Rethinking Amharic Prepositions as Case Markers Inserted at PF

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Abstract: In this paper we consider the morphosyntax of so-called prepositions (PrePs) in Amharic. It is typologically anomalous that Amharic should have prepositions, since it is otherwise a fairly canonical head-final language. Instead, we argue that the PrePs are really morphological prefixes that express the oblique case assigned to NP by a postposition (null or overt). What is somewhat unusual about Amharic, then, is where this prefix shows up in complex nominals. We argue that the case feature is not manifested on the first word of the NP, or the last word, or the noun head, but rather on the structurally highest element of the nominal, defined recursively. This explains the position of the PreP in nominals that have one or more adjectival modifiers, demonstratives, possessor expressions, and relative clauses, as well as its special location in verbal noun constructions. We briefly contrast our analysis with one that makes use only of leftward movement in the syntax, and we compare the distribution of the oblique case prefixes with that of the definiteness suffix *–u* and the accusative case suffix *-n*.

Keywords: Amharic, oblique case, head finality, word order, PF insertion

1 Introduction

Amharic, a Semitic language spoken in Ethiopia, has a series of morphemes that are invariably described as "prepositions" in the descriptive, pedagogical, and theoretical literatures. Some examples of these morphemes are given in (1).

(1) a. **kä**-bet-u
from-house-DEF[1]
'from the house'

b. **bä-**bisiklet
by-bicycle
'by bicycle' (Ayalew 2006:78)

c. **wädä** sinima bet
to cinema house
'to the movies' (Appleyard 1995:40)

d. **lä**-Gɨrma
to-Girma
'to Girma'

However, it is rather surprising that Amharic should have prepositions, since it is otherwise a quite typical-looking head-final language. As such, one would expect it to have postpositions rather than prepositions (Greenberg 1966, etc.)—and indeed it has a distinct set of postpositions as well. The data in (1) thus raises some questions. Are these prepositions a typological anomaly? Do they imply that there is no "macroparameter" along the lines of the traditional Head Directionality Parameter, but that the order of each phrase can be fixed independently? Or, does (1) represent a somewhat different phenomenon that is only masquerading as prepositions?

In this paper, we argue for the last interpretation. In particular, we claim that Amharic's "prepositions" are best analyzed as semantic case markers and that these case markers are inserted post-syntactically (at PF), not as direct realizations of a P node, developing and amplifying some

[1] Gloss abbreviations include: 1 – first person; 2 – second person; 3 – third person, ABL –ablative, ACC – accusative, ALL – allative, AUX – auxiliary, C – complementizer, CAUS – causative, DEF – definite marker, F – feminine, GEN – genitive, LOC – locative, M – masculine, MID - middle, NOM – nominative, NOML – nominalized verbal form, .O – object agreement/clitic, PASS – passive, PL – plural, S – singular.

arguments of Tremblay and Kabbaj (1990) (see also Hetzron 1970 and Mullen 1986 for other precedents). This renders Amharic typologically more typical, removing (1) as an anomaly.

This turns out to be more than an artifice designed to save a tidy and idealistic view of the world. It has the important benefit of accounting for the very unusual distribution of "prepositions" within nominals in Amharic. In multiword nominals they appear in various locations. In some, they attach to the first word, the nonhead, as in (2)a; in others, they attach to the last word, the apparent head of the construction, as in (2)b.

(2) a. **kä**-t**ɨ**ll**ɨ**k'-u bet PreP+[Adj N] = PreP+A N
from-big-DEF house
'from the big house'

b. mist-u-n **bä**-mä-gdäl PreP+[NP VN] = NP PreP+VN
wife-his-ACC by-NOML-murder
'by murdering his wife' (Leslau 1995:400)

Example (3) illustrates perhaps the most surprising morpheme placement of all: when the understood complement of the "preposition" is a noun modified by a relative clause, the "preposition" appears apparently inside the relative clause, between the verb and its object.

(3) s**ɨ**r-atʃtʃäw-**ɨ**n **lä**-tʃ'ärräs-u-t särratäññ-otʃtʃ PreP+[[NP V] N] = NP PreP+V N
work-their-ACC to-finish-3PL-DEF worker-PL
'to the workers who have finished their work' (Leslau 1995:89)

It is very hard to derive the order in (3) by any plausible series of syntactic movements starting from the assumption that *lä* 'to' is a preposition. We show, however, that it can be deduced from the view that *lä* is a case marker inserted at PF, given a series of independently motivated assumptions built around the idea that the case marker is spelled out on the highest word in the case-marked nominal. No previous work has given a unified analysis of the position of prepositions inside complex nominals of this type—including Tremblay and Kabbaj (1990).

2 A Closer Look at the Typological Puzzle

Apart from (1), Amharic is a rather well-behaved head-final language in the sense of Greenberg 1966, Dryer 2007, and many others. For example, Amharic has SOV word order, with complements only very rarely scrambling to post-verbal position (Kramer and Eilam 2012):

(4) Almaz bet-u-n ayy-ätʃtʃ **Obj < V**
Almaz house-DEF-ACC see-3FS
'Almaz saw the house.'

Similarly, lexical verbs precede auxiliaries, showing that VP complements come before V heads and/or that VP comes before functional heads like T and Aspect.

(5) bä-t'ɨnt gize bä-mäk'a bɨ'ɨr **yɨ-s'ɨf-u** **näbbär** **V < Aux**
in-ancient time with-reed pen 3-write-PL AUX
'In ancient times, they wrote with reed pens.' (Leslau 1995:316)

Even CP complements come before the matrix verb in Amharic, as shown in (6).

(6) [ɨnnat-u ɨndä-mot-ätʃtʃ] tɨnantɨnna sämm-a **CP < V**
mother-his that-die-3FS yesterday hear-3MS
'He heard yesterday that his mother died.' (Leslau 1995:743)

Other typical head-final properties of Amharic include the fact that it has a sentence-final question particle (*wäy* ; Leslau 1995:769; perhaps a head final CP), that genitive DPs precede the associated nouns (Leslau 1995:191-192), that relative clauses come before the head noun (see (3)), that manner adverbs precede the verbs they modify (Leslau 1995:368), and so on.

In fact, Amharic is even a prototypical head final language in that it is has postpositions—the PP coming before the verb, as expected. Two examples of this are given in (7).[2]

(7) a. mäs'haf-u [t'äräp'p'eza-w **sɨr**] näw **DP < P**
book-DEF table-DEF under is
'The book is under the table.' (Leslau 1995:625)

b. lɨbs-otʃtʃ [sat'ɨn **wɨst'**] natʃtʃäw
clothes-PL box inside are
'The clothes are inside the box.' (Ayalew 2006:81)

The only salient word order anomaly, then, is that Amharic also has prepositions, as shown in (1). (8) is another example, with two putative prepositional phrases used in a complete sentence.

(8) Tom [**lä**-gubɨññɨt] [**wädä** ityop'p'ɨya] hed-ä
Tom for-visit to Ethiopia go-3MS
'Tom went to Ethiopia for a visit.' (Ayalew 2006:79)

Adopting a terminology that is both mnemonic and somewhat theory neutral, we refer to the P-like elements in (1) and (8) as PrePs, with the relationship between this category and the familiar syntactic category of adposition to be determined.

To deepen this mystery just a little more, we point out that having OV word order along with prepositions is the rarest kind of mixed word order; it is found in only 14 of 1142 languages surveyed in Dryer (2011a).[3] Moreover, of the 14 languages with this order that Dryer identifies, none could be considered as otherwise typical an SOV language as Amharic is. Three of them are OVS, rather than SOV, one of the rarest overall word orders (11 out of 1377 languages; Dryer 2011b). In 12 out of 14, the genitive follows the noun, at least optionally, whereas this is ungrammatical in

[2] Many postpositions in Amharic were historically location-denoting nouns, rather than members of category P (Leslau 1995). There are reasons to think that not all postpositions are synchronically nouns in Amharic (see Tremblay and Kabbaj 1990), but their relationship to nominals does play a role in our analysis. See section 5.5 for discussion.

[3] The fourteen languages are Neo-Aramaic (Jewish Arbel), Kuku-Yalanji, Tigre, Iraqw, Persian, Kurdish, Tajik, Tobelo, Sorbian, Päri, Tapieté, Tigrinya, Tuvaluan and Mangarrayi.

Amharic. In 13 out of 14, one or more NP-internal modifier (adjective, numeral, relative clause) can follow the noun, unlike Amharic.[4] Amharic, then, looks to be a rare language among rare languages. It has mixed word order in that it has OV order and prepositions, but does not display mixed or variable word order along other dimensions, as superficially comparable languages do.

The mixed word order of OV together with prepositions is also particularly problematic for theoretical approaches to mixed word order. The opposite mixture of having postpositions in a VO language is three times as common (42 of 1142 languages; Dryer 2011a), and it could have a relatively straightforward syntactic derivation: one can say that heads are always generated before their complements (hence VO), but DPs move leftward within PPs, perhaps to SpecPP, to give DP-P order on the surface. But the opposite derivation does not work to give an Amharic-like language. One might say that heads are always generated after their complements (hence OV), but it is not very plausible to say that DP moves rightward inside PP to give a derived order of P-NP, since the plausible landing sites for such a movement (the specifier of PP or some extension of P; adjoined to PP or to some extension of PP) should all be on the left in a language like Amharic. (Note that Amharic has initial subjects (SOV, possessor-noun) and initial adjoined modifiers (Adv-V, Adj-N).) Similarly, some versions of the Final-over-Final Constraint of Biberauer et al. 2007, etc. would allow for head final PPs inside head initial VPs, but not for head initial PPs inside head final VPs.

In short, the existence of prepositions in Amharic is typologically anomalous and difficult to account for theoretically. It should be good news, then, that we claim that Amharic does not actually have prepositions, because then these difficulties might dissolve. We defend the following thesis:

(9) "PrePs" are **semantic case markers**, marking nouns as standing in a specific semantic relation to the predicate (e.g., instrumental, locative, ablative, etc.).

The remainder of the paper presents more direct evidence for (9), and explains in more detail how it opens up a solution to the issues of word/morpheme order in (2) and (3).

3 Prepositions are Case Markers, Not Adpositions

Before facing the central problems of morpheme order in Amharic head on, we provide preliminary support for (9) by comparing the PrePs to postpositions on the one hand, and to an uncontroversial case affix on the other hand, expanding on some lines of argument sketched in Hetzron 1970 and Tremblay and Kabbaj 1990.

With respect to structural case marking, Amharic is a fairly typical nominative-accusative language (see Leslau 1995, Baker 2012, among others). Nominative is morphologically unmarked, whereas accusative case is marked overtly (only) on determined direct objects by the suffix *–n*.[5]

(10) Almaz-**∅** bet-u-**n** ayy-ätʃtʃ (= (4))
Almaz-**NOM** house-DEF-**ACC** see-3FS
'Almaz saw the house.'

[4] All statistics on these languages are from the relevant chapters in the *World Atlas of Language Structures* (Dryer and the *WALS* author team 2011a-n)

[5] Two other morphemes that one might consider to be structural cases (sometimes) in Amharic are dative *lä-* and genitive *yä-*. Both are prefixal, like (other) PrePs, not suffixal like accusative *–n*. Therefore we classify them as members of the category of PreP that is under investigation here, and not as outside points of comparison.

The accusative marker –*n* and the postpositions are similar in terms of gross morpheme order: both follow the associated noun. It is plausible, then, to think that differences in their grammatical behavior are directly attributable to fundamental differences between a case morpheme and a true adposition. We can then compare the morphosyntactic properties of PrePs to those of both the accusative case marker and the postpositions. In every relevant respect, the PrePs pattern like the accusative case marker and not like the postpositions. We take this as showing that the PrePs are also case morphemes rather than true adpositions.

Consider, for example, morphophonological evidence concerning wordhood, along the lines of Zwicky 1985. There is good evidence that the accusative case marker is a suffix or enclitic, not a morphophonological word in its own right. It is prosodically too small to be a word (just a single consonant, which is not a possible syllable type in Amharic (Mullen 1986, Gebeyaw 2001)) and it never stands on its own, without attaching to a nominal. As is typical for affixes, it undergoes processes of internal sandhi to accommodate to phonological properties of the preceding noun. For example, a central vowel is inserted before it by epenthesis if and only if the noun ends in a consonant:

(11) a. G**ɨ**rma-n
Girma-ACC

b. Almaz-**ɨ**n
Almaz-ACC

Another relevant property of the accusative marker is that it cannot scope over the two DPs of a conjoined direct object; rather, it must be repeated on each conjunct (cf. Miller 1992 on this test).[6]

(12) a. gäbäre-w-**ɨn** **ɨ**nna mämh**ɨ**r-u-**n**
farmer-DEF-ACC and teacher-DEF-ACC
'the farmer and the teacher (acc.)'

b. *gäbare-w **ɨ**nna mämh**ɨ**r-u-n
farmer-DEF and teacher-DEF-ACC

c. *gäbare-w-**ɨ**n **ɨ**nna mämh**ɨ**r-u
farmer-DEF-ACC and teacher-DEF

Postpositions occur immediately to the right of a noun, like the accusative case marker . However, unlike –*n*, postpositions are morphophonologically independent from the noun. They are full words, always consisting of at least a bimoraic foot (e.g., *lay* 'upon', *at'ägäb* 'near', 'behind', *zuriya* 'around'—one possible exception is *ga* 'by, near' but the final [a] may be long (Mullen 1986:133)). Many if not all postpositions can also stand alone without an NP complement, as in (13).

[6] An anonymous reviewer reports that (12b) is, although not necessarily perfect, better than (12c). However, three out of four consultants do not share this judgment, judging (12b) as clearly ungrammatical. It may be that the reviewer and the outlier consultant have a marginal reading of 'the farmer and the teacher' as a conjunctive/dvandva compound; such compounds are connected by an overt conjunction in Amharic (Leslau 1995:247-248). If so, the entire compound would count as one morphological word like other compounds and we predict that the case marker would attach to the final member of the compound (although it remains mysterious why both nouns have the definite marker); see Section 5.2.

(13) mäs'haf-u-n kä-sɨr wässäd-ä -w
book-DEF-ACC from-under take-3MS-3MS.O
'He took the book from underneath.'

Moreover, postpositions do not trigger or undergo any morphophonological processes related to the noun. For example, Amharic avoids vowel hiatus within words; typically, one of the two vowels in contact is deleted. For example, in (14) the noun ends in the vowel [a], the possessive suffix begins in the vowel [a]. These two [a]'s simplify down to a single [a].

(14) gwaddäññ<u>a</u> + <u>a</u>tʃtʃäw = gwaddänn<u>a</u>tʃtʃäw
friend their friend-their (Appleyard 1995:24)

But this is not what happens at the juncture between a noun and a postposition. When a vowel-final noun precedes a vowel-initial postposition, both vowels are retained, as in (15).

