“Prepositions” as Case Morphemes Inserted at PF in Amharic*

Mark Baker (Rutgers University) & Ruth Kramer (Georgetown University)

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  
   ‘from the house’

   b. bä-bisiklet  
   by-bicycle  
   ‘by bicycle’ (Ayalew 2006:76)

   c. wädä sinima bet  
   to cinema house  
   ‘to the movies’ (Appleyard 1996:40)

   d. lä-Girma  
   to Girma  
   ‘to Girma’

And yet it is somewhat surprising that Amharic would 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 separate set of postpositions as well. So the data in (1) raises some questions. Are these prepositions some kind of typological anomaly? Do they give evidence 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, alternatively, does (1) present a somewhat different phenomenon that is only masquerading as prepositions?

In this chapter, 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 (cf. Tremblay and Kabbaj 1990). One immediate advantage of this is that it renders Amharic typologically more typical, removing (1) as an anomaly. But this turns out not to be an artifice designed merely to save a theoretician’s tidy but idealistic view of the world. Rather, it has the added benefit of accounting for the very unusual distribution of “prepositions” within DPs in Amharic. For example, (2) shows that, when the semantic complement of the “preposition” is modified by a relative clause, the “preposition” appears in a surprising place: apparently inside the relative clause, between the verb and its object!

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1 Tremblay and Kabbaj 1990 also suggest that the “prepositions” are case markers, and thus serve as an important precedent to our work. However, their analysis is significantly different since it does not address the typological problem (it relies on a head-initial case projection; see Section 4.1).
As far as we can tell, the order in (2) cannot be derived by any plausible series of syntactic movements starting from the assumption that *lā to* is a preposition. It can, however, be deduced from the view that *lā* is a case marker inserted at PF, given a series of independently motivated assumptions.

Another broad implication of our analysis is that it provides a case study in how to differentiate semantic case markers from prepositions—two closely related notions that are often tricky to distinguish clearly (see e.g., Zwicky 1992). It also supports the idea that semantic case is a partially post-syntactic phenomenon (McFadden 2004).

2 A Closer Look at the Puzzle

We mentioned that, apart from (1), Amharic is a rather well-behaved head-final language in the familiar sense of Greenberg 1966, Dryer 2007, and many others. For example, Amharic has SOV word order and clauses are rigidly verb final, with complements essentially never “scrambling” to post-verbal position:

(3) **Almaz bet-u-n ayy-ätʃf**

*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 or Aspect).

(4) **bā-t’ìnt gize bā-māk’a bìr yi-s’if-u näbbär**

*in-ancient time with-reed pen 3PL-write-3PL AUX*

‘In ancient times, they wrote with reed pens.’ (Leslau 1995:316)

Even CP complements come before the matrix verb, as shown in (5).

(5) **[innat-u īndā-mot-ätʃf] tinantinna sāmm-a**

*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 (*wāy*; 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 (2)), 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 are given in (6) and (7).

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3 The only exception that we are aware of are cleft sentences, where the copula sometimes appears sentence-medially; see Leslau 1995:106.
Similarly (Note that Amharic has initial extension of P; adjoined to PP or some derived order of P complements (hence OV), but it is not very plausible to say that DP moves rightward inside PP to give a leftward approach to mixed word order comparable languages do. It has a mixed word order in that it has OV order and prepositions, but does not display mixed or variable word order along any other dimension, the way that other, superficially comparable languages do.

The main anomaly, then, is that it also has prepositions, as shown in (1). (8) is another example, with two putative PPs used in a complete sentence (and also coming before the verb, as expected).

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 these and the familiar syntactic category of adposition to be determined.

To deepen the mystery just a little more, we point out that, typologically, having OV word order along with prepositions is the rarest kind of mixed word order; it is found in only 10 of 1033 languages surveyed in Dryer (2011a). Moreover, of the 10 languages with this order identified by Dryer, none could be considered a typical SOV language, the way Amharic is. Two of them are OVS, rather than SOV, one of the rarest overall word orders (9 out of 1228 languages; Dryer 2011b). Six of them can place prepositional phrases after the verb, which is ungrammatical in Amharic. In 9 out of 10, the genitive follows the noun, at least optionally, which is also ungrammatical in Amharic. In 9 out of 10, one or more NP internal modifier (adjective, numeral, relative clause) can follow the noun, unlike Amharic. Amharic, then, looks to be a rare language among rare languages. It has a mixed word order in that it has OV order and prepositions, but does not display mixed or variable word order along any other dimension, the way that other, superficially comparable languages do.

