-V* forms are the same. Some of them, like the ones in (9) and (10) above, are fully inflected verbal forms whose temporal interpretation does not depend on the first conjunct. On the other hand, there are *n-V* forms that look like present tense forms morphologically, but whose temporal interpretation is anchored to that of the first conjunct. These forms will be discussed in more detail later.

I would like to suggest that *na* and *naa* are not simple conjunctions, but instances of the more general process of prefixing the conjunction *n-* to verbal stems, the verbal stem being the copula in this case.³ In Maasai, the copula is usually silent with a 3rd person subject. In some constructions though, it may be overt. In those cases, it shows up as *a* in the singular and *aa* in the plural. With 1st and 2nd person subjects, on the other hand, the copula is always overt.

The examples in (12)-(15) clearly show that, if the subject is 1st or 2nd person, the phonological material that immediately follows the conjunction *n-* is always has the same phonological shape as the copula

³ Thanks to Hilda Koopman and Kristie McCrary for suggesting this idea.

in the first conjunct. For instance, if the subject is first person singular as in (11), the overt copula in the first conjunct is *ara* and *n-* will be followed by *-ara* in the second conjunct. A literal translation for (12) in English would be *I am big and I am bad*, where two fully overt clauses are conjoined.

(12) a-ra tǝrrǝnǝ n-a-ra sapǝk
 1SG-be bad.SG and-1SG-be big.SG
 ‘I am bad and big.’

(13) ki-ra tǝrrǝk n-i-ki-ra⁴ sapǝkin
 1PL-be bad.PL and- \square 1PL-be big.PL
 ‘We are bad and big.’

(14) e-ra tǝrrǝnǝ n-e-ra sapǝk
 2SG-be bad.SG and-2SG-be big.SG
 ‘You (sg) are bad and big.’

(15) e-ra-ra tǝrrǝk n-e-ra-ra sapǝkin
 2PL-be-redupl bad.PL and-2PL-be-redupl big.PL
 ‘You all are bad and big.’

The coordination of *wh*-interrogative clauses and clauses with topicalized constituents make use of the same strategy, that is *n-V*, where *V* is the copula. Both *wh*-interrogatives and clauses with a topicalized constituent look like cleft-constructions. The *wh*- or topicalized constituent is always followed by a relative clause, as shown by the relative marker (cf. (16) and (17)). When they occur as the second conjunct, *wh*-interrogatives and clauses with a topicalized constituent are introduced by an overt copula. Thus, a literal translation of (16) into English would be ‘Who is it that went to the lake and who is it that went to Nairobi?’.

(16) kaŋai na-ʃǝmǝ enaipafǝ n-a kaŋai
 who REL.F.SG-went-to the-lake and-is who
 na-ʃǝmǝ nairobi
 REL.F.SG-went-to Nairobi
 ‘Who went to the lake and who went to Nairobi?’

⁴ [i] between the conjunction [n] and [kɪra] is just an epenthetic segment.

- (17) toret o-iʃoo resoi eng-are n-a kwia
Toret REL.M.SG-give Resoi the-water and-is Kwia
 o-iʃoo kole tobiko
 REL.M.SG-give milk Tobiko
 ‘Toret is the one who gave Resoi water and Kwia is the one
 who gave Tobiko milk.’

In conclusion, I take the data above to clearly indicate that there is only one clausal conjunction in Maasai, i.e. *n-*, and it is always prefixed to the verb of the second conjunct.

2.3. Multiple Coordination

If more than two constituents are conjoined, both *oo* and *n-* must be repeated in front of each conjunct but the first one (cf. (18) and (19)).

- (18) *Multiple oo Coordination*
 moru-ak tobiko oo natobiko oo resoi oo toret
old-PL Tobiko and Natobiko and Resoi and Toret
 ‘Tobiko, Natobiko, Resoi and Toret are old.’

- (19) *Multiple n- Coordination*
 amuei n-anaora n-aimugito
1SG.sick and-1SG.be-tired and-1SG.get-sleepy
 n-aata e-sumaʃ
and-1SG.have the-hunger
 ‘I am sick, tired, sleepy and hungry.’