(15) Addis Abäb<u>a</u> <u>a</u>t'ägäb *Addis Abäb<u>a</u>t'ägäb
Addis Ababa near
near Addis Ababa

Postpositions also never trigger allomorphy in the noun that they are adjacent to, suggesting that they are not in a close enough morphological relationship with the noun to affect its form.

Furthermore, a postposition can appear only once after a conjoined DP, and still be understood as governing both conjuncts, unlike the accusative *–n* in (12).

(16) [t'äräp'p'eza-w ɨnna alga-w] lay
table-DEF and bed-DEF on
'on the bed and the table'

(It is also possible to have *lay* repeated after both conjuncts in an example like (16); this is simple PP coordination and does not help to distinguish a postposition from a case marker, as in (13).) A postposition can also be conjoined with another postposition, the two taking a single DP complement, as shown in (17).

(17) Almaz-ɨn bet-u wɨst'-ɨnna wɨtʃ'tʃ' ayyä-hw-at
Almaz-ACC house-DEF in-and out see-1S-3FS
'I saw Almaz inside and outside the house.' (cf. Tremblay and Kabbaj 1990:172)

How then do PrePs compare to accusative *-n* and postpositions in these respects? The answer is that they are like *-n* and unlike postpositions in every respect. First, they are capable of being prosodically smaller than postpositions: the majority consist of only one light syllable, i.e., smaller than a bimoraic foot (*kä, bä, ɨ*). This is smaller than a minimal prosodic word in most languages. PrePs also are incapable of appearing without a host on which to lean, most often an NP (but also potentially a postposition, as in (13)). Moreover, PrePs do participate in word-internal morphophonological processes, such as vowel deletion:

(18) lä + Almaz = [lalmaz]
to Almaz (Appleyard 1995:41)

PrePs can also trigger allomorphy of their hosts. For example, demonstratives display suppletive allomorphy when immediately preceded by PrePs, as shown in (19)b.

(19) a. **yɨh** bet
this house

b. bä-**zzih** bet
in-this house (Appleyard 1995:33-34)

Like accusative *–n* , PrePs cannot scope over a conjoined DP, but must be repeated on each conjunct:[7]

(20) a. **kä**-gäbäre-w ɨnna **kä**-mämhɨr-u
from-farmer-DEF and from-teacher-DEF
'from the farmer and the teacher'

b. *kä-[gäbäre-w ɨnna mämhɨr-u]
from-farmer-DEF and teacher-DEF

c. *gäbäre-w ɨnna kä-mämhɨr-u
farmer-DEF and from-teacher-DEF

And unlike postpositions, two PrePs cannot be conjoined and then combine with a single DP complement:

(21) *wädä-nna kä-bet-u hed-ku
to-and from-house-DEF go-1S
Intended: I went to and from the house. (Tremblay and Kabbaj 1990:172)

We conclude that "prepositions" are very much like the known case marker with respect to morphophonological concerns and are quite different from postpositions.

Another notable difference between PrePs and postpositions emerges by examining nominals with multiple APs. The accusative case marker must be present on the first AP inside a complex nominal phrase, and it is repeated on the second AP if and only if the definite marker *–u* is (see Kramer 2009, 2010).

[7] Again, an anonymous reviewer reports that (20b) is not as bad as (20c). Two out of four consultants share this judgment, whereas the other two report that (20b) is ungrammatical. The generalization that covers both (12) and (20) is that it is best to have the case marker present on both conjuncts, it is marginal to have it only at the relevant edge of the conjoined DP as a whole (at the end for a suffix like *–n*; at the beginning for a prefix like *kä-*), and it is totally out to have the case marker appear only internal to the conjunct. It seems unsurprising that (20b) is better than (20c), perhaps because 'farmer and teacher' can be understood as a compound by some speakers (see footnote 6).

(22) t**ɨ**nn**ɨ**ʃ-u-**n** k'onjo-(w-**ɨn)** bet
small-DEF-ACC pretty-(DEF-ACC) house
'the small, pretty house (acc.)'

PrePs show the same doubling/concord behavior: they are required on the first AP, and they can also be repeated on the second AP if and only if the definite marker *–u* is (cf. Tremblay and Kabbaj 1990).

(23) **kä**-t**ɨ**nn**ɨ**ʃ-u (**kä**-)k'onjo-w bet
from-small-DEF (from-)pretty-DEF house
'from the small, pretty house'

In contrast, postpositions cannot be repeated inside the same nominal phrase, wherever one tries to put the second instance of the postposition and regardless of the definiteness marker *-u*. One example illustrating this is in (24).

(24) *t**ɨ**nn**ɨ**ʃ-u **w**ɨ**st'** k'onjo-w bet **w**ɨ**st'**
small-DEF inside pretty-DEF house inside
Intended meaning: 'inside the small, pretty house'

The ungrammaticality of (24) is expected if the postpositions are real, semantically relevant heads in the syntax. Then each instance of a postposition like *wɨst'* should assign its own thematic role, and there are two instances of the postposition only if there are two distinct DP arguments that can function as their complements. In contrast, then, (23) suggests that PrePs like *kä* are not semantically relevant heads in the syntax, consistent with the view that they are inserted only at PF. We conclude that the PrePs behave like case markers in that they participate in DP-internal doubling/concord, whereas the postpositions behave like independent syntactic heads (cf. Nikanne 1993 on Finnish case markers).[8]

Finally, there are basic distributional differences between the PrePs and the postpositions that suggest that they have quite different syntactic statuses. The postpositions always come after the nominal as a whole, as one would expect. This is just as true if the nominal is modified by an adjective ((26)) or by a relative clause ((27)) as if the nominal consists only of a simple noun ((25)).

(25) mäs'haf-u [t'äräp'p'eza-w **s**ɨ**r**] näw (= (7)a)
book-DEF table-DEF under is
'The book is under the table.' (Leslau 1995:625)

(26) mäs'haf-u [t**ɨ**ll**ɨ**k'-u t'äräp'p'eza **s**ɨ**r**] näw
book-DEF big-DEF table under is
'The book is under the big table.'

[8] We do not develop a full account of DP-internal concord/doubling here, but see footnote 39 for some further observations. See also Kramer 2009, 2010 for some thoughts on how concord is accomplished in Amharic.

An anonymous reviewer observes that a PreP is required on each part of an appositional nominal like 'I have written to my friend, *(to) the chief clerk, *(to) Ato Bellete'. While interesting, we take this to be a different phenomenon from the distribution of PrePs within a single basic DP.

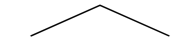
(27) mäs'haf-u [G**ɨ**rma yä-gäzz-a-w t'äräp'p'eza **sɨr**] näw
book-DEF Girma C-buy-3MS-DEF table under is
'The book is under the table which Girma bought.'

In contrast, we saw in (2) and (3) there is nothing simple about where PrePs appear in a complex nominal: they can come before the first word in the nominal ((2)a), or before the last word ((2)b), or even before the middle word out of three ((3)). This also suggests that PrePs are quite different morphosyntactic animals from postpositions. The proposal that PrePs are case markers rather than adpositions gives us a distinction we can use to develop an account of these differences.

4 The Basics of the Semantic Case Analysis

The first step is to clarify just how the category of semantic case is represented grammatically. There are still dangers for us to avoid in this. Simply saying that an element like *lä* or *bä* is a case marker rather than an adposition does not automatically solve the puzzle about morpheme order that we presented in Sections 1 and 2. One widespread view in the generative literature is that semantic case is a functional category K(ase) that heads its own projection (Lamontagne and Travis 1987, Bittner and Hale 1996, Guerssel 1992, Tremblay and Kabbaj 1990), as sketched in (28).

(28)



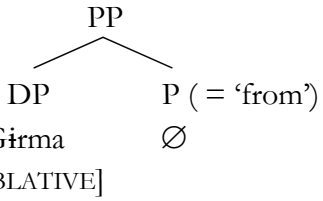
K DP = *kä-G**ɨ**rma* 'from Girma'
kä G**ɨ**rma

One positive feature of this view is that *kä-* is represented in the syntax, so it can be interpreted semantically at LF. That is important, because we need to get from somewhere the meaning 'from' that pretheoretically is signaled by *kä-*. But a disadvantage of (28) is that this approach simply moves the problem of disharmonic word order in Amharic to a different category. It is presumably just as problematic to say that otherwise head-final Amharic has head-initial KPs as to say that it has head-initial PPs.[9] So the potential for a uniform theory of word order that is opened up by realizing that *kä-* and its peers are case markers rather than adpositions is not realized in this version.

Instead of (28), then, we propose that the syntax of Amharic includes a series of null Ps (with meanings like 'from') that govern DP complements—as suggested by Emonds 1985, 1987, Guerssel 1992, Nikanne 1993, and others for languages like German, Berber, and Finnish. The null Ps then assign particular case features (lexical or inherent case) to their nominal complements; for example "ablative" is assigned by the null P that means 'from'. On this view, the syntactic representation of *kä-G**ɨ**rma* would be (29).

[9] Here we aspire to do better than Hetzron 1970 and Tremblay and Kabbaj 1990, who also argue that PrePs are case markers rather than adpositions, but do not really explain their grammatical distribution in these terms. Tremblay and Kabbaj (1990) only appeal to the lexical-functional distinction, without discussing why functional heads like K should be placed differently than lexical heads like P. Hetzron (1970) assumes that PrePs are case markers and focuses on how they are interpreted in conjunction with certain verbal suffixes; he does not advance an analysis of their morphosyntactic distribution.

(29)



The crucial difference is that "ablative" is not a functional head; hence it is not regulated by the headedness parameter, however that is encoded. Rather, it is a feature, which is then realized as a morpheme that can in principle be either a prefix or a suffix (ablative is a prefix, but accusative is a suffix).[10] The case feature on DP is then realized post-syntactically as a dissociated morpheme somewhere inside the PF realization of that DP (McFadden 2004; cf. Marantz 1991). For example, the feature [+ABLATIVE] triggers the insertion of the prefix *kä-*. Meanwhile, only a null vocabulary item is inserted under the P node, by hypothesis. Therefore, the syntactic representation in (29) is realized at PF as [kä-Gɨrma].

Before fleshing out more precisely just how the dissociated morpheme is spelled out on the nominal complement of P, we point out some initial advantages of this approach. First of all, the word order problem is solved: since the P in (29) is phonologically null, we can safely say that it is a postposition, just as all overt Ps are in Amharic. Amharic is then a uniformly head final language in its syntax. The apparently anomalous elements turn out not to be syntactic heads at all, but rather dissociated morphemes not present in the syntax. However, if we said that PrePs are case markers inserted at PF without positing a null P, then we would have no account of where the meaning 'from' comes from at LF. Saying that there is a null P in the syntax that indirectly triggers the visible case morpheme at PF solves this problem, because the P can be interpreted at LF.

Having a null P in the syntax is consistent with the fact that nominals with PrePs have the same syntactic distribution as PPs that contain overt postpositions (cf. McFadden 2004). For example, both can serve equally well as the complement of a motion verb, as shown in (30).

(30) a. Almaz [bet wɨst'] gäbb-atʃtʃ
Almaz house in enter-3FS
'Almaz went inside the house.'

b. Almaz [bä-bet] gäbb-atʃtʃ
Almaz via-house enter-3FS
'Almaz entered via the house'

Nominals with semantic case markers can even be coordinated with postpositional phrases:

(31) mäs'haf-u [bä-bet-u] ɨnna [alga-w lay] näw
book-DEF in-house-his and bed-his upon is
'The book is in his house and on his bed.'[11]

This equivalence is, of course, why the semantic case markers have been analyzed as adpositions within the previous Amharic literature. We can continue to maintain that locations are expressed by

[10] See also Hetzron 1970, who proposes that PrePs are inserted to realize semantic features present at deep structure.
[11] Thanks to Jochen Zeller for asking about these structures.

PPs, that motion verbs and the copula select PPs, and so on. Such statements do not distinguish phrases that contain postpositions from phrases that contain PrePs in Amharic on this view.[12]

Finally, the analysis predicts that it should be possible to have an overt P that takes a case-marked complement. Although the P happens to be null in (29), this is presumably a special case. Nothing precludes a P with morphophonological content from also triggering the insertion of a case marker on the DP. We therefore could find a postpositional phrase in which the nominal complement of P is semantically case marked. Indeed, such phrases are quite common in Amharic:

(32) a. kä-wändɨmm-u gar
ABL-brother-his with
'with his brother' (Leslau 1995:653)

b. bä-zɨnab mɨkɨnɨyat
LOC-rain because
'because of rain' (the game was delayed) (Leslau 1995:623)

In (32)a, the overt P is *gar* and its complement 'his brother' is case-marked with *kä-*; in (32)b the overt P is *mɨkɨnɨyat* and its complement has the inherent case marker *bä-*. Judging by Leslau (1995), these are the two most common cases assigned by postpositions in Amharic, in that nonlocative postpositions that appear with only one PreP always appear with one of these two PrePs. In contrast, locative postpositions generally occur with a whole range of PrePs, with different meanings derived compositionally. This points to a more articulated PP structure for location-denoting phrases, which we return to in Section 5.5. For now, however, we can see that nonlocative *gar*, is like the null P 'from' in (29) in that it triggers the insertion of a particular semantic case marker (ablative) on its complement at PF.

Overall, then, the analysis has promise in that it addresses the word order puzzle that we started with, it allows for the proper distribution of PPs within Amharic, and it makes accurate predictions about the co-occurrence of postpositions and semantic case markers in the language.

5 How the case marker is inserted postsyntactically

Now we come to the heart of the matter: showing that a reasonable account of the placement of a PreP inside a complex nominal can be given in terms of the proposal in (9), whereas we foresee no plausible account forthcoming from an alternative analysis that takes PrePs to be head-initial Ps in the syntax with parts of the nominal undergoing syntactic movement.

First we make explicit two assumptions from the Distributed Morphology literature. The first is simply that morphological operations occur post-syntactically on the PF branch. The second is that case morphemes are inserted post-syntactically (McFadden 2004, Marantz 1991), on the PF branch of this derivation. The question, then, is how exactly does the post-syntactic insertion of case markers happen in Amharic? The most obvious placement rules do not work in this instance: it is not correct to say that the case affix always attaches to the first word of the phrase, or to the last word of the phrase, or to the (apparent) head of the phrase, namely the noun.

[12] But see section 5.5 for a refinement, in which postpositions generally express "place" whereas PrePs express (indirectly) path functions.