The mixed word order OV together with prepositions is also particularly problematic for theoretical approaches to mixed word order. The opposite mixture, having postpositions in a VO language, is nearly four times as common (38 of 1033 languages; Dryer 2011a), and it has 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 would 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 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 interpretations 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, the order found in Amharic.

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

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1 The ten languages are Neo-Aramaic, Tigre, Iraqv, Persian, Kurdish, Tajik, Tobelo, Sorbian, Päri and Mangarrayi.

2 All statistics on these languages are from their respective chapters in the World Atlas of Language Structures (Dryer and the WALS author team 2011a–j)
“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 chapter presents more direct evidence for (9), and explains in more detail how it works.

3 Prepositions are Case Markers, Not Adpositions

Before facing the thornier problems of word/morpheme order in Amharic (such as (2)), we can 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. With respect to structural case marking, Amharic is a fairly typical nominative-accusative language (see Leslau 1995, Baker in press, among others). As is often the case, nominative is morphologically unmarked. Accusative case, however, is marked overtly on definite/specific direct objects (only) by the suffix/enclitic –n.6

(10)  Almaz-Ø  bet-u-n  ayy-äfefs  
     Almaz-NOM  house-DEF-ACC  see-3FS
     ‘Almaz saw the house.’

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 the fundamental difference 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 evidence that the PrePs are also case morphemes rather than adpositions in the syntax. In particular, we consider three kinds of evidence: morphophonological evidence concerning wordhood (cf. Zwicky 1985), morphosyntactic distribution, and the availability of repetition/concord within the DP.

3.1 Morphophonological Evidence

There is 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) and it never occurs in isolation. As is typical for affixes, it undergoes morphophonological 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. Girma-n  
     Girma-ACC

b. Almaz-in  
     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 conjunction and affixal/clitic status).

6 Two other morphemes that one might consider to be structural cases (sometimes) in Amharic are dative lâ- and genitive yâ-. Both are prefixes/proclitics like (other) PrePs, not suffixes/enclitics like accusative –n. Therefore we classify them as members of the class of PreP that is under investigation here, and not as outside points of comparison.
Postpositions also occur immediately to the right of a noun, like the accusative case marker (see (6), (7)). However, postpositions are morphophonologically independent from the noun; they are full words. They are prosodically larger than the accusative, consisting of one or more heavy syllables (e.g., lay ‘upon’, at’ägäb ‘near’, bähwälä ‘behind’).

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 (13) the noun ends in the vowel [a], the possessive suffix begins in the vowel [a], and the two [a]’s simplify down to a single [a].

(13) gwadänña + atʃjäw = gwadänn- atʃjäw
  friend their friend-their (Appleyard 1996:24)

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 (14)a.

(14) a. Addis Abäba at’ägäb
    Addis Abeba near
    near Addis Ababa

b. *Addis Abäbat’ägäb

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 once after a conjoined DP, and still be understood as applying to both conjuncts, unlike the accusative –n in (12)b.

(15) [t’äräp’p’eza-w inna alga-w] lay
    table-DEF and bed-DEF on
       ‘on the bed and the table’

A postposition can also be conjoined with another postposition, the two taking a single DP complement, as shown in (16).

(16) Almaz-in bet-u wist’-inna witʃ’tf’ ayyä-hw-at
    Almaz-ACC house-DEF in-and out see-1S-3FS

How then do PrePs compare to accusative -n and postpositions in these respects? The answer is that they are like -n and different from postpositions in every way. First, they are prosodically smaller than postpositions: they consist of at most two light syllables (wādi), and the majority consist of only one light
syllable or less (kä, bä, ḏ). This is smaller than a minimal prosodic word in most languages. Second, they do participate in word-internal morphophonological processes, such as vowel deletion:

(17) **Vowel Deletion**

\[ lä + \text{Almaz} = l\text{Almaz} \]

to \text{Almaz} (Appleyard 1996:41)

PrePs can also trigger allomorphy of their hosts. For example, demonstratives display suppletive allomorphy when immediately preceded by PrePs, as shown in (18)b.