2.4. Conclusions

The data we just discussed clearly show that Maasai has two different kinds of conjunctions and coordination strategies. I take this as further evidence against the claim that natural languages only make use of clausal coordination (e.g. Johannessen 1998; cf. §5). Maasai is certainly not the only language to support this conclusion. For instance, Malagasy, a Western Austronesian language spoken in Madagascar, has a conjunction for clauses and a different one for non-clausal phrases (Keenan 1976). Similarly, Nupe, a Niger-Congo language spoken in Nigeria, has a conjunction for VPs and another for smaller phrases (Jason Kandybowicz p.c.). A detailed typological survey on this issue is found in Haspelmath (to appear: §4).

3. UNBALANCED COORDINATION

Johannessen (1998) distinguishes between what she calls *balanced coordination* and *unbalanced coordination*. For the sake of simplicity, let us consider just binary coordination, i.e. the coordination of just two conjuncts. Binary coordination is balanced if the first and second conjuncts can appear in either order. For instance, in (20)a-b the two names *Mary* and *Paul* are conjoined and can occur in both the orders. Binary coordination is unbalanced when, instead, only one order of the conjuncts is allowed. For instance, in (21)a-b the two pronouns *she* and *him* are conjoined. If *she* precedes *him* in the coordination, the resulting sentence is well-formed ((21)a), while if *she* follows *him* the resulting sentence is ill formed ((21)b).

(20) *Balanced Coordination: [X & Y] and [Y & X]*

- a. [Mary and Paul] will drive to the movies.
- b. [Paul and Mary] will drive to the movies.

(21) *Unbalanced Coordination: [X & Y] but *[Y & X]*

- a. [She and him] will drive to the movies.⁵
- b. *[Him and she] will drive to the movies.

The crucial difference between (20) and (21) is that in (20) the conjuncts are not distinguishable by morphological case, while in (21) they are. The pronoun *she* is the nominative form, while *him* is in the accusative form. If either pronoun were to occur in that position alone, nominative would be required (cf.(22)a-b).

- (22) a. She/*Her will drive to the movies.
b. He/*Him will drive to the movies.

When the pronouns are conjoined, only the first conjunct has to be nominative, while the second one takes the default case in English, i.e. accusative. More generally, unbalanced coordination is the result of "some grammatical property lacking or being different in one conjunct compared to the other" (Johannessen 1998: 8).

Johannessen (1998) further distinguishes between two kinds of unbalanced coordination, *receiving type* and the *assigning type*. In the receiving type, only one conjunct has the grammatical features

⁵ Johannessen (1998: 16, ex.17j).

associated with the whole Conjunction Phrase (CoP). This is like the case we just discussed ((21)a).

In the *assigning type*, one conjunct assigns features to whatever is surrounding the CoP, in spite of it possibly having conflicting features with elements outside the CoP. This type is typically one in which only one conjunct is responsible for agreement with elements outside the CoP. (Johannessen 1988: 8-9)

An example of unbalanced coordination of the assigning type in English is given in (23). Here the conjuncts have conflicting number features and the verb gets its number feature only from one conjunct, the first one in this case.

(23) There is [a boy and two girls] in the room.

4. UNBALANCED COORDINATION IN MAASAI

In this section, I will argue that both *oo* coordination (non-clausal coordination) and *n-* coordination (clausal coordination) in Maasai show cases of unbalanced coordination.

4.1. *Unbalanced oo Coordination*

Genitive markers agree in number with the possessor and in gender with the possessee in Maasai. (24) shows the genitive marker that occurs when the possessee is feminine and the possessor is singular, i.e. [ε], while (25) shows the genitive marker with the same possessee, but a plural possessor, i.e. [□□].

(24) n-giʃu ε toret
the.F.PL-cows of.F.SG Toret.M
 ‘Toret’s cows’

(25) n-giʃu oo toret
the.F.PL-cows of.F.PL Toret.M⁶
 ‘Toret’s family’s cows’ (lit.: ‘the cows of the Toret’s’)

The conjunction *oo*, which happens to be homophonous with one of the form of the genitive marker above, can also conjoin genitive forms.

⁶ First names can also be used to refer to families, and not just individuals, in Maasai. In this case, they do not show plural morphology, but are clearly syntactically plural since they trigger plural agreement, e.g. on the genitive marker in (25).

(26) illustrates a case of shared ownership and the (underlined> genitive marker [ε] can only occur before the first conjunct. (27), instead, is a genitive case of individual ownership and the (underlined> genitive marker [ε] is repeated in front of each conjunct.

(26) n-giʃu ε [toret oo tobiko]
the.F.PL-cows of.F.SG Toret.M and Tobiko.M
 ‘Toret and Tobiko’s cows’
 (Toret and Tobiko own the cows together.)