5.1 Insertion of PreP on the highest word in the nominal

In pursuing a principled theory of the placement of PrePs in Amharic, it is useful to realize that PrePs are not the only elements that have a complex distribution within the Amharic nominal. Another element that shows up in different places depending on the internal structure of the nominal is the suffixal definiteness marker *–u* (see Kramer 2009, 2010 and references cited there).

To a striking degree, this element *–u* appears on the same word in the complex nominal as the PreP does, as shown below. Therefore, we set it as a goal of our account that it should determine the placement of both the definiteness marker and the PreP. This will give our account nontrivial generality, since it applies to suffixes (*-u*) as well as prefixes (the PrePs), and to definiteness features as well as case features.[13] Mechanically, we can say that D in Amharic is a null head too (as many Ps are) but it assigns the feature [+DEF] to its NP complement. [+DEF] then is another dissociated feature, to be placed by the same PF rule (This is a departure from the analysis of definite markers developed in Kramer 2009, 2010; see Section 6 for how to connect the two approaches).

With this goal in mind, the correct generalization, we claim, is approximately as follows: if a feature F is associated with a nominal X, it is attached to *the highest* full word in X. By the expression "full word", we mean a stem together with the affixes and clitics that attach to it, a *morphological word* (m-word) in the sense of Embick and Noyer 2001. This is a potentially complex head that is not dominated by a further head projection. Which m-word is the highest in a given nominal is then determined in terms of c-command. The rule that inserts case markers can thus be stated in preliminary fashion as in (33) (to be revised below).

(33) **Insertion Rule (preliminary version)**
If feature F is to be inserted within constituent X, then attach F to the m-word Z such that Z asymmetrically c-commands all the other m-words in X.[14]

Let us see, then, how (33) accounts for the distribution of both PrePs and *-u*. First, and most straightforwardly, when there is a single m-word in the nominal—the simple noun—then both the definiteness marker and the case marker trivially attach to that m-word. This can be seen in (34).

(34) a. [bet-u]
house-DEF
'the house'

b. kä-[bet]$_{MWd}$
from-house
'from a house'

This is, of course, what one would expect on almost any view.

More interesting is the case when the DP contains an attributive adjective, as in (35). Here both the definiteness marker and the PreP attach to the adjective, not to the head noun.

[13] A more obvious comparison would be with the accusative *–n*, compared pretheoretically with PrePs in Section 3. However, we believe that the realization of *-n* in a nominal is contingent on the realization of *-u* in the structure; see the appendix for discussion. Given this, PreP and *-u* is the more direct comparison from a theoretical point of view.

[14] It is crucial in this approach that morphological operations apply cyclically from the bottom up, so that complex m-words are already formed by the time the case marker is inserted (see e.g., the compounds in Section 5.2). This may raise some technical issues about cyclicity and the timing of the insertion of the case marker that we do not investigate here.

(35) a. tɬllɬk'-u bet
big-DEF house
'the big house'

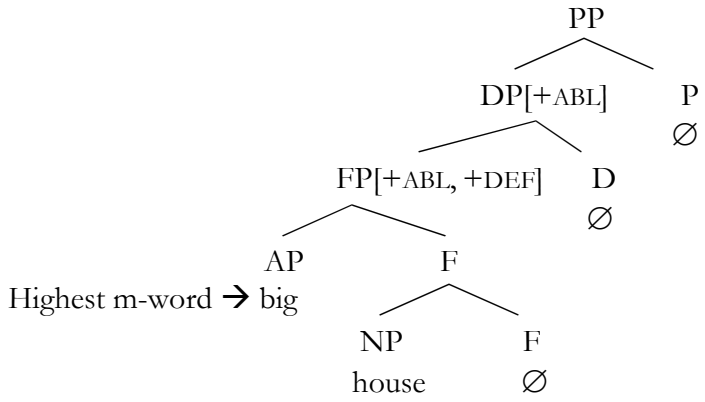
b. **kä**-[tɬllɬk']$_{MWd}$ bet
from-big house
'from a big house'

c. **kä**-[tɬllɬk']-u bet (= (2)a)
from-big-DEF house
'from the big house'

The PreP placement in (35)b by itself is not very striking: it is just what we would expect if it was an ordinary preposition, as descriptive treatments say. But the placement of the definiteness suffix is striking, since it goes on the modifier, not on the head noun. It is clear, however, that both go on the same word.

To account for these examples, we may suppose that adjectives are generated as the specifiers of designated functional heads in the extended projection of the nominal, following Cinque (1994, 2009).[15] Then the syntactic structure of (35)c is as in (36).

(36)



In this structure, the A(P) 'big' asymmetrically c-commands the N(P) 'house,' assuming that the A(P) is both a minimal and maximal category along the lines of Bare Phrase Structure (Chomsky 1995, etc.).[16] Therefore, the A(P) counts as the highest m-word in the nominal (the D head being null).

[15] We assume this for clarity and convenience, but other plausible structures might give the same effect. The other most plausible analysis of simple attributive adjectives is that they adjoin directly to the NP (as in Baker 2003, among others). Then how the insertion rule in (33) applies depends on details of c-command in adjunction structures. The potential problem to be avoided would be if the A and the N were in a mutual c-command relationship, because then (33) would not say which word the case marker affixes to. But Kayne's (1994) definitions do imply that an adjunct asymmetrically c-commands the head of the constituent to which it is adjoined. Under that understanding, (33) would also give the right result when applied to a structure that does not have the abstract head F in (36) but has A(P) adjoined directly to N(P).

[16] This naturally raises the question of where the preposition goes when the AP is not simultaneously maximal and minimal, when there is other material within the AP. On this matter, see Section 6.

Therefore, the affixes are attached to this word, *kä-* spelling out the [+ABLATIVE] case feature as a prefix, and *–u* spelling out the [+DEFINITE] feature as a suffix. This gives the data in (35).[17]

If a noun is modified by a series of adjectives, then (33) predicts that the case marker and the definiteness marker will necessarily attach to the leftmost adjective in the sequence of adjectives, assuming the normal right-branching structure, with specifiers (or adjuncts) consistently on the left of the modified constituent. (37) shows that this is correct.[18]

(37) **kä**-t̠ɨnnɨʃ-u k'onjo bet
from-small-DEF pretty house
'from the small, pretty house'

Again, the position of the definite suffix is more noteworthy than the position of the P here.

The example in (19)b of a PreP with a nominal containing a demonstrative can be explained along the same lines. Demonstratives always precede the nouns they are associated with in Amharic. (In fact, they precede relative clauses, adjectives and possessors as well.) This makes it unlikely that the demonstrative is the head of a head-final Demonstrative Phrase (or DP). A more plausible idea is that the demonstratives are specifiers of some high projection, possibly DP (see Giusti 1997, 2002, Brugè 1996 for similar conclusions in Romance, and Kramer 2009, 2010 for discussion in Amharic). As a simultaneously minimal and maximal category in a high specifier position, the demonstrative asymmetrically c-commands the head noun. Therefore the case marker attaches to the demonstrative, as in (19). (The definiteness marker *–u* should also be spelled out on the demonstrative word, but +DEF is spelled out as Ø rather than as *–u* on words that are intrinsically definite, so this is not visible; see note 20.)

This account also works in a straightforward manner for nominals that contain possessors. It is normally assumed that the possessor is the specifier of some phrase that properly contains the possessed noun, although the exact head varies in different accounts (a special possessive D, N itself (or *n*), or some intermediate head Poss). Whichever specific version is adopted, the possessor asymmetrically c-commands the possessed noun. Therefore it is the highest m-word, and the PreP must affix to it, rather than to the possessed noun. This is shown in (38) with the analysis in (39).[19]

[17] A reviewer wonders whether a Lowering operation (Embick and Noyer 2001) would suffice to describe the distribution of the PreP and definite marker. As noted in Kramer 2010, a (non-stipulative) Lowering approach requires that D take an AP complement, and that A take an NP complement. This structure cannot be correct for Amharic, though, since prenominal adjectives can take PP complements (see (79)).

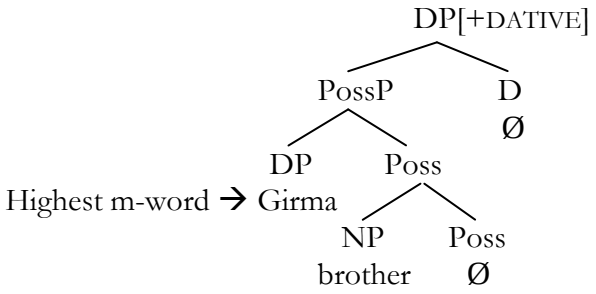
[18] In addition, both the definiteness marker and the PreP can optionally be repeated on the second adjective, if the adjective is also definite-marked. Accounting for this possibility requires some extra assumptions. See Section 3.

[19] (38) does not include the possessive marker *yä-*, seen in (40). In (38), the prefix *yä-* is deleted at PF when it immediately follows a PreP. This is a kind of haplology, which is a general process in Amharic; see Leslau 1995:89. We leave open just what *yä-* is in (40), especially since it has inspired a fair amount of controversy in the Amharic literature (see e.g., Ouhalla 2004, den Dikken 2007). For the cases at hand, we tentative analyze it as a genitive case marker, realizing the case feature assigned to the possessor by an abstract POSS head (see (39)).

This hypothesis does not, however, account for the fact that genitive *yä-* is homophonous with a morpheme found on the verb in relative clauses; see (59) below. This morpheme seems like a complementizer (and we gloss it as such), but we do not take an official stance on whether complementizer *yä-* and possessive *yä-* are two versions of the same morpheme (as argued in e.g., den Dikken 2007). Interestingly, both the complementizer and possessive versions undergo haplology in the context of a PreP; see (58) below.

(38) **lä**-[G**ɨ**rma]$_{MWd}$ wändi**ɨ**mm
to-Girma brother
'to Girma's brother'

(39)



Similarly, in possessive structures the definiteness marker *–u* can affix to the possessor but not to the possessed noun, as shown in (40).

(40) yä-tämari-w mäs'haf (*yä-tämari mäs'haf-u)
GEN-student-DEF book GEN -student book-DEF
'a/the book of the student; the book of a student (for some speakers)'

Here it is not entirely clear whether the *–u* suffix on the possessor 'student' is the manifestation of definiteness on the nominal 'student' or of definiteness on the larger nominal 'book of a/the student.' Ouhalla 2004 and den Dikken 2007 argue for the former, whereas Hartmann 1980 and Leslau 1995 have observed the latter; our consultants have mixed judgments. We tentatively assume that the nominal has either meaning. If it is the possessor that is definite, then *–u* is simply spelled out on the only overt word in that nominal 'student', as in (34)a. If the nominal as a whole is definite, then *–u* is spelled out on the highest word of the larger nominal, namely the possessor, just as *lä-* is in (38). If both are definite, then one might expect a series of two *–u*'s on 'student', one for each instance of [+DEF], but it is plausible to say that such a sequence reduces down to a single token of *–u* by a form of haplology that is common in Amharic and many other languages (see Kramer to appear). One thing that is clear is that *–u* cannot be spelled out on the possessed noun 'book' in the presence of the possessor, any more than the PreP can.[20] This follows if the possessed noun is not the highest word in any DP. Again we see that the case prefix and the definite suffix target the same word.

If both a possessor and an adjective are in the same DP, Amharic allows two word orders: both [Poss AP N] and [AP Poss N] are possible. When the possessor is initial, we assume that the Poss head selects an FP complement with an AP specifier. This is the more neutral order. When the AP is initial, it is focused. We therefore assume the AP has undergone focus-related movement to a higher specifier (possibly SpecDP; see Demeke 2001, den Dikken 2007 on AP fronting). The highest m-word in the possessor-initial order is therefore the possessor, whereas in the AP-initial

[20] It is, however, bad to realize [+DEF] as *–u* on a proper noun, to give a form like *yä-G**ɨ**rma-(*w) mäs'haf* 'the book of Girma'. Ouhalla (2004) very reasonably takes this to be evidence that *–u* always represents the definiteness of the possessor, not the definiteness of the nominal as a whole. But an alternative interpretation, just as good as far as we can see, is to say that [+DEF] is realized as the suffix *-u* on common nouns and adjectives, but as *–Ø* on words that are intrinsically definite, including proper nouns, pronouns, and demonstratives. The same spell out rule explains why simple names do not bear *–u*, despite being definite.

order it is the A(P). As (33) predicts, the PreP and *–u* both attach to the highest m-word in either order: the possessor in (41), and the A(P) in (42).

(41) **bä**-diräktär-u addis mäkina **Possessor Initial**
in-director-DEF new car
in the new car of the director (Leslau 1995:195)

(42) **b**-addis-u yä-diräktär-u mäkina[21] **AP Initial**
in-new-DEF GEN-director-DEF car
in the NEW car of the director (Leslau 1995:195)

For the range of examples considered so far, a simpler rule would work, namely one that spells out the affixes on the first m-word in a DP constituent. But that simple version would not work for examples like (2)b, where the nominal consists of a verbal noun and its complement. In such examples, the definiteness marker ((43)) and the PreP ((44)) both attach to the verbal noun.[22]

(43) agär-**i**h mä-k'rät-**u**-n b**i**-tt**i**-wädd…
country-your NOML-stay-DEF-ACC if-2S-want…
'If you want to stay in your country…' (Leslau 1995:395)

(44) [mist-u-n **bä**-[mä-gdäl]$_{MWd}$] tä-kässäs-ä
wife-his-ACC against-NOML-kill PASS-accuse-3MS
'He was accused of murdering his wife.' (Leslau 1995:400)

This time it is the placement of the PreP that is more surprising than the placement of the definiteness marker. The definiteness marker could be seen as cliticizing to the right edge of the

[21] Note that the *–u* on the adjective in this example cannot be a realization of [+DEF] associated with the possessor, since that shows up as *–u* suffixed to 'director'. Therefore, it tends to confirm our assumption that the possessed nominal as a whole can be [+DEF] as well.

[22] An anonymous reviewer reports that a PreP can also appear prefixed to the object of a verbal noun, offering the example in (ia), which has "basically the same meaning" as (ib).

(i) a. bä-gänzäb mä-sräk' tä-kässäs-a
by-money NOML-steal PASS-accuse-3MS
'He was accused of stealing money.'

b. gänzäb bä-mä-sräk' tä-kässäs-ä
money by-NOML-steal PASS-accuse-3MS
'He was accused of stealing money.'