(18) a. \text{yih} bet

this house

b. bä-\text{zzih} bet

in-this house (Appleyard 1996:33-34)

Like accusative case, PrePs cannot scope over a conjoined DP, but the PreP must be repeated on each conjunct:

(19) a. \text{kä-gäbäre-w inna kä-mämhir-u}

from-farmer-DEF and from-teacher-DEF

‘from the farmer and the teacher’

b. * kä-[gäbäre-w inna mämhir-u]

from-farmer-DEF and teacher-DEF

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

(20) *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 quite different from postpositions.

### 3.2 Distributional Evidence

It is of course logically possible that PrePs are a special subclass of the category P that happen to be affixes or clitics. But in fact the similarities between case marker and prepositions run even deeper. They extend also to distributional evidence.

Postpositions have a very straightforward distribution. They always appear to the right of the associated noun, which is the last full word in the DP. This is shown again for a variety of DP structures in (21)-(23).

(21) \text{mäs’haf-u [t’äräp’eza-w sīr] nāw}

book-DEF table-DEF under is

‘The book is under the table.’ (Leslau 1995:625)
(22) mäs’haf-u [tillik’-u t’äräp’p’eza sîr] näw
    book-DEF big-DEF table under is
‘The book is under the big table.’

(23) mäs’haf-u [Girma yä-gäzz-a-w t’äräp’p’eza sîr] näw
    book-DEF Girma C-buy-3MS-DEF table under is
‘The book is under the table which Girma bought.’

In contrast, the position of PrePs is more complicated (interesting); it varies depending on exactly what is contained in the DP: just a noun, a noun plus adjective, a relative clause, and so on. However, the PreP consistently attaches to the same host within the DP as the accusative case marker would. Both attach to the noun, if the noun (plus perhaps the definite suffix –u) is the only overt element in DP:

(24) a. bet-u-n 'house-DEF-ACC’ ‘the house.ACC’
    b. kä-bet-u ‘from-house-DEF’ ‘from the house’

If the DP consists of an adjective followed by a noun, then both accusative case marker and PreP attach to the adjective, the accusative as a suffix/enclitic and the PreP as a prefix/proclitic:

(25) a. tillik’-u-n bet
    big-DEF-ACC house
‘the big house.ACC’

    b. kä-tillik’-u bet
    from-big-DEF house
‘from the big house’

If the DP consists of a relative clause and a head noun, both case marker and PreP are attached to the verb of the relative clause, as shown in (26) and (27) (see also (2)).

(26) k’äyy mäkina yä-gäzz-a-w-în astämari
    red car C-buy-DEF-ACC teacher
‘the teacher.ACC who bought a red car’

(27) k’äyy mäkina lä-gäzz-a-w astämari
    red car for-buy-DEF teacher
‘for the teacher who bought a red car’

Note that there is a minor complication in (27): we would expect the relative verb form in (27) to be lä-yä-gäzz-a-w, but there is a deletion operation in Amharic that deletes the second element in a PreP-Complementizer or PreP-PreP sequence, so that lä-yä-gäzz-a-w becomes lä-gäzz-a-w. This is a very general process in the language (see discussion in Leslau 1995:89).

Next, if the DP consists of a possessor and a possessed noun, both accusative case marker and PreP attach to the possessor:

(28) yä-Girma-n wändimm
    of-Girma-ACC brother
‘Girma’s brother.ACC’
Again, the deletion process applies in (29), turning the expected form \( l\-y\-G\)irma into \( l\-G\)irma at PF, much as in (27).

If the DP consists of a nominalized verb and its complement(s),\(^7\) then both accusative case marker and PreP attach to the nominalized verb:

(30) \( a\-g\-h\-m\-k\)rä\-u\-n bi-tti-wääd…
  country-your NOML-stay-DEF-ACC if-2S-want…
  ‘If you want to stay in your country…’ (Leslau 1995:395)

(31) mist-u-n bä-mä-gdäl tä-kässäš-ä
  wife-his-ACC against-NOML-kill PASS-accuse-3MS
  ‘He was accused of murdering his wife.’ (Leslau 1995:400)

Examples like (30) and (31) are systematic exceptions to the otherwise fairly accurate generalization that these elements attach to the first overt word in DP. We find it significant that these gerund-like nominalizations are “exceptional” in this regard for both accusative placement and PreP placement. This suggests to us that they are indeed following the same rule, and the similarity is non-accidental. And indeed examples of this sort could readily be multiplied by considering more complex DP structures: accusative -\( n\) and any of the PrePs also attach to the same word in a DP that includes a sequence of adjectives (see (32) and (33)), a sequence of relative clauses, a relative clause together with a sequence of adjectives, a pair of conjoined relative clauses, and a pair of conjoined adjectives (data omitted). We conclude that the distributional similarity between the accusative case marker and the PrePs is robust and striking. In contrast, the PrePs have much less distributional similarity with postpositions.