(27) n-giʃu [ε toret o-n-ε tobiko]
the.F.PL_cows of.F.SG Toret.M and-[]-of.M.PL⁷ Tobiko.M
 ‘Toret’s and Tobiko’s cows’
 (Toret and Tobiko own different cows.)

In (26), the possessor is plural (*Toret and Natobiko*), but the genitive marker can only be the one that occurs with a singular possessor (cf. (24) vs. (25)). It seems that the genitive marker does not agree with the number of the whole CoP, but only with the number of the first conjunct. This looks like a case of unbalanced coordination of the assigning type.

Unfortunately, some crucial data is not available to me to check this hypothesis. In particular, it would be important to know the Maasai for [*Toret and the boys*]’ cows and [*the boys and Toret*]’s cows, where in one case the plural conjunct is the first one, while in the other it is the second one.

4.2. Unbalanced n-Coordination

Maasai also exhibits a case of unbalanced *n*- coordination, i.e. the clausal coordination. All the clausal conjuncts but the first one can have verbal forms that morphologically look like the present forms, but behave in a different way semantically. Their temporal interpretation depends on the first conjunct. They can refer to a time that is either contemporaneous with or subsequent to the time denoted by the verb in the first conjunct. Let us call these forms **parasitic tense forms**, since they are somehow parasitic on the tense of the first conjunct.

(28) shows the past form of the verb *aien* ‘slaughter’. (29) shows the parasitic form of the same verb. Even if it is morphologically present, it is interpreted as a past form referring to a moment that is subsequent to the moment of milking (the contemporaneous interpretation is excluded because of obvious pragmatic reasons).

⁷ It is not clear to me if [n] is the partitive marker or just an epenthetic segment.

- (28) a-te-jaja enketen
 1SG-PAST-*slaughter the-cow*
 ‘I slaughtered the cow.’
- (29) a-t-alepo **n-a-ieŋ** enketen
 1SG-PAST-*milk and-1SG-slaughter the-cow*
 ‘I milked and slaughtered the cow.’

In order for parasitic forms to occur, it is not necessary for the subjects of the conjuncts to be the same:

- (30) a-t-alepo enketen **n-e-ieŋ** toret
 1SG-PAST-*milk the-cow and-3SG-slaughter Toret*
 ‘I milked and Toret slaughtered the cow.’

Parasitic forms cannot occur in the first conjunct:

- (31) ***n-a-ieŋ** enketen ŋole
and-1SG-slaughter the-cow yesterday
 ‘And I slaughter the cow yesterday.’

Parasitic forms with past tense interpretation and verbal forms that are morphologically marked for past can alternate with no apparent semantic difference:

- (32) ε-ƶomu toret enaipafa **n-e-ƶomu** **n-e-lo**⁸
 3SG-*went-to Toret the-lake and-3SG-went-to/and-3SG-go-to*
 sii nairobi
also nairobi
 ‘Toret went to the lake and to Nairobi.’

Parasitic forms can be interpreted as referring to a time that is contemporaneous with (cf. (33)) or subsequent to (cf. (34)) the time denoted by the verb in the first conjunct. However, they can never refer back to a time that is prior to the time of the first conjunct. The temporal expressions in the conjuncts in (35) force such an interpretation and the sentence is ill-formed.

- (33) a-ƶomu enaipafa **n-e-lo** toret nairobi ŋole
 1SG-*went-to the-lake and-3SG-go-to Toret Nairobi yesterday*
 ‘Yesterday I went to lake and Toret went to Nairobi.’

⁸ The paradigm for [a-lo] ‘go’ (lit. ‘I go’) is irregular. In particular, the past is formed by means of the suppletive form [a-ƶomu].

- (34) a-ʃomʊ enaipafa ŋɔɛ n-ɛ-lo toret
 1SG.went-to the-lake yesterday and-3SG-go-to Toret
 nairobi taiserɪ
Nairobi tomorrow
 ‘I went to the lake yesterday and Toret will go to Nairobi
 tomorrow.’
- (35) *a-lo enaipafa taiserɪ n-ɛ-lo toret
 1SG.go-to the-lake tomorrow and-3SG-go-to Toret
 nairobi ŋɔɛ
Nairobi yesterday
 ‘I will go to the lake and Toret will go to Nairobi yesterday.’

Note that if in (35) we replace the parasitic form with a regular past form with the prefixed conjunct *n-*, the sentence is well-formed (36), although pragmatically odd, since a word order in which the conjuncts in the past occur before those in the future is usually preferred.