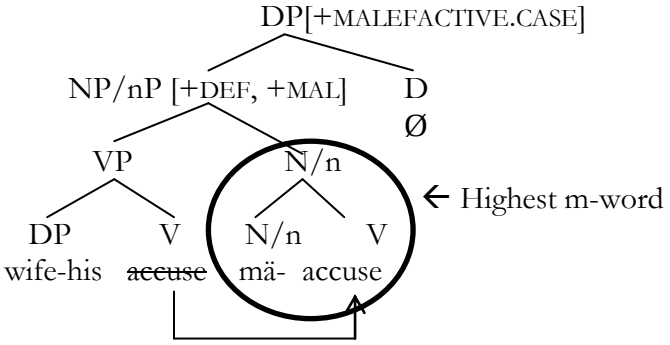
A potentially crucial difference between (ia) and (44) is that the object is a bare indefinite NP in (ia), whereas it is part of a larger DP in (44). Given this, it is plausible to say that 'money'+'stealing' is really a compound in (ia), so that the literal gloss should be 'He was accused of money-stealing'. If so, then *bä-* prefixes to the single m-word in the constituent, as expected. Then the alternation between (ia) and (ib) would reduce to the possibility of parsing certain strings either as a compound word or as a syntactic phrase, on which see section 5.2.

Our account then predicts that the PreP should prefix to the verbal noun if the complement of the verb is anything but a bare indefinite NP—e.g. if it is a pronoun, a proper noun, a determined NP, a PP, indeed anything that has the wrong category or too much internal complexity to be plausibly analyzed as the nonhead of a compound. This is borne out: attaching the PreP to 'his wife' in examples like (44) or to a pronominal complement of the verbal noun is ungrammatical.

definite nominal, but for the first time in this section we do not see the PreP attaching to the left edge of the nominal. Instead, it prefixes to the verbal noun, not its complement, even though the complement precedes the verbal noun. Nevertheless, the generalization that the PreP and the *–u* suffix attach to the same element holds true. Taken by themselves, examples like (43) and (44) might make it tempting to say that the case marker affixes to the head of the nominal, but that assumption is problematic for examples like (41) and (42).

However, our proposal in (33) can capture this whole range of data. We assume that these nominalized verbal constructions consist in the syntax of a VP (possibly extended by other projections) appearing as the complement of a head-final nominalizer, realized as *mä-*.[23] The head verb of VP then raises by head movement to combine with *mä-* in the syntax, forming a single m-word, as shown in (45).

(45)



As a result of this verb movement, the derived m-word (the complex head *mä-gdäl*) is the highest m-word inside the larger DP, asymmetrically c-commanding the object and anything else that may remain inside VP. Therefore, this is the word that the PreP and the definiteness suffix attach to.

We account for the fact that the PrePs (and *–u*) attach to the last word in verbal constructions but to the first word in simple nominals by saying that the verb moves into a higher head. To preserve this account, then, we also need to say that the head noun does *not* move to a high functional head. In particular, we need to say that the noun does not move into D in a structure like (36) or (39), since if it did it would presumably land in a position higher than the adjective or possessor, and the PreP would be spelled out on the noun. This assumption seems valid. In the simplest examples like *bet-u* 'the house' the definiteness marker *–u* (and its feminine singular version *-wa*) show up as suffixes on the noun, raising the possibility that N raises to D much like V raises to *mä-* in (45). But we have seen that the overall distribution of *–u* is considerably more complex, and cannot be explained in this way. In particular, it does not affix to the head noun in examples like (35) and (40); hence it gives no support for the idea that there is N to D movement in Amharic. Nor do we know of any other reason to say that this happens.[24] In contrast, *mä-* always affixes to the verb in a verbal noun construction—never to a complement or modifier associated with the verb. Thus, there is good reason to distinguish the two structures in the way that our account assumes.

[23]Amharic's nominalized verb is more like a (verbal) gerund in *–ing* than like a true derived nominal in English. For example, nominalized verbs take accusative marked direct objects, as in (44), can be modified by adverbs, and so on.

[24] See also Kramer (2009, 2010), who also argues that N does not move to D and that *–u* is the realization of D that gets attaches to a suitable host at PF.

5.2 When PreP and -u seem not to attach to the same element

We have seen that PrePs and the *–u* affix to the same word in a range of interesting cases. This need not be the first word, or the last word, or the head noun; rather we have argued that it is the highest word in the nominal. There are, however, a small number of constructions in which the two do seem to affix to different units. In this subsection, we briefly survey these apparent counterexamples, and argue that they do not seriously challenge our account.

The first apparent counterexample to our generalization comes from compound nouns. These come in two main sorts in Amharic, as in many other languages. One is a simple juxtaposition of two nouns, as in (46)a. The other has the form of a possessive construction, with genitive *yä-* preceding the first member of the compound, as in (46)b.

(46) a. hakim bet 'doctor house' = 'hospital'
b. yä-posta bet '(of) post house' = 'post office'

Now the definiteness marker *–u* suffixes to the last member of the compound ((47)), whereas the PreP prefixes to the first member of the compound ((48)).

(47) a. hakim bet-u 'the hospital' (*hakim-u bet)
b. yä-posta bet-u 'the post office' (also possible: yä-posta-w bet[25])

(48) a. wädä-hakim bet-u 'to the hospital' (*hakim wädä-bet-u, #wädä-hakim-u bet)
b. kä-posta bet-u 'from the post office' (*posta kä-bet-u; also possible kä-posta-w bet)

The 'post office' examples in particular are rather striking in that (46)b looks just like a possessive construction (see (40)), but (47)b does not, in that *–u* suffixes to the first member in a true possessive construction but to the last member of a compound in the form of a possessive construction. Moreover, (48)ab look like they have the PreP and the *–u* attached to different words.

However, these data pose very little problem from a theoretical point of view. Rather, we simply say that compounds of both types are (can be) a single unit in the syntax, dominated by a single N node. Then the nominals bearing the dissociated feature in (47) and (48) contain only a single morphological word. This is trivially the highest morphological word in the nominal, and both affixes attach to that word. Since the PreP prefixes to the compound as a whole, it shows up before the first part of the compound, and since *–u* suffixes to the compound as a whole, it shows up after the last part of the compound. Nothing more needs to be said. (Note also that there can be variation across speakers as to which examples are treated as compounds and which are (possibly idiomatic) phrases with internal syntactic structure; see note 25.)

Another case that we take to be similar is examples with complex numerals. If the numeral that modifies a noun consists (in some pretheoretic sense) of more than one word, then the PreP attaches to the first word of the complex and *–u* attaches to the last.

[25] The two possible realizations of 'post office' show that it is ambiguous between being a compound (simple N in the syntax, but with internal morphological structure) and being a genitive construction with a conventionalized/idiomatic meaning. If it is parsed as a compound, then the case prefix is at the beginning and the definiteness suffix is at the end; if it is parsed as a possessive construction, then both affixes attach to the possessor. Many examples in Amharic vacillate between these two parses, some speakers allowing one, some the other, and some both. We thank an anonymous reviewer for helpful clarification, and for providing the relatively unambiguous example *hakim bet*. In fact, even here *wädä-hakim-u bet* is possible, but it has only the compositional meaning 'to the doctor's house', not the lexicalized meaning 'to the hospital'. In contrast, there is no obvious semantic shift in the two parses of 'post office'.

(49) **lä**-and miliyon aratt mäto hamsa ʃih-**otʃtʃ-u** wättaddär-**otʃtʃ**
to-one million four hundred fifty thousand-PL-DEF soldier-PL
'to the 1, 450,000 soldiers'

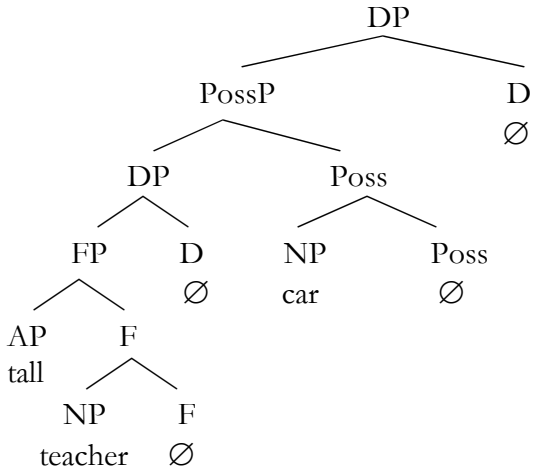
This is, of course, what we would expect if 'one million four hundred fifty thousand' is only a single word, functioning as a (kind of) adjective modifying the noun. Then the PreP prefixes to the beginning of this complex word, and the definiteness suffix affixes to the end of it, just as if it were a simple adjective. So that is what we assume that it is, following Kramer 2009, 2010.

In conclusion, we claim that the generalization that the PreP and the definiteness marker attach to the same word may in fact be exceptionless, the apparent exceptions coming from words that are complex morphologically but not syntactically. See also note 22 for another apparent counterexample that may be analyzed in essentially the same way. We tackle a few more apparent exceptions in Section 6, claiming that they are cases of a syntactic phrase acting as a morphological unit because it has been previously spelled out. Before that, though, we refine our insertion rule a little further.

5.3 Recursive applications of the morpheme placement rule

An important question for (33) is what happens when there is no unique highest word in the nominal; where do the dissociated morphemes go then? This situation can arise when the highest constituent in the nominal itself has complex structure. For example, imagine a possessed NP where the possessor itself consists of an adjective plus a noun, as in a phrase like 'a tall teacher's car.' The structure should be approximately as in (50).

(50)



What is the highest word in (50)? It cannot be 'teacher', because that is c-commanded by 'tall'. But it cannot be 'tall' either, since that is contained in FP, and FP does not contain 'car', so 'tall' does not c-command 'car'. But 'car' does not c-command 'tall' either. So there is no uniquely highest word in this structure, as defined by c-command.

What happens then if the largest nominal (PossP) in (50) bears one or both of the dissociated features [+DEF] or [+CASE]? In fact, the affix *–u* and the PreP both attach to the adjective inside the possessor, as shown in (51).

(51) a. yä-rädʒdʒɨm-u säwɨyye kot
of-tall-DEF man coat
'the coat of a tall man'

b. kä-rädʒdʒɨm-u näggade suk'
from-tall-DEF merchant shop
'from the shop of a tall merchant'

We propose that this comes about as the result of recursive application of the principle that a dissociated feature is realized on the highest word in the nominal. The two subconstituents of PossP with overt material in (50) are the DP in SpecPossP and the NP that is the complement of Poss. Of the two, DP is the higher, since it c-commands NP. Therefore, the dissociated feature becomes attached to DP. But DP is itself a complex constituent with more than one overt morphological word. So we apply the PF placement rule again to DP. The result is that the features [+CASE] and/or [+DEF] become associated with AP, since AP c-commands NP within FP. This AP consists of only a single word (the A itself), so [+CASE] triggers the insertion of a PreP as a prefix to this word, and [+DEF] triggers the insertion of *–u* as a suffix to it. This gives us the patterns in (51). We therefore replace (33) with the explicitly recursive version in (52).[26]

(52) **Insertion Rule, Revised**
(i) If feature F is associated with a term[27] that contains only a single m-word W, then attach F to W. (basis step)
(ii) If feature F is associated with a phrase X that contains more than one ,-word, then associate F with the highest term that is properly immediately contained in X and contains at least one m-word. (recursive step)

Before moving on from (52), there is a possible structural ambiguity that we need to face. We assumed without comment that the definiteness feature that is ultimately spelled out on the initial adjective in these examples originally pertains to the largest nominal: that (51)a for example means '*the* coat of *a* tall man'. But there is another possibility, which is that the +definiteness feature pertains semantically only to the possessor nominal, so that (51)a can mean '*a* coat of *the* tall man'. Or indeed semantic definiteness could pertain to both the larger NP and the smaller NP, such that (51)a means '*the* coat of *the* tall man', also renderable in English as 'the tall man's coat'.

We observed in Section 5.1 that the literature is divided, and that our consultants are a bit uncertain about these possibilities. Probably all allow the third meaning, whereas one accepts the first meaning and another does not. Now if (51)a is really the result of definiteness originally being attributed to the possessor, not to the nominal as a whole, then one could doubt whether the feature placement rule is really recursive in the way that we have said. The morpheme order in (51)a could arise by the following derivation:

[26] This formulation could also be used to sharpen our analysis of some of the examples already discussed in Section 5.1, where we intentionally blurred a possible distinction between a phrase like AP or NP and the morphological word (A or N) that it contains (invoking Chomsky's Bare Phrase Structure). The details of the relationship between the morphological word and the smallest maximal projection that contains it are not crucial once we adopt (52).
[27] By "term" we mean anything which is a constituent in syntactic structure—ahead or a phrase (see Chomsky 1995:247.)

(53) $[_{DP}\ [_{PossP}\ [_{DP}\ [_{FP[+def]}\ [_{AP}$ tall] $[_{NP}$ man] F] DEF] [coat Poss] ∅] →
$[_{DP}\ [_{PossP}\ [_{DP}\ [_{FP}\ [_{AP[+def]}$ tall] $[_{NP}$ man] F] DEF] [coat Poss] ∅] →
$[_{DP}\ [_{PossP}\ [_{DP}\ [_{FP}\ [_{AP}$ tall+u] $[_{NP}$ man] F] DEF] [coat Poss] ∅] →
yä-tall-*u* man coat

We believe that this derivation does exist as well, but that it does not threaten our analysis that feature attachment is recursive. Our reasoning is that, unless there are unknown restrictions on the distribution of definiteness in complex nominals in Amharic (certainly not out of the question), it should be possible for the larger PossP to be specified as [+DEF] —with or without FP being intrinsically [+DEF] as well. Now what should be the PF manifestation of that feature? If the feature placement rule is *not* recursive, then it should place [+DEF] on the DP possessor, since that is higher in PossP than the NP complement of Poss, but it will not be able to look further inside DP. In that case, it would be reasonable to assume that [+DEF] would spell out as *–u* suffixed to the DP as a whole, hence to the last word in DP, namely 'man'. Then we would expect the following two examples to be grammatical, depending on whether the nominal 'tall man' is also definite or not:

(54) **a.** *yä-räʤdʒɨm säwɨyye-w kot
of-tall man-DEF coat
('the coat of a tall man')

b. *yä-räʤdʒɨm-u säwɨyye-w kot
of-tall-DEF man-DEF coat
('the coat of the tall man; the tall man's coat')

But our consultants are unanimous in ruling out these possibilities.[28]

Alternatively, if the feature placement rule is fully recursive (as we argue), then the definiteness marker *–u* ends up on the initial adjective regardless of whether it originally pertained to the possessor 'tall man' (since 'tall' is the highest thing in FP) or it originally pertained to the whole nominal 'coat of tall man' (since 'tall' is the highest thing in the highest thing in PossP), or both. On the fully recursive view, *-u* should always surface on the adjective, and it should not be clear to speakers whether *–u* signals the definiteness of 'man' or of 'coat' or of both. This second possibility fits well with Amharic speakers' reactions to examples like these. Therefore, we conclude that the feature placement rule is recursive as stated in (52) pending a full study of the semantics of definiteness in possessed nominals in Amharic.