3.3 Availability of Repetition/Concord

An interesting detail about the accusative case marker in Amharic is that it must be present on the first AP inside a complex DP, and it is optionally repeated on the second AP in that DP, as shown in (32).

(32) tinnif-u-n k’onjo-w(\textit{in}) bet
  small-DEF-ACC pretty-DEF(-ACC) house
  ‘the small, pretty house.ACC’

Kramer (2009) analyzes this as a kind of case concord, similar to accusative being manifest on the various elements of an NP in a language like Latin.

Significantly for current purposes, PrePs in Amharic show the same behavior: they are required on the first AP, and can be repeated on the second (Tremblay and Kabbaj 1990).

(33) kä-tinnif-u (kä-\)k’onjo-w bet
  from-small-DEF (from-)pretty-DEF house
  ‘from the small, pretty house’

\(^7\) Note that 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 (31)), can be modified by adverbs, and so on.
Given our hypothesis that PrePs are semantic case markers, as stated in (9), this is simply another instance of case concord, and so not unexpected (cf. Nikanne 1993 on semantic case in Finnish).

In contrast, postpositions cannot be repeated more than once in the same DP-like constituent, wherever one tries to put the second instance of the postposition:

\[ (34) \]

\[ \text{a. } *\text{tinni} \text{-} \text{u wist'} \text{ k'onjo} \text{-} \text{w bet wist'} \]
\[ \text{small-DEF inside pretty-DEF house inside} \]
\[ \text{Intended meaning: 'inside the small, pretty house'} \]

\[ \text{b. } *\text{tinni} \text{-} \text{u wist'} \text{ k'onjo} \text{-} \text{w wist'} \text{ bet wist'} \]
\[ \text{small-DEF inside pretty-DEF inside house inside} \]

\[ \text{c. } *\text{tinni} \text{-} \text{u wist'} \text{ k'onjo} \text{-} \text{w wist'} \text{ bet} \]
\[ \text{small-DEF inside pretty-DEF inside house} \]

That is expected if the postpositions, unlike PrePs, are real, semantically relevant heads in the syntax. Then each instance of a postposition like \text{wist'} should assign its own thematic role, and one only has two instances of the postposition if one has two distinct DP arguments that can function as their complements. Once again, the PrePs behave like case markers whereas the postpositions do not.

In this section overall, we have seen that the PrePs are like the accusative case marker \text{-n} with respect to their morphophonology, their complex morphosyntactic distribution, and their ability to participate in concord. In all these same respects, the PrePs differ from postpositions. We therefore conclude that the PrePs are best analyzed as case markers, and not adpositions. Notice that this evidence has nothing to do with whether they show up before or after the associated nominal, the accusative marker and the PrePs differing in just this respect. Hence assigning the PrePs to the same category as the case marker is empirically justified quite apart from its potential to resolve the typological anomaly in the word order of Amharic.

### 4 The Analysis of Semantic Case

#### 4.1 The Basics of the Analysis

The next step, then, is to clarify just how the category of semantic case is represented grammatically. There are still dangers to avoid in this. Simply saying that an element like \text{lä} or \text{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 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 (35).

\[ (35) \]

\[ \text{KP} \]
\[ \text{K} \]
\[ \text{DP} \]
\[ \text{kä-} \]
\[ \text{Girma} \]

\[ = \text{kä-Girma 'from Girma'} \]

One positive feature of this view is that \text{kä-} is represented in the syntax, so that it can be interpreted semantically at LF. That is important, because we need to get the meaning of ‘from’ that pretheoretically is signaled by \text{kä-} from somewhere. But a disadvantage of (35) is that this approach simply moves the problem of disharmonic word order in Amharic to a different category. It is just as problematic to say that Amharic has head initial KPs in an otherwise head final language as to say that it has head initial PPs. So the potential
for a clear 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 (35), then, we propose that the syntax of Amharic includes a series of null Ps (meaning e.g., ‘from’) that govern DP complements—as suggested by Emonds 1985, 1987, Guerssel 1992, Nikanne 1993, and McFadden 2004 for languages like German, Berber, and Finnish, among others. The null Ps then assign particular case features to their DP complements, for example “ablative” in the case of the null P that means ‘from’. On this view, the syntactic representation of *kä*-Girma would be (36).