- (36) a-lo enaipafa taiserɪ n-ɛ-ʃomʊ toret
 1SG.go-to the-lake tomorrow and-3SG-went-to Toret
 nairobi ŋɔɛ
Nairobi yesterday
 ‘I will go to the lake tomorrow and Toret went to Nairobi
 yesterday.’

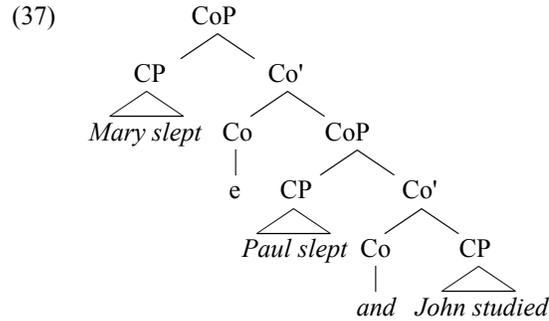
In conclusion, *n-* coordination allows unbalanced coordination of the receiving type, at least as far as the interpretation of the tense morphology of the verbal forms is concerned.

5. SYNTAX OF COORDINATION

The distributional restrictions on conjunctions (e.g. the fact that the conjunction *and* can never occur before the first conjunct in English) and some asymmetries between one conjunct and all the others (e.g. the cases of unbalanced coordination above) have suggested an approach to conjoined structures in terms X'-Theory. It has been proposed that conjuncts and conjunctions form a Conjunction Phrase (CoP). Conjunctions are the heads of CoPs and CoPs have hierarchical structures, rather than flat ones (c.f. Munn 1993, Kayne 1994, Johannessen 1998).

In particular, Johannessen (1998) proposes that the first conjunct is in the Spec of CoP, while the other(s) are in the complement of CoP position. According to her, the structure of the complex sentence *Mary*

ate, Paul slept, and John studied, where three CPs are conjoined, is the one given in (37).



Johannessen's account of unbalanced coordination is strictly related to the hierarchical structure she assumes for CoP. She assumes that Specifier-Head relations and Head-Complement relations have different agreement properties. The reason the first conjunct behaves differently from the other(s) is that it is the only conjunct that is in a Specifier-Head Agreement relation with the (highest) conjunction, whereas the other conjunct(s) is/are in a Head-Complement Agreement relation.

Johannessen supports this claim with an interesting cross-linguistic correlation. She looked at 32 different languages and found out that "in at least 26 of them, [...] the order between conjunction and deviant conjunct⁹ is the same as that between head and complement in each language (some of the remaining 6 languages are difficult to assess with respect to word order)." (p. 2).

Finally, Johannessen argues that "the input to any CoP are full propositional structures that may since undergo deletion and sharing, which in turn result in head coordination and coordination of conjuncts smaller than CP" (p. 211). In other words, she assumes that coordination is always clausal. What looks like conjunction of smaller units would be just the by-product of clausal coordination and deletion/sharing processes. Notice that this assumption on the syntactic category of conjuncts is independent from her assumptions about the syntactic structure of CoP.

⁹ "Deviant conjuncts" are those that do not bare all the grammatical features that are associated with the whole CoP and cannot occur alone (cf. § 3).

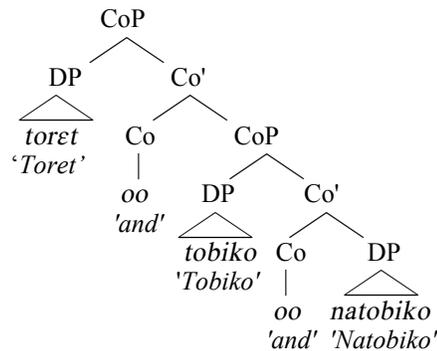
6. MAASAI AND THE SYNTAX OF COORDINATION

Maasai brings evidence against Johannessen's claim that natural languages only make use of clausal coordination. First, it has two morphologically different conjunctions, *oo* and *n-*. Second, the two conjunctions are associated with two different coordination strategies: *oo* coordination is only non-clausal and exhibits unbalanced instances of the assigning type, while *n-* coordination is only clausal and exhibits unbalanced instances of the receiving type.

On the other hand, Maasai gives empirical support to at least two of Johannessen's main assumptions about the syntax of coordination, namely that 1) conjunctions are heads and 2) CoPs are hierarchically structured according to X'-Theory. I will show how in the remaining of this section.