[28] However, an anonymous reviewer does allow a similar structure in the example in (i), where the head of the possessor is inanimate. He/she suggests that there may be an animacy effect.

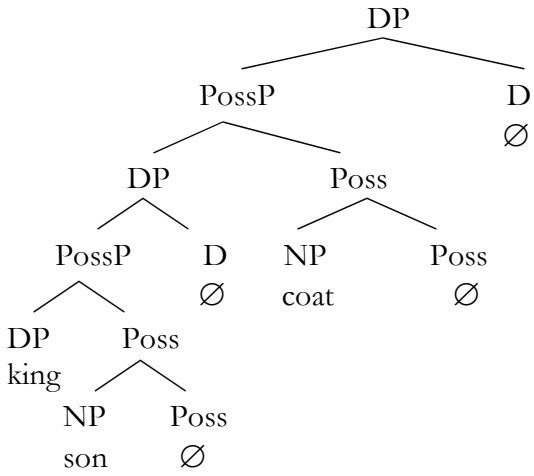
(i) yä-k'äyy bet-u at'ɨr
of-red house-DEF fence
'the fence of the red house'

Our only idea about why this example might be different is if 'red house' can be parsed as a compound in Amharic (compare English *greenhouse*). There is no special cultural significance of red houses in Ethiopia that we know of, but it is true that the language has many compounds that use *bet* as the head (e.g. see (46)). There is also some empirical support for a compound approach to (i), in that our consultant who accepts (i) does not accept a similar example with 'book' as the possessor rather than 'house'. He also does not accept the definite marker on the possessor if the possessor is modified by multiple adjectives, making it seem less compound-like.

Notice that these complications do not arise for the PrePs. The ablative feature in (51)b clearly belongs originally to the PossP as a whole, given what the expression means. The possessor might have a case value too, but if anything that is genitive (possibly realized as *yä-* in the absence of haplology; see footnote 19), not ablative.

A similar sort of recursive structure is one in which the possessor of the head noun itself contains a possessor. This structure should look something like (55) for 'the/a coat of the/a son of the/a king'.

(55)



If a case feature is associated with the larger PossP, it should be spelled out as a PreP on 'king', because that is the highest element in the highest element in the larger PossP (even though 'king' itself doesn't c-command 'coat'). This is clearly correct:

(56) kä-nɨgus-u lɨdʒ kot
from-king-DEF child coat
'from the/a coat of the/a son of a/the king'

Similarly, if a definiteness feature is associated with the larger PossP, it should be spelled out as *–u* on 'king'. However, a definiteness feature associated with the smaller PossP 'son of king' will also spell out there, as will a definiteness feature associated only with 'king'. So we predict that *-u* will appear only after the first noun 'king', but that speakers will be uncertain exactly which nominal is definite. This fits our observations: (57)a is good, with different speakers accepting different ranges of interpretation, and (57)b and (57)c are bad.

(57) a. yä-nɨgus-u lɨdʒ kot
of-king-DEF child coat
'the coat of the/#a king's son'

b. *yä-nɨgus lɨdʒ-u kot
of-king child-DEF coat

c. *yä-nɨgus-u lɨdʒ-u kot
of-king-DEF child-DEF coat

Again, one of our consultants accepts (57)a with a reading in which only the coat is definite; another interprets definiteness as pertaining to all the nominals (as in English *the king's son's coat*).

5.4 NPs modified by relative clauses

Now we are ready for the most complex and surprising examples, mentioned in connection with (3) in Section 1. This is what happens when semantic or inherent case is associated with a nominal that is modified by a relative clause. Then the PreP shows up in the middle of the relative clause, between the complement of the verb and the verb itself. This was seen in (3); another example is (58).

(58) k'äyy mäkina **lä-**gäzz-a astämari
red car for-buy-3MS teacher
'for a teacher who bought a red car'

In other words, the PreP *lä-* does not prefix to the first word of the nominal (*k'äyy*), or to the last word (*astämari*), or to the traditional head (*astämari*), but rather to one of the middle words.

Despite the complexity of this example, we claim that it essentially follows from what we have already said about a case feature being spelled out on the highest element in the constituent, recursively defined. To show this, though, we need to know something about the structure of a relative clause in Amharic. A simpler phrase containing a relative clause (one with no PreP) is (59).

(59) k'äyy mäkina **yä-**gäzz-a astämari
red car C-buy-3MS teacher
'a teacher who bought a red car'

In fact, we can afford to leave many fine details about the structure of relative clauses open, and concentrate on two clear facts about such examples. The first is that the relative clause comes before the noun it modifies, just as attributive adjectives do. Therefore, it is reasonable to say that the relative clause as a whole is also generated in the specifier of a functional head that mediates the relationship between it and the NP (Cinque 2009), just as adjectives are. As a result, the relative clause as a whole asymmetrically c-commands the modified NP.

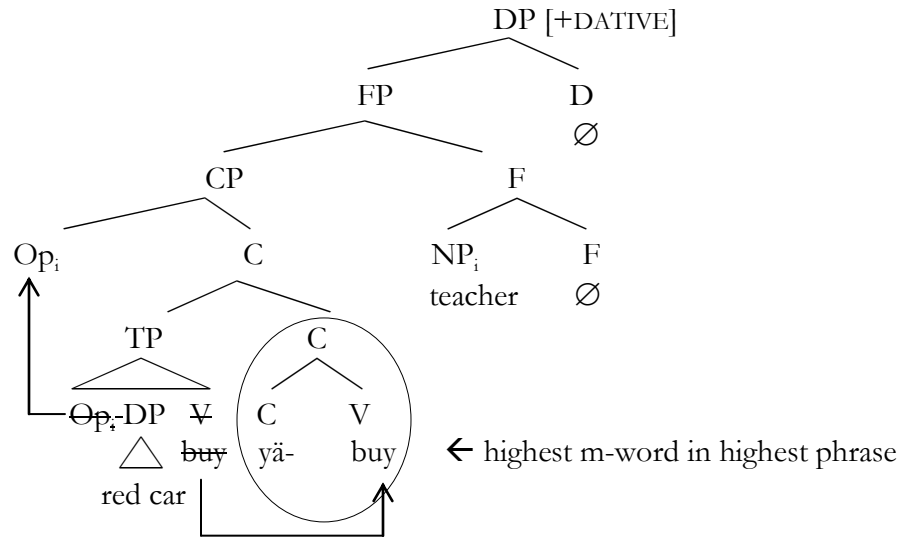
The second crucial fact about (59) is that the relative complementizer-like element *yä-* appears prefixed to the verb of the relative clause, much as *mä-* prefixes to the verb in nonfinite/nominalized constructions (see (43)-(44)). Indeed, relative *yä-* is like *mä-* in that it never attaches to anything other than the finite verb in the relative clause. So, by parity of reasoning, it is plausible to think that V also undergoes head movement in relative clauses, reaching the C node, thereby forming a single m-word with the relative complementizer *yä-*. Consistent with this is the fact that in complex tenses in Amharic, which consist of a participial form of the main verb together with a verbal auxiliary, *yä-* appears as a prefix on the auxiliary, not on the main verb:

(60) lɨdʒ-otʃtʃ-u-n bähayl yɨ-gärf **yä**-näbbär-ä-w astämari
child-PL-DEF-ACC severely 3MS-beat C-AUX-3MS-DEF teacher
'the teacher who used to beat the children severely' (Leslau 1995:87)

This is what we expect if the auxiliary verb takes a (possibly extended) VP headed by the main verb as its complement. Then the auxiliary verb but not the main verb can move into C, in accordance with the Head Movement Constraint, just as auxiliaries can move into C but main verbs in the presence of auxiliaries cannot in English and French (Pollock 1989, etc.). This effect holds throughout Amharic: all complementizers attach to the main verb in subordinate clauses lacking an auxiliary, or to the auxiliary when there is one (Leslau 1995:318).

With these assumptions in place, a relative clause in Amharic has (at least) the structure given in (61).

(61)



Now where does the dative feature associated with the nominal as a whole finally end up? First we consider the immediate constituents of FP. Those are the NP 'teacher' and the CP relative clause. CP is the higher one, so the dative feature is associated with that. But this is internally complex, so we next consider what is the highest term in CP. This is the verb, as a result of V-to-C movement. This term contains a single m-word, so there is no need for further recursion; [+DATIVE] is spelled out as the prefix *lä-* on the inflected verb. This correctly derives (59) once the relative prefix *yä-* deletes after the PreP *lä-*, by the haplology rule that was mentioned in footnote 19. This is perfectly normal Amharic. Another example from Leslau (1995) is:

(62) t'äft-äw **sɨlä**-näbbär-u sost nägär-otʃtʃ
lost-3PL about-were-3PL three thing-PL
'about three things that were lost' (Leslau 1995:90)

This shows the PreP prefixing to the auxiliary rather than the main verb, as expected given that only the auxiliary moves to C (compare (60)).

By the same reasoning, we expect a definiteness feature associated with the nominal as a whole to be spelled out as the morpheme *–u* suffixed to the verb in the relative clause. This is entirely correct, as shown in (63). More specifically, (63)a shows the definiteness marker *–u* suffixed to the main verb of a relative clause when there is no auxiliary verb, and (63)b shows it suffixed to the auxiliary verb when the relative clause contains an auxiliary.

(63) a. [[k'äyy mäkina yä-gäzz-a-**w**] astämari]
red car C-buy-3MS-DEF teacher
'the teacher who bought a red car'

b. [[t**ɨ**-mäkrä-ññ yä-näbbär-k-**äw**-**ɨ**n] hullu] **ɨ**-kkättäl-allä^{w}h
2-advise-1S.O C-used.to-2MS-DEF-ACC everything 1S-follow-AUX.1S
'I will follow everything you used to advise me (to do).' (Leslau 1995:87)

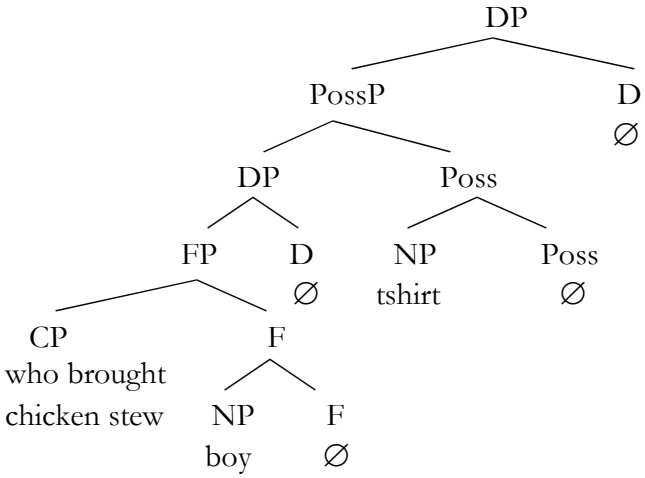
This is less striking than the PreP placement examples, because *–u* as a suffix ends up at the edge of the relative clause, not apparently inside of it, the way the PreP does. But it does underline the recurring theme that the definiteness suffix consistently attaches to the same word as the case prefix does. This shows that our proposal has a welcome degree of generality, applying to features other than oblique case. It also shows that nothing in particular should be made of the fact that PrePs happen to be realized as prefixes, not suffixes. The definiteness marker *–u* is minimally different in that it is a suffix, but the placement rule that it obeys is the same. In the end, then, whether a dissociated morpheme happens to be a prefix or a suffix at PF plays no major role in determining what word it is attached to in our account, and this seems to be as it should be.

We can combine the analysis of possessive noun phrases in Section 5.3 with the analysis of relative clauses above to generate an additional prediction. Consider the following nominal phrase:

(64) [[doro wät' y-amät't'-a-w l**ɨ**dʒ] täʃ**ɨ**rt]
chicken stew C-bring-3MS-DEF boy t-shirt
'the t-shirt of the boy who brought chicken stew'

The context is a potluck for international students, and the boy who brought Ethiopian chicken stew wears a particularly notable t-shirt. To refer to the t-shirt, a speaker can say (64), where the possessor ('boy') is modified by a relative clause ('who brought chicken stew'). On our assumptions, the structure of (64) is the following.

(65)



In (64), the definite determiner is attached to the verb in the relative clause. If this is the realization of the definite D for 'boy who brought chicken stew' (the lower DP in (65)) then all is as expected for our analysis: the D marks the FP as [+DEF], the definite marker is inserted on the highest m-word (in the highest phrase) of the FP, which is the verb of the relative clause in C. We also

assumed above that the definite marker within a possessor can be a reflex of the definiteness of the entire possessed DP; it can be the dissociated morpheme inserted by the highest D in (50). The analysis still predicts that the definite marker will be inserted on the verb in the relative clause – it is the highest m-word within the highest phrase in the PossP. So far, then, this is just what we expect.

Since the definite marker and the PreP are placed by the same insertion rule, the analysis further predicts that if the highest DP were assigned semantic case, say ablative, to give 'from the t-shirt of the boy who brought doro wat', the PreP will be attached to the verb of the relative clause inside the possessor of the NP. And indeed, this is what we find.

(66) yɨh k'ulf [[doro wät' **k**-amät't'-a-w lɨdʒ] täʃɨrt] näw
this button chicken stew **ABL**-bring-3MS-DEF boy t-shirt is
'This button is from the t-shirt of the student who brought chicken stew.'

The PreP *kä-* (reduced to *k-* due to hiatus avoidance; see (14)) attaches to the verb of the relative clause that modifies the possessor. This is even more striking than the basic relative clause cases: a preposition that allegedly scopes over the entire DP surfaces not just on the verb of a relative clause modifying the head noun, but on the verb of a relative clause that is modifying the possessor of the head noun. Yet this is entirely predicted by assuming that the PrePs are dissociated morpheme case markers and that they are inserted via the insertion rule in (52). We take this as strong confirming evidence for this insertion rule, including the fact that it applies recursively.

We want to harp a bit on the fact that our PF placement theory claims to predict and explain the placement of these morphemes in relative clause structures, contrasting this with alternative theories that would rely heavily on the use of syntactic movement to derive the order of grammatical elements (words and morphemes). Our claim is that morpheme placement in relative clauses, although complex, is no more than the coming together of three ingredients, all of which are independently motivated. First, the fact that PrePs and *–u* attach to the relative clause rather than to the noun head is like the fact that these elements attach to an adjectival modifier rather than to the modified noun in simpler modificational structures. Second, the fact that PrePs and *–u* attach to the verb of the relative clause rather than to the complement of that verb is like the fact that PrePs and *–u* attach to the verbal noun rather than to its complement in simpler NPs containing a clause, such as (43) and (44). Ultimately, this is because verbs raise to higher heads like N/*n* and C in Amharic. Third, the fact that PreP and *–u* are placed recursively, crucially inside the higher constituent of the relevant NP, is the same as what we see with nested possessor constructions like (57), where the definiteness marker *–u* associated with the nominal as a whole (at least for some speakers) shows up inside the multi-word possessor of the nominal. What we see in relative clauses is merely the coming together of these various factors, each one justified in its own terms.