(36)  
$\begin{array}{c}
\text{PP} \\
\text{DP} \quad \text{P} \\
\text{Girma} \quad \emptyset \\
[+\text{ABLATIVE}]
\end{array}$

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 *kä-* . Meanwhile, only a null vocabulary item is inserted under the P node, by hypothesis. Therefore, the syntactic representation in (36) is realized at PF as (37).

(37)  
PF: [kä-Girma]

Before fleshing out just how the dissociated morpheme is spelled out on DP, we point out some initial advantages of this approach. First of all, the word order problem is solved: since the P in (36) is phonologically null, we can safely say that it is a postposition, just like all overt Ps in Amharic. Amharic is then a uniformly head final language in its syntax. The apparently anomalous morphemes turn out not to be syntactic heads at all, but only 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 morpheme at PF solves this problem, because the P can be interpreted at LF.

Having a null P in the syntax is also supported by the fact that DPs with semantic case markers (“prepositions”) 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 (38).

(38)  
a. Almaz [bet wist’] gäbb-atʃʧ
   Almaz house in enter-3FS
   ‘Almaz went inside the house.’

b. Almaz [bä-bet] gäbb-atʃʧ
   Almaz via-house enter-3FS
   ‘Almaz entered via the house’

Additionally, DPs with semantic case markers can be coordinated with PPs that contain overt prepositions.

(39)  
mäš’haf-u [bä-bet-u] inna [alga-w lay] näw
   book-DEF in-house-his and bed-his upon is
   ‘The book is in his house and on his bed.’

8 Thanks to Jochen Zeller for asking about these structures.
This seeming equivalence is, of course, why the semantic case markers have been analyzed as adpositions within the Amharic literature. So we can continue to maintain that locations are expressed by PPs in the syntax, motion verbs and the copula can select PPs, and so on. Such statements will not distinguish postpositions from PrePs in Amharic on this view.

Finally, the analysis predicts that it should be possible to have an overt P and a case-marked complement. Although the P happens to be null in (36), this is presumably a special case. Nothing precludes an overt P with morphophonological content from also triggering the insertion of a case marker. We therefore could find a postpositional phrase in which the DP is semantically case marked. In fact such phrases are attested and quite common in Amharic:

(40) kä-wändimm-u gar
    COM-brother-his with
    ‘with his brother’ (Leslau 1995:653)

In (40), the overt P is *gar* and its complement ‘his brother’ is semantically case-marked with *kä*- (glossed here as comitative). The postposition *gar* always occurs with *kä*;- it is found neither alone nor with any other case markers. Thus, *gar* is like the null ablative P from (36) in that it triggers the insertion of a particular semantic case marker on its complement at PF.9

Overall, then, the analysis has significant promise in that it solves 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 elsewhere in the language.

4.2 Insertion of Case Markers Post-Syntactically

The last major step in our argument is to show that a reasonable account of the placement of a PreP inside a complex DP can be given in terms of the proposal in (36)-(37), whereas we foresee no plausible account forthcoming from a rival analysis that takes PrePs to be head-initial Ps in the syntax with parts of the DP undergoing syntactic movement.

We start by making explicit two assumptions from the Distributed Morphology literature. The first is simply that morphological operations occur post-syntactically on the PF branch, as sketched in (41).

9 The semantic case marker in (40) does not contribute to the meaning of the PP as a whole, as expected if case markers are inserted post-syntactically after the derivation has been sent to LF. However, sometimes the addition of a semantic case marker does seem to add a component of directional meaning. The postposition *w EST’ means roughly ‘inside,’ and when it combines with the ablative *kä*- the meaning ‘from inside’ is generated:

(i) kä-bet w EST’
    from-house inside
    ‘from inside the house’ (Leslau 1995:639)

The ablative null P that triggers the insertion of *kä*- in PPs like (36) thus needs to be present in the syntax so that it can contribute the ablative meaning. We submit that in such cases there are two PP’s in the syntax, with one nested inside the other: [[ DP P] P]. Thanks to Sharon Rose for discussion of this issue.
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. Rather, the correct generalization, we argue, is approximately the one in (42).