1. *Conjunctions as heads.* Multiple coordination shows that both *oo* and *n-* must occur in each conjunct but the first one. If conjunctions are heads, her account for this asymmetry between the first conjunct and the others is straightforward. As shown in (38) with an example of multiple *oo* coordination, the first conjunct is never preceded by the conjunction since the latter is a head, while the former is its specifier and specifiers always precedes their heads (cf. Kayne 1994).

- (38) *toret oo tobiko oo natobiko*
Toret and Tobiko and Natobiko
 'Toret, Tobiko, and Natobiko'



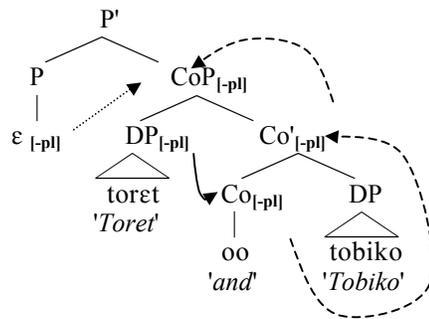
2. *CoPs follow X' Theory.* Maasai also shows examples of unbalanced coordination with both of its conjunction types. As mentioned above, unbalanced coordination can be taken as evidence in favor of a hierarchical structure for coordination. The syntactic

structure for coordination we are assuming makes available an account for both kinds of unbalanced coordination in Maasai.

Let us assume that conjunctions (Co) and therefore conjunction phrases (CoP) lack certain syntactic features, but may acquire them through Specifier-Head agreement or Head-Complement agreement. If we also assume that only Specifier-Head agreement is available within CoP, at least in certain constructions for certain features, then unbalanced coordination facts can be accounted for.

In particular, in the example of unbalanced *oo* coordination of the assigning type in (26) (repeated in (39) below), the feature [-plural] is transmitted by the first conjunct in Spec of CoP (*toret*) to the head Co (*oo*) via Specifier-Head agreement. As is usually assumed for features of heads, [-plural] percolates from the head Co up to the maximal projection CoP. Finally, the genitive marker/preposition [ϵ] agrees with its complement CoP via Head-Complement agreement, thus it must be [-plural] too. The relevant syntactic structure is given in (39), together with a schema of the relevant feature transmission processes.

- (39) n-giɸu ϵ [toret oo tobiko]
the.F.PL-cows of.F.SG Toret.M and Tobiko.M
 ‘Toret and Tobiko’s cows’
 (Toret and Tobiko own the cows together.)



- > Spec-Head Agreement
- > Feature Percolation
-> Head-Complement Agreement

A similar account can be given for the cases of unbalanced *n*- coordination we looked at in §4.2. Let us assume that the meaning of *n*- is something like “from the time *t* onward”, where *t* is a variable that is bound by a temporal operator in the first conjunct. In other words, *t* receives the same value as the reference time of the first conjunct. We can account for the identical value by appealing to the mechanism of Specifier-Head agreement. This is a way to make a bit more precise the intuition that (some) conjunctions seem to impose a certain temporal ordering.

For instance, in the English examples in (40), the conjunction *and* forces the interpretation of the event described in the second conjunct as following the event in the first conjunct. Since only one of the two orders is pragmatically plausible (you can not go to sleep after dying), (40)a. is felicitous while (40)b is not.

- (40) a. Paul went to sleep and died.
 b. #Paul died and went to sleep.

If this is correct, the restrictions on the temporal interpretation of parasitic tense forms in Maasai follow straightforwardly. These forms do not have a temporal anchoring on their own. Thus, they need to receive one in order to be interpreted. The conjunction *n*- (which we are assuming means something like “from the time *t* onward”) temporally binds these forms by Head-Complement agreement and allows them to be interpreted as referring to whatever time that is identical to the time *t* or follows it. Since *t* is identical to the reference time of the first conjunct, the second conjunct will be interpreted as referring to a time *t* that is contemporaneous with or subsequent to the time in the first conjunct.

(41) shows how this proposal works. Let us assume that t_1 is the reference time of the first conjunct. The time variable t_n of the Co head *n*- is bound by the first conjunct and receives the same value as t_1 . Informally, the semantic value of *n*- is something like “and at the moment t_1 or later”. The Co head *n*- binds the time variable t_2 of the verb in the second conjunct so that its temporal reference can only be identical to either t_n (= t_1), or a successive moment.

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