In contrast, we do not think that a theory of morpheme order that depends primarily on syntactic movement could match this result. Within the tradition of Kayne 1994, one might very well say that Ps start out as prepositions, before their complements, even in a surface-head-final language like Amharic. Then one could say that the first-pass difference between PrePs and postpositions is that the DP complement of P moves to SpecPP or some higher position in the case of postpositions but not PrePs. So far, so good. But refinements would be needed for verbal nouns and relative clauses, such that not the whole nominal but some proper subpart of it moves higher in the case of PrePs. What would that subpart be? In (3) and (59), it would require moving the object of the embedded verb from inside the relative clause to a position above the P, stranding the verb of the relative clause below P. There would be a strong tension between this derivation and the fact that relative clauses are otherwise known to be very strong islands for extraction in almost every

language, including Amharic (Eilam 2010). Similarly, (62) would require moving the main verb out of the relative clause, leaving the auxiliary behind.[29]

Even if such derivations could be squared somehow with what we know about locality conditions on movement, the question would remain as to *why* exactly these particular elements must move higher—why the object of a relative clause or a verbal noun must move, but a simple AP or possessor DP must not, even though one would expect the latter to be more accessible to movement than the former. No good reason comes to mind, at least for us. Therefore, we find an approach in terms of affixation to morphological words at PF based on their relative positions within the nominal to be much more plausible, since traditional islandhood is not relevant at PF. So, although we do not pretend to have considered every syntactic derivation that one might conceive of, we find it hard to see how a movement-based theory, if possible at all, could be explanatory in the way that we claim ours is. We challenge a proponent of movement to show otherwise

5.5 Complex PP structures

Next, there is more to be said about combinations of PrePs and postpositions in Amharic. We mentioned above that some postpositions always occur with a single PreP affixed to their DP complement, usually *bä-* or *kä-*. But other postpositions can occur with a range of PrePs, and the PrePs contribute different elements of meaning to the construction. Indeed, this is very typical for location-denoting postpositions, as opposed to postpositions that express other kinds of relations (Leslau 1995). A representative set is given in (67).

(67) a. ɨ-zaf-u sɨr täññɨtʃtʃ-e s-allä-h^{w} …
LOC-tree-DEF under sleeping-1S while-AUX-1S
'As I was sleeping (at) under the tree…' (or *bä-zuf-u sɨr*) (Leslau 1995:625)

b. däbdabbe-w-ɨn bä-mäzgiya sɨr aʃulk-äw
letter-DEF-ACC via-door under slip-3MS.O
'Slip the letter (via) under the door.' (Leslau 1995:625)

c. kä-tärara-w sɨr yämmi-mänätʃ'tʃ'-äw wɨha t'äbäl näw al-u
from-mountain-DEF under C-gush-DEF water holy.water is say-3PL
'They say that the water gushing up from under (at the foot of) the mountain is holy water.' (Leslau 1995:625)

[29] Kayne (2000:49) does indeed propose a derivation of [… NP … C/P+V] orders in Amharic that uses leftward movement of NPs out of the clause to a position higher than C/P. But whatever the plausibility of this derivation may be (it is not developed in any detail), Kayne does not consider the additional challenges that are posed by moving a verbal head or adverb leftward rather than an NP (for (60)), or by moving elements out of a relative clause modifier rather than out of the TP complement of C or P (for (58)).

Another possible derivation, perhaps marginally more plausible, might be to say that some head X lower than P (the relative C?) attracts the highest verb of the relative clause, and then P itself attracts the relative clause remnant (including the trace of the moved V) to its Spec. In this derivation at least the relative clause moves as a unit. But it is hardly more attractive to say that V or TP moves out of the relative clause island than to say that its object does, and no ready answer to the "why" question is at hand for this derivation either.

d. k^{w}as-u wädä-g**ɨ**dg**ɨ**dda-w s**ɨ**r t-änkäballäl-ä.
ball-his to-wall-DEF under MID-roll-3MS
'His ball rolled toward under (toward the base of) the wall.' (Leslau 1995:625)

e. kä-zzih ans**ɨ**to **ɨ**skä-gubb**ɨ**ta-w s**ɨ**r y-all-äw bota yä-nnässu näw.
from-here starting up.to-hill-DEF under C-be-3MS area GEN-they is
'The area from here up to under (to the edge of) the hill is theirs.' (Leslau 1995:625)

f. mäs'haf-u t'äräp'p'eza-w s**ɨ**r näw.
book-DEF table-DEF under is
'The book is under the table.' (Leslau 1995:625)

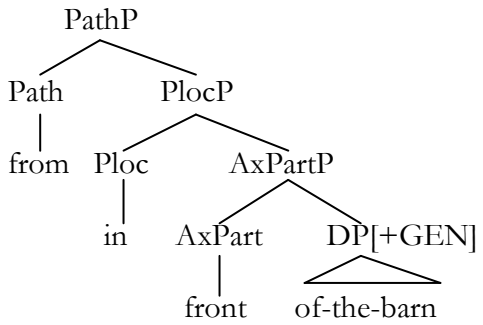
The question, then, is what is the structure of these combinations, and what do they imply about the nature of the so-called "prepositions".

For data like this, it is not plausible to think that a single postposition can assign such a large range of lexical/inherent cases. Rather, examples like (67) point toward a more articulated PP structure of the sort explored for Dutch and English by Koopman (2000), Svenonius (2010), den Dikken (2010), and others. Simplifying somewhat, Svenonius distinguishes at least three distinct heads that can appear in a complex PP like (68) from English (not counting *of*, which is arguably a case marker).

(68) That horse came [from in front of the barn].

Svenonius claims that *front* is a head he calls AxPart; (short for "Axial Parts"); it takes a DP (KP) that denotes an object and returns a region of space defined with respect to the geometrical structure of that object. Next, *in* here is a pure P_{loc} head; it is the least semantically distinctive part of the combination, but needed to make it refer to a place. Finally, *from* is a path head: it takes a place and returns a path defined with respect to that place. Moreover, these heads come in a fixed order determined by their semantics: AxPart selects DP/KP, P_{loc} selects AxPartP, and Path selects P_{loc}P to form a PathP. The structure is given in (69).[30]

(69)



[30] In fact, Svenonius makes further distinctions between P_{loc}P, DegP, and pP, although these elements are not generally given distinct lexicalizations in English (at least in PPs without measure phrases). They do not have distinct lexicalizations in Amharic either, that we can tell, so we collapse them here, although we leave open the possibility that a finer study of PPs in Amharic could discover reasons to distinguish them in Amharic as well.

Other orders of these P-like elements are ruled out: **in from front of the barn*, **from front in (of) the barn, *front in from the barn, *in front from the barn*, etc.

Now comparing (68)/(69) in English with (67) from Amharic, it is clear that the postposition *sɨr* in Amharic corresponds to the AxPart element in English. It expresses where the location is relative to the geometrical structure of the reference DP (i.e., at its lowest part). The PreP, on the other hand, expresses the Path element. This is clear and consistent with *wädä*, which always means 'toward [a place]', and *ɨskä*, which always means '(all the way) up to [a place]'. It can also be discerned for *kä-*, which often means 'from [a place]', and *bä-* which sometimes means 'by way of [a place], via [a place]'—the central part of a path, as opposed to its first part (source) or its last part (goal). The apparent exception is *ɨ-*, which seems to express a static location (see (67)a). For uniformity, we take that to be expressing a degenerate path, one in which the first, middle, and last parts are all the same—in effect, a point. There is no clear indication of P_{loc} in these Amharic PPs, distinct from Path and AxPart (but see below). The one significant empirical issue that is not covered by these first-pass empirical generalizations is that the meanings of [*bä*N PostP], [*kä*N PostP], [*ɨ*N PostP] and indeed just [N PostP] are not always clearly differentiated semantically; they are often given identical pure-location translations in Leslau 1995 (see (67)a and (67)f; see also Tremblay and Kabbaj 1990:168, who say that there is no semantic difference). Nevertheless, when a PreP does have a clearly isolatable meaning, it is a path-denoting meaning.

Given this, we should say that there are least two postpositions in the structure of the PPs in (67), one overt expressing AxPart and the other covert but assigning a distinctive semantic case such as ablative (from), allative (to/toward), perlative (through, along), etc. Moreover, based on cross-linguistic comparison and semantic composition, the null path-denoting head should be the higher of the two, just as it is in English. Hence, the structure of (67)d should be at least (70).

(70) $[_{PathP}\ [_{AxPartP[+ALL]}$ wall-DEF under/bottom] Ø [+ALL]]

Now we can see the challenge for our case insertion rule that is lurking in this data: it is to say which element of the potentially complex constituent AxPartP the case feature assigned by Path is realized on.

First, there is one easy result to get. This is the fact that AxPartP is not necessarily complex. An AxPartP can consist solely of an AxPart head, without any DP argument (see (13)). In other words, some postpositions in Amharic can be used intransitively ("adverbially") (compare Svenonius 2010: sec 2.4 on English). When this is the case, our algorithm trivially predicts that the PreP will show up attached directly to the postposition, and this is what happens in (71)b, to be compared with the more canonical (71)a. (We are very grateful to an anonymous reviewer for calling our attention to this important fact.)

(71) a. mäs'haf-u-n kä-t'äräp'p'eza-w sɨr wässäd-ä -w
book-DEF-ACC from-table- DEF under take-3MS-3MS.O
'He took the book from under the table.'

b. mäs'haf-u-n kä-sɨr wässäd-ä -w (= (13))
book-DEF-ACC from-under take-3MS-3MS.O
'He took the book from underneath.'

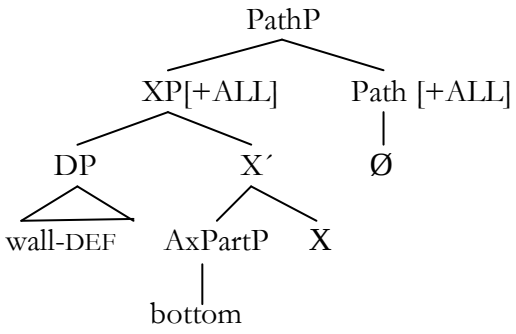
Other examples like this listed in Leslau (1995) include expressions like *bä-lay* 'on, upon, up above', (p. 620), *wädä-mado* 'across to the other side' (p. 624), *kä-wɨst'* 'within, from inside' (p. 640), and many others . Examples like (71)b are important because they confirm that the PreP is not the case assigned by AxPart to its complement (as happens in (32)). If it were, then we would expect the case marker to be absent (on the surface) whenever the DP is absent (on the surface). But (71)b shows that this is not true. Rather, (71)b confirms that the null case assigning head is higher than the postposition and assigns case to the postposition phrase as a whole. That case predictably is realized on the postposition when there is no DP inside the postposition phrase.

But the postposition phrase can of course also be internally complex, containing more than one m-word. When it does, the case marker assigned by the Path head shows up on the noun, not on the postposition, as seen in (71)a and (67). Indeed, when the DP inside AxPartP consists itself of more than one m-word, the case marker can show up on something other than the noun; for example, it shows up on the adjective modifying the noun in (72).

(72) mäs'haf-u-n kä-tɨllɨk'u t'äräp'p'eza sɨr wässäd-ä –w
book-DEF-ACC from-big-DEF table under take-3MS-3MS.O
'He took the book from under the big table.'

For our feature placement algorithm to work correctly, then, we must say that the DP is higher than AxPart within the place-denoting PP. In other words, the structure of (67)d must not be just (70) exactly, but something like (73), where DP asymmetrically c-commands the AxPart head.

(73)



It is not obvious that this should be the structure. One might have thought, rather, that DP should be the complement of AxPart, as in English (69), such that AxPart would be as high as a simple NP, and higher than any overt m-word properly contained inside a complex DP.

But while we concede that it is not obvious that (73) is the internal structure of a place-denoting PP, we assert that it is also not obvious that it is not. We take it that our algorithm in (52) is well enough established by now that we can begin to draw structural conclusions from it. Moreover, there are other things to be said in favor of (73). In particular, the majority of postpositions come historically from nouns (Leslau 1995), and many of them can be used synchronically as nouns, in say subject or object position. For example, Tremblay and Kabbaj (1990:170) compare the nominal use of *wɨst'* 'inside' used in subject position in (74)a with the postpositional use in (74)b.

(74) a. yä-bet-u wɨst' t'ɨru näw.
GEN-house-DEF inside nice is
'The inside of the house is nice.' (*bet-u wɨst', *bä-bet-u wɨst')

b. Gɨrmay-ɨn bet-u wɨst' ayyä-hu-t.
Girmay-ACC house-DEF inside see-1S-3MS.O
'I saw Girmay inside the house.'
(or bä-bet-u wɨst', kä-betu wɨst', ɨ-betu-u wɨst', but not *yä-bet-u wɨst')

Now when *wɨst'* is used as a noun, the DP that it expresses a part of is expressed as its possessor; in particular, it bears the genitive case prefix *yä-*. Now on our theory, the structure of a possessed nominal is exactly like the structure in (73), where the mystery element X is the familiar head Poss: compare (73) with (39). It is not at all surprising, then, that essentially the same structure would be carried over to postpositional uses of *wɨst'* and other words like it.

There are two ways in which this might be implemented that are worth considering. It is notable that the genitive particle *yä-* is not present in (74)b. This is Tremblay and Kabbaj's (1990) major reason for saying that postpositions are synchronically distinct from nouns. We could express this by saying that the overall structure of the place-denoting phrase has stayed constant while the fine categorical features of the heads have changed over time: N has evolved into AxPart, and Poss has evolved into some other head, call it Rel (for 'relator', something that expresses geometrical relationships). The crucial difference, then, would be that Rel does not assign genitive case to its specifier, but rather a null case (or maybe ablative/partitive *kä-*; see below).

The other way to implement this could be to say that AxPart phrases are still really nominals (PossPs), but they are nominals that are usually embedded inside a larger PP structure with a null head P. Suppose that that null headed P is one of the path-denoting heads surveyed in (67a-e). Then it is not surprising that genitive *yä-* does not appear on the nominal that denotes the reference object. The reason is that all of these path-denoting Ps assign a semantic/lexical case to their complement. By our feature placement rule, that case is realized on the reference-object-denoting nominal (or on the highest m-word inside it)—the same expression that bears the genitive *yä-*. Now we know that *yä-* is deleted in the context of another PreP systematically in Amharic (see footnote 19). Therefore the absence of *yä-* in these complex PPs does not count as evidence that AxPart is no longer nominal; it is expected on independent grounds.