(42) The case marker attaches to the highest full word (stem+affixes/clitics) in the DP.

By the expression “full word” in (42), 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 DP is then determined in terms of c-command. The rule that inserts case markers can thus be stated more precisely as in (43) (to be revised below).

(43) Insertion Rule (F = case feature, X = DP) (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.11

Let us see, then, how (43) accounts for the distributional data that we surveyed in Section 3.2. First, when there is a single M-Word in the DP—the noun with perhaps a D-like suffix or clitic (-u) attached to it—then the case marker trivially attaches to that M-Word:

(44) kā-[bet-u]MWd
  from-house-DEF
  ‘from the house’

This is, of course, what one would expect on almost any view. Somewhat more interesting is the case when the DP contains an attributive adjective, as in (45).

(45) kā-[tɨllɨk']MWd bet
  from-big house
  from a big house

We may suppose that such adjectives are generated as the specifiers of designated functional heads in the extended projection of the nominal, following Cinque (1994, 2009). Then the syntactic structure of (45) is as in (46).
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.). Therefore, the A(P) counts as the highest M-Word in the DP (the D being covert, or perhaps even absent in the case of indefinite nominals). Ká- is inserted on this word, realizing the +ablative case feature and resulting in (45).

If a noun is modified by a series of adjectives, then (43) predicts that the case 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. (47) shows that this is correct. (It may also optionally attach to the second adjective, as mentioned in Section 3.3.)

(47) kä-tinnif-u k’onjo-w bet
from-small-DEF pretty-DEF house
‘from the small, pretty house’

This account also works in a straightforward manner for DPs 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 (or accusative -n) must affix to it, rather than to the possessor, as shown in (48) with the analysis in (49).

(48) lā-[Girma]MWd wändimm
to-Girma brother
‘to Girma’s brother’

also give the right result when applied to a structure that does not have the abstract head F in (46) but has A(P) adjoined directly to N(P).

13 This naturally raises the question of where the preposition goes when the AP is not simultaneously maximal and minimal, i.e., when there is other material within the AP. See (62) below for some discussion.

14 The PreP/demonstrative data in (18) above can be explained along the same lines. Demonstratives always precede nouns 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). As a simultaneously minimal/maximal category in a high specifier position, the demonstrative asymmetrically c-commands the head noun, and the case marker attaches to the demonstrative, as in (18).

15 (49) does not include the possessive marker yä-, seen in (28), which is deleted at PF in (48) as in (29). This could plausibly be analyzed as either a syntactic head (Poss?), or as a dissociated morpheme (essentially genitive case). Either way, it would have to be taken into account in a fuller analysis of possessive nominal s in Amharic.
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 in general possible. When the possessor is initial, we assume that the Poss head selects an FP with an AP specifier. This is the more neutral order. When the AP is initial, it is focused and obligatorily has the definite marker –u (perhaps repurposed as a focus marker). We therefore assume the AP has undergone focus-related movement to a higher specifier (possibly Spec,DP; 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 order it is the A(P). As (43) predicts, the PreP attaches to the highest M-Word in either order: the possessor in (50), and the A(P) in (51).

(50) bä-diräktär-u addis mäkina
in-director-DEF new car
in the new car of the director (Leslau 1995:195)

(51) b-addis-u yä-diräktär-u mäkina
in-new-DEF/FOC of-director-DEF car
in the NEW car of the director (Leslau 1995:195)

For the examples considered so far, a simpler rule would work, namely one that affixes the case marker to the first M-word in a DP constituent. But that version would not work for examples like (52), where the DP consists of a verbal noun and its complement. In such examples, the PreP prefixes to the verbal noun, not to its complement, even though the complement strictly precedes the verbal noun.

(52) [mist-u-n bä-[mä-gdä]MWä] tärä-kässäs-ä
wife-his-ACC against-NOML-kill PASS-accuse-3MS
‘He was accused of murdering his wife.’ (Leslau