The only fact that still needs an account, then, is why *yä-* is suppressed even in an example like (67)e or (74)b, where there seems to be no path-denoting P. But even here, it is probably necessary on syntactic grounds to say that the PossP with AxPart as its semantic head is the complement of a null place-denoting P, comparable to *in* in *in front of X* in English—a P_{loc}, if not (also) a Path head. This is probably needed to account for why it has the external distribution of a PP.[31] It may not be crazy, then, to say that this null place-denoting P assigns a sort of zero case to its complement. This case has no phonological exponent of its own (any adherent to the case filter would have to say this much), but it nevertheless triggers haplology on the relevant N, suppressing the genitive *yä-*.[32] That then is the other possible view. The price of the first view is positing a novel

[31] For example, this would be implied by the Noun Licensing Condition of Baker (2003).

[32] Indeed, Leslau (1995:616) presents the possibility of [NP PostP] as opposed to [PreP-NP PostP] as something of an innovation, more characteristic of spoken (informal) Amharic than of written Amharic, and not equally available with all relevant postpositions. The language might then be in a state of flux between these two analyses.

category Rel, parallel to but distinct from Poss; the price of the second view is a case marker without phonological content that nevertheless has effects at PF. Either view will do for our purposes.

We might tentatively take this one step further, to say something about the odd fact that there seem to be as many as four ways of expressing pure locations with no significant path function in Amharic: [*kä*-N PostP], [*bä*-N PostP], [*ɨ*-N PostP], and simply [N PostP]. This seems like an unusual state of affairs. But we can say something about it if we combine the ideas above, in the following way. We observed in section 4 that, looking at nonlocative postpositions (those that are not AxPart heads), it seems like *kä-* and *bä-* are the two grammatical cases used inside PPs in Amharic. Let us then suppose both that the head that connects AxPart with DP is Rel, distinct from Poss, and that the RelP constituent has to be combined with at least a P_{loc}P head, as well as perhaps a Path head. Now we can ask what cases (if any) do the heads Rel and P_{loc} assign? Our suggestion is that Rel assigns *kä-*, whereas P_{loc} assigns *bä-* (or, innovatively, Ø as above). This is not unreasonable on semantic grounds. We usually gloss *kä-* as 'from' (source , ablative), but it also has partitive meanings in which it could just as well be glossed as 'of' in English. One is shown in (75).

(75) kä-sɨga-w a-qmɨs-äññ.
from-meat-DEF CAUS-taste-1S.O
'Feed me (some) of the meat.' (Leslau 1995:605)

Now partitive *of* is a very plausible case for Rel to assign, given that AxPart expresses some geometrically defined part of the reference object (compare English 'in front *of* X') On the other hand, *bä-* is perhaps not the most surprising path-like case to become grammaticalized as pure location in Amharic. In its obvious path uses, it means 'through' or 'via', referring to the middle part of a path, not its beginning or end. As such, it could easily be picked as the unmarked member of the set, for use as the case assigned by pure place-denoting P_{loc}. Finally, *ɨ-* is the case assigned by a true path-denoting P, we claim, but one that denotes a trivial, point-like path. Then we have a sort of answer as to why Amharic seems to have so many semantically vacuous PrePs: if a constituent is only RelP, *kä-* surfaces, if it is a PlaceP with a semantically weak P_{loc}, *bä-* surfaces, and if it is PathP with a trivial pointlike path, *ɨ-* surfaces. (And, for one of these, assigning Ø instead is an innovative option.) Then the odd fact that Amharic has so many ways to express pure location stems from it having null postpositions that assign case (so it is not obvious how many are present in a given example), plus Amharic's special rule for placing case features within complex constituents (our primary topic in this paper), which has the effect of stacking all the cases on the same head in these structures, plus Amharic's rule of haplology, which deletes the second of two consecutive case markers.

Overall, then, the interactions of PrePs and postpositions is a relatively complex topic in Amharic, and an area in which the language may be somewhat in flux. However, the basic facts of where PrePs are placed do follow from (52) once we attribute to postpositional phrases an internal structure that is parallel to if not identical to the structure of the possessed nominals which are their historical origin. Furthermore, our theory of PrePs and their placement may shed some light on why this is a complex topic in flux in Amharic, since it predicts that one case marker stacks on another and cause it to delete, creating a degree of opacity.[33]

[33] An anonymous reviewer calls our attention to some interesting examples in which two PrePs are stacked on a single PostP: *kä-bä-lay* 'from above', *wädä-bä-lay* 'toward the above', and *kä-wädä-lay* 'from above' (see also Leslau 1995). We admit that we do not understand these very well. Some look like they have a path embedded under a place function– i.e. they are instances of PP recursion in the sense of Svenonius 2010: sec. 3.2. Svenonius suggests that such recursion

6 Discussion and Theoretical Implications

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As we approach our conclusion, we should ask how our proposal is connected to other current theories of post-syntactic insertion. It is standard in the Distributed Morphology literature to say that morphological operations like insertion happen at PF. Morphemes and features that are inserted post-syntactically are known as *dissociated* or *ornamental* (Embick 1997, 1998; McFadden 2004; Embick and Noyer 2007, *inter alia*). The mechanisms for such insertion remain under-investigated. The general assumption has been that the morpheme or feature is inserted close to the node that has triggered insertion: either adjoined to that node, resulting in head adjunction (Embick 1998, Embick and Noyer 2007), or as a feature on the node itself (McFadden 2004). However, in Amharic, it is not helpful to insert the case marker on/near the triggering node, which in our structures would be the null P. If it were inserted there, then it would be too high in the structure to appear (for example) within a relative clause. Rather, it seems most natural to describe the case marker as inserted directly by the rule above, attached to the highest m-word in the DP. It makes intuitive sense to us that, when one must put the case marker somewhere in DP, sticking it on the highest complete morphological unit within DP is one natural choice (along with sticking it on the first word of DP, or on the last word of DP).

An anonymous reviewer asks about whether previous approaches to dissociated morpheme insertion can be restated in terms of (52). Some previous analyses clearly cannot be; for example, in Embick and Noyer 2001 (p. 583, (65)), a definiteness feature is inserted adjoined to N in Swedish to account for definiteness 'concord.' In this case, it is clear that an inserted feature is *not* attached to the highest m-word in the DP. However, in our approach, the relevant features (definiteness, case) are inserted at a domain. There is no restriction that they be inserted on a particular category within that domain; they only respect (52). Thus, there might be two ways of inserting dissociated morphemes: insertion at particular nodes (perhaps reserved for agreement morphemes), and insertion hierarchically within a domain as per (52). The most immediate parallel with our approach is McFadden's 2004 analysis of case as a dissociated feature. He proposes that a case feature is always inserted at D post-syntactically, and this seems broadly compatible with our approach; the case feature would be inserted at D because D is the highest m-word in the DP. This is most easily envisioned for a language like German (one of the languages McFadden focused on), where determiners are morphophonologically overt and show case distinctions.[34]

As an alternative to an insertion approach, it is conceivable that D and PreP, if inserted high in the nominal phrase, could undergo some kind of PF movement from their original high positions into the nominal phrase. Kramer 2009, 2010 develops an analysis of the definite marker along these

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involves a null head like JOURNEY which PathP is embedded under and which heads the complement of a higher Place head (itself possibly under another Path head). If so, the NP headed by JOURNEY could be a spell out domain, which would explain why the first PreP does not trigger the deletion of the second PreP in this situation, giving unusual instances of PreP stacking. However, it is not clear that all of the attested cases have this recursive semantics. We leave these problems to future research.

[34] However, this raises the question of what prevents the feature from attaching to D (or P) in Amharic. The most natural answer is that D and P are exponed as null elements and thus cannot host any dependent elements, but this raises an order-of-operations problem. Under standard Distributed Morphology assumptions, insertion of dissociated morphemes is assumed to occur before exponence (i.e., Vocabulary Insertion), and in fact, we assume this below to argue against a Local Dislocation analysis of PrePs. We leave the issue of no-attachment-to-null-elements as an open question; one promising direction to pursue would be Embick 2010's proposal that null nodes are "pruned" (i.e., removed) from the derivation, but clarifying the predictions here requires a better understanding of cyclic domains within DPs.

lines. She proposes that the definite marker is a realization of the D head itself, and the D head then undergoes the PF operation Local Dislocation to find a host within the nominal phrase (Embick and Noyer 2001). Local Dislocation occurs after Vocabulary Insertion and Linearization, and trades a relationship of adjacency between two m-words for one of affixation. Kramer proposes that the definite marker is originally inserted at the left edge of the nominal in order to expone the D node, and then it undergoes Local Dislocation with the m-word that immediately follows it. An example is in (76). The definite marker starts at the left edge of the nominal, adjacent to the adjective *tɨɬɬɨk'* 'big' ((76)b). It locally dislocates with *tɨɬɬɨk',* and thus ends up affixed to the right edge of the adjective ((76)c). This results in the surface string (76)a.

(76) a. tɨɬɬɨk'-u bet
big-DEF house
'the big house'

b. PF at Linearization (* is the precedence relation):
[-u * tɨɬɬɨk' * bet]

c. PF after Local Dislocation:
[tɨɬɬɨk'-u bet]

However, Local Dislocation is not available as an analytical option for PrePs. By hypothesis, Local Dislocation occurs *after* Vocabulary Insertion (this is what differentiates it from otherwise similar PF merger/affixation operations; see Embick and Noyer 2001). This predicts that the morphophonological form of the host cannot be affected by the attachment of the dislocated item, because the host has already been exponed by the time of Local Dislocation. However, PrePs do trigger allomorphy on their hosts, most notably demonstratives; see (19). Insofar as we want a uniform analysis for PrePs and definite markers, then, Local Dislocation cannot be the PF operation that places them both.

Nevertheless, one of Kramer's 2009, 2010 auxiliary assumptions is helpful in addressing a few counterexamples for our analysis. Kramer claims that any syntactic material that has previously been spelled-out is inaccessible to later PF operations. This claim is compatible with the data we have presented so far: under plausible assumptions about phasehood, the insertion rule does not place the PrePs (or definite markers) within a previously spelled-out domain. For example, relative clauses are CPs and thus phases. The spell-out domain of a phase is the complement to the phase head: the TP in this case. Thus, the TP is inaccessible to the insertion rule, but the C head, which contains the verb, remains available and it is the C head that the PreP and definite marker attach to.[35]

Kramer's assumption that already spelled out domains are opaque at PF is useful for our analysis when considering internally complex APs, which we have avoided until now. When an

[35] We further assume that the nominalizing N/*n* head in verbal noun constructions is a phase head (and thus the definite marker and PreP can attach to the verbal noun) and that there are no other phase heads besides N/*n* in the extended projection of the noun. The result is that the PreP and definite marker can attach to the verbal noun itself. The only difficult case is possessive nominals. Insofar as the definite marker can be placed fully inside the possessor phrase (e.g., on an AP modifying the possessor; see (51)), then possessors must not be phases. This may require us to assume that DPs are generally not phases, or perhaps, that possessor phrases are not XPs such that X is the cyclic head of a nominal projection. We leave this open for future research.

adjectival modifier is itself modified by an adverb like 'very,' the PreP prefixes to 'very' and the definiteness marker suffixes to the adjective.

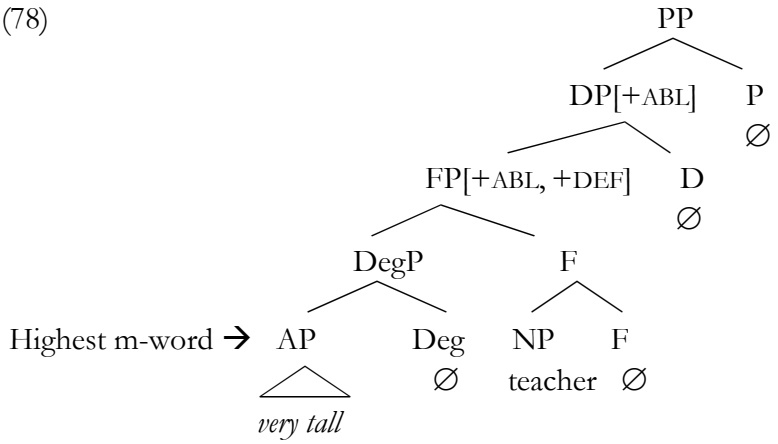
(77) kä-bät'am rädʒdʒɨm'-u astämari
from-very tall-DEF teacher
'from the very tall teacher'

The PreP and the *–u* suffix thus appear to attach to separate m-words, calling into question our otherwise robust analysis where they are placed on the highest m-word by the same insertion rule.

To address this problem, we start by following Kramer (2009, 2010) and assume that PF operations (including (52)) cannot access previously-spelled out material. Now, much work on the internal structure of APs since Abney 1987 has assumed that an AP has an extended projection (like nouns and verbs do), namely, a Deg(ree)P. Deg heads include degree expressions like *how* in a phrase like *How charming!* We can say, then, that a DegP is a phase, which causes its AP complement to be a spell-out domain (as also assumed by Kramer 2009, 2010). The Deg head in the case of a string like 'very tall' ((77)) is null, however; 'very' has been argued not to be a Deg head because of phrases like *How very charming!* (Abney 1987, cf. Corver 1997).

The string 'very tall' thus comprises an AP spell-out domain. PF operations that occur after the AP has been spelled out treat it as a single opaque unit, equivalent to one m-word. One such PF operation is the insertion rule for dissociated morphemes, and thus, the whole AP *qua* spelled-out domain is the highest m-word within the highest term properly contained in FP. This accounts for why the definite marker attaches on the right of the AP and the PreP on the left. The structure of (77) is shown in (78), with previously spelled-out material italicized.[36]

(78)



Another result of Deg being a phase head can be seen in the behavior of adjectives with PP complements. In this case, the definiteness marker suffixes to the adjective, as in (79) (not to the complement), whereas the PreP is ineffable: it cannot prefix to either the complement or the adjective ((80)ab). Rather, speakers express the intended notion by using a relative clause, rather than a simple adjective ((80)c).

[36] Thanks to Mark Norris for discussion of this issue.

(79) lä-mist-u tammañ̃-u astämari
to-wife-his faithful-DEF teacher
'the teacher faithful to his wife'

(80) a. *kä-(lä)-mist-u tammañ̃-u astämari
from-to-wife-his faithful-DEF teacher
'from the teacher faithful to his wife'

b. *lä-mist-u kä-tammañ̃-u astämari
to-wife-his from-faithful-DEF teacher
'from the teacher faithful to his wife'

c. lä-mist-u tammañ̃ kä-hon-ä-w astämari
to-wife-his faithful from-be-3MS-DEF teacher
'from the teacher who is faithful to his wife

(79) is what we would expect if the adjective simply counts as the highest thing in AP. If it is uniquely the highest thing in AP, then we would also expect (80)b, contrary to fact. However, if Degs are phase heads, then (80)b is automatically ruled out because the PreP cannot attach inside the spelled out AP. (80)a would then be the expected form, on a par with (77)—but this forces two PrePs to appear in sequence, something that is otherwise not common in Amharic (except on postpositions/locations, for unknown reasons; see note 33). Other sequences of this sort are repaired by deleting the inner prefix, usually the semantically null *yä-* (see footnote 19). But *lä-* in (80)b is not semantically null, so it is not deletable in this way. Therefore it is necessary to paraphrase as in (80)c, where the PreP can safely attach to the verb in the relative clause. The upshot is that, while our data does not support a Local Dislocation approach to PrePs, Kramer's claim that PF operations cannot access previously spelled-out material does play a useful role in our account.

We conclude by considering the generality of our insertion rule, both within the grammar of Amharic and outside the language. One easy-looking extension in Amharic is to the accusative case marker *–n*, but this turns out not to be so easy after all; see the appendix for some discussion. Other candidates could be the possessive/relative marker *yä-*, other C-like particles that prefix to the verb inside their TP complement (see ~~*i*~~*ndä* in (6)), and perhaps negation (which also surfaces as a prefix to V). These extensions go beyond what we can do here, but it is interesting to note that the PF affixation of functional heads seems to be a rather widespread characteristic of this language. (Compare Tremblay and Kabbaj (1990), who attribute the complex placement of case markers to their being functional heads in Amharic, although without investigating the details.)[37]

[37] However, we do not need to go as far as saying that all functional heads in Amharic are phonologically null but assign a feature to their complement that is later realized at PF as a dissociated morpheme. Nothing would necessarily rule out some functional heads as simply being head-final projections, e.g., the clause-final complementizer *zänd* (Leslau 1995:677). Conversely, we do not necessarily need to analyze everything that is realized as a prefix at PF in this way. For example, an anonymous reviewer asks about the prefixal agreement on imperfective verbs in Amharic. Other syntactically interesting prefixes include the passive voice prefix *t-*, the causative prefixes *a-* and *as-*, and the verbal noun prefix *mä-*. These do not have as complex a distribution as the PrePs and the definiteness marker, but always simply attach to the finite verb (or a verbal stem, in the case of *mä-*). If these are analyzed as independent heads in the syntax at all (which is not clear, especially for agreement), they can simply be combined with their hosts by ordinary head movement of the verb into a higher head. See (45) for this sort of analysis of *mä-*. It is conceivable that a dissociated morpheme analysis could work for some of these prefixes as well, but it does not seem to be required.

Beyond Amharic, it is possible that case markers across languages are generally inserted by some type of rule that determines where they attach in the nominal (as opposed to being inserted on/near a triggering head; cf. McFadden 2004 and above discussion). However, the details of the rule almost certainly vary, so this conclusion is pending further study of the morphosyntax of case markers cross-linguistically. Amharic happens to reveal the PF nature of the phenomenon in a particularly vivid way, but the phenomenon itself could be of considerable generality, also applying to more "normal" looking languages. This is a possible topic for future research.

7 Conclusion

In this paper, we have argued that so-called "prepositions" in Amharic are in fact semantic case markers. This re-analysis has several advantages. First, it solves an important word order problem in the language, concerning its apparently mixed headedness. Second, it explains certain clear affinities between "prepositions" and the accusative case marker, as well as the surprising lack of affinity between "prepositions" and postpositions. Third, it provides a way to understand the complicated distribution of the "prepositions" in complex nominals using a PF insertion rule—a distribution that is difficult or impossible to account for with syntactic movements. We conclude that, typologically speaking, Amharic is not a language with seriously mixed headedness in the syntax, but it is a language in which functional heads may correspond to affixes placed at PF in interesting ways.

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Appendix: A note on the positioning of the accusative suffix –n.

In addition to the PrePs, which we take to be inherent case markers, we have seen that Amharic has one clear instance of a structural case marker, the accusative marker *–n*. Indeed, we used this as a point of comparison in section 3, showing that the PrePs are more like the known case-marker *–n* than like postpositions in Amharic for various morphophonological and morphosyntactic considerations. It is natural, then, to ask whether *–n* is also placed by the same PF rule of placement stated in (52).

At first glance, the answer seems to be yes. The data in (A1) shows that accusative *–n* suffixes to the noun in a simple nominal, to the adjective or possessor in a modified nominal, and to the verbal noun of a nominalized clause.

(A1) a. bet-u-**n**
house-DEF-ACC
'the house.ACC'

b. t**ɨ**ll**ɨ**k'-u-**n** bet
big-DEF-ACC house
'the big house.ACC'

c. yä-tämari-w-**ɨn** mäs'haf
of-student-DEF-ACC book
'the student's book' (Leslau 1995:197)

d. [agär-**ɨ**h mä-k'rät-u-**n**] b**ɨ**-t**t**ɨ-wädd…
country-your NOML-stay-DEF-ACC if-2S-want
'If you want to stay in your country…' (Leslau 1995:395)

So far, this is just like the PrePs and *–u*. In particular, we see that *–n* does not necessarily attach to the first thing in the nominal, or to the last thing in the nominal, or to the head noun; rather, it attaches to the highest word in the nominal. This extends also to complex examples of an NP modified by a relative clause: like PreP and *–u*, *-n* attaches to the verb of the relative clause:

(A2) k'äyy mäkina yä-gäzz-a-w-**ɨn** astämari
red car C-buy-3MS- DEF-ACC teacher
'the teacher who bought a red car (acc.)'

So the extension of our theory to accusative *–n* appears at first to be straightforward.

We must note, however, that all of these examples also have the definiteness marker *–u* in them. So an alternative characterization of the data is that *–n* shows up in a nominal on whatever word *–u* shows up on. And indeed, there are some good reasons to say that the spell out of *–n* in Amharic is contingent on the spell out of *–u* or a similar morpheme. The simplest reason is the fact that, when the direct object is a common noun in Amharic, *-n* shows up on the object if it is definite (hence bears *–u*) but not if it is indefinite:

(A3) a. Lämma w**ɨ**ʃʃa-w-**ɨ**n y-ayy-al
Lemma dog-DEF-ACC 3MS-see-AUX.3MS
'Lemma sees the dog.'

b. Lämma w**ɨ**ʃʃa y-ayy-al (*w**ɨ**ʃʃa-n)
Lemma dog 3MS-see-AUX.3MS
Lemma sees a dog.

To account for this, Kramer to appear and Baker 2012 claimed (independently) that all direct objects in Amharic are assigned accusative in the syntax, but accusative is spelled out as *–n* only on a word that word is [+DEF] The morphological feature [+DEF] is intended to include proper nouns, pronouns, and demonstratives, as well as determined common nouns.

Another relevant fact concerns common nouns that are morphologically definite because they bear a possessive suffix like *–e* 'my' or *–u* 'his'. Like +definite *–u*, these suffixes do condition the spell out of *–n* on the accusative object:

(A4) a. mäskot-e-n 'my window (acc.)' (Leslau 1995:53)

b. bet-**ɨ**h-**ɨ**n ayy-ä-hu
house-your-ACC see-1S
'I saw your (m.) house.'

But different from definite *–u*, the possessive suffixes attach to the noun, not to the adjective, in a modificational structure:[38]

(A5) tɨllɨk'(-u) bet-e
big(-DEF) house-my
'my big house' (Leslau 1995:213)

Now if such a nominal is used as an object, *-n* attaches to the head noun, not to the adjective:

(A6) a. mäkkan bazra-w-ɨn
barren mare-his-ACC
'his barren mare (acc.)' (Leslau 1995:184)

b. tɨllɨk' bet-e-n ʃät'-kw
big house-my-ACC sell-1S
'I sold my big house.' (Leslau 1995:213)

The affix *–n* cannot go on the adjective instead of or in addition to the possessed noun:

(A7) a. *tɨllɨk'-ɨn bet-ɨh-ɨn
big-ACC house-your-ACC

b. *tɨllɨk-ɨn bet-ɨh
big-ACC house-your

That is consistent with the idea that accusative is spelled out as *–n* only on words that are marked for definiteness, since it is the noun but not the adjective that is so-marked in (A6). One additional detail is that, while *–u* never shows up on the possessed noun itself, it can show up on the adjective that modifies the possessed noun (see (A5)). This is the presumably the concord-like use of *–u* mentioned in Kramer (2009, 2010) and sources listed there. Now if this sort of nominal is used as an object, accusative *–n* shows up on the adjective if and only if *–u* does.

(A8) a. tɨllɨk'-u-n bet-ɨh-ɨn
big-DEF-ACC house-your-ACC
'your big house (acc.)'

b. mäkkan-wa-n bazra-w-ɨn
barren-DEF.F-ACC mare-his-ACC
'his barren mare (acc.)' (Leslau 1995:184)

[38] When the pronominally possessed noun is not accusative, Leslau gives *–u* as obligatorily being on the adjective (p. 209), but when he gives it as accusative he says that *–u* is optional. We are not sure what is behind this seeming inconsistency, and indeed our consultants tend not to like Leslau's example, preferring the adjective not to have the determiner.

The contrast between (A8) and (A7) shows very clearly that where *–n* appears in a nominal depends on which words in the nominal are marked [+DEF] in general, and which bear *–n* in particular.[39]

Based on facts like these, we think the theory of *–n* should be something like the following:

(A9) a. If a nominal X is assigned [+ACC] in the syntax, then every word in X is marked [+ACC].
b. If word W is [+DEF, +ACC], then pronounce it as W+*n*

This captures the facts that we have seen here. Notice that (A9) is quite a different rule for associating a syntactic feature belonging to a nominal as a whole with the words inside that nominal. Intuitively, what we have here is a difference between languages in which case or another feature is marked only once in a nominal (typically at the edge, but in Amharic on the highest) and languages in which case is marked on every word in a nominal. Both types of systems are known to exist in languages of the world, and they can coexist even in a single language.[40]

One final type of example that convinces us that something like (A9) governs the distribution of *–n* is (A10).

(A10) yä-k**ɨ**nd-u-n (yä)-däm s**ɨ**r k'^{w}ärrät'-ä-w
of-arm-his-ACC (GEN)-blood vessel cut-3MS-3MS.O
He cut a blood vessel in his arm (Leslau 1995:196)

Here both the possessive suffix *-u* and the accusative suffix *–n* attach to the first noun of the construction. Now where do the features that are realized by these morphemes originate? For accusative, the answer is clear: it is originally a feature of the largest nominal, the one headed by *sɨr* (the other nominals should be genitive, perhaps spelled out as *yä-*). The possessive suffix, however

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[39] Similar examples can be found with a sequence of adjectives modifying a definite noun. As mentioned in section 3, the first one must be marked definite with *–u* and the second may also be marked *–u*, as a kind of concord (Kramer 2009, 2010). Significantly, when such a nominal is accusative, *-n* follows *–u* exactly: it must appear on the first adjective, cannot appear on the head noun, and it appears on the second adjective only if *–u* does. Similar facts hold when there are three adjectives:*-u* must appear on the first adjective, and it appears on the second or third adjective only if *–u* does.

(i) t**ɨ**nn**ɨ**ʃ-u-**n** k'onjo-(w-**ɨn)** bet
small-DEF-ACC pretty-(DEF-ACC) house
'the small, pretty house (acc.)'

This data is also what one expects if [+ACC] spreads to everything in NP, but is spelled out on particular words if and only if they are marked [+DEF] in the morphology.

Recall that PrePs can also be doubled when there are multiple modifiers that bear the affix *–u* (see (23) for two adjectives; similar facts hold with three). However, our rule for placing a semantic case feature does not put that feature on the second AP the way that (A9) does. We thus do not have a full understanding of Amharic concord yet. One possible view of the case doubling effect with oblique case might be that examples of the form P+A1-*u* A2 N have the structure [[A1(P) [A2(P) N(P) F] F] P], with the case feature assigned by P spelling out only on the highest word A1, as usual, whereas examples of the form P+A1-*u* P+A2-*u* N have the structure [[[A1 and A2] N(P) F] P], where the adjectives are joined by a null coordinator. Then the case feature triggered by P will be associated with [A1 and A2] as the highest phrase with overt material, and from there it distributes onto both members of the conjunction—something also seen in examples like (19). This proposal makes certain distinctive predictions about adjective order and the like which we cannot take up here. See Kramer 2009, 2010 for a similar proposal about definiteness concord and relative clauses.

[40] For example, case is spelled out on most words inside a nominal in Indo-European languages like Latin, Greek, and Russian and in some Australian languages. In contrast, it is spelled out only once, on the last word of a nominal in Turkic languages, Quechua, Shipibo, etc. Oromo is a language with internal variation: the marked nominative suffix *–n* attaches to both words in a two-word NP, but oblique case markers only attach to the last word (Owens 1985:98).

belongs in the first instance to the more deeply embedded noun *k<s>i</s>nd* 'arm'. Therefore, (A10) shows us something a bit remarkable: the *–n* associated with the nominal as a whole is spelled out on a noun that it has no direct connection with because of *–n*'s special affinity to words marked for definiteness. In other words, when (A9)b says that a [+DEF, +ACC] word receives the *–n* suffix, the [+DEF] feature and the [+ACC] feature can come originally from different constituents. We believe that this confirms that where *–n* appears has more to do with morphological spell out than with core matters of the syntax and semantics.

In conclusion, we do not pretend that (A9) is a full account of *–n* in Amharic nominals.[41] Rather, we offer it more as a descriptive generalization. The main point is that accusative does not obey the same rule of feature association that the oblique cases that manifest as PrePs do. The (many) examples in which the distribution of *–n* does look similar to the distribution of PrePs are better attributed to the fact that *–u* does follow the same feature association rule as the oblique cases do, and *–u* facilitates the realization of *–n* for the superficial reason stated in (A9b). That is why we compared the distribution of PrePs to that of *–u* in the body of this work, even though the comparison with *–n* may initially seem more promising, given that both are case markers.

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[41] For example, it does not predict the distribution of *–n* on generic NPs (see Leslau 1995:182, 211). Another thing to work out would be exactly how far into the NP the accusative case feature can spread. (A10) shows that it can get onto the possessor of the possessor of the accusative noun, but other data would probably show that it cannot spread onto the dependents of a verb inside a relative clause, or the dependents of a verbal noun. Presumably this has much to do with the idea that PF operations cannot access previously spelled-out domains (see section 6), but we do not attempt to work this out.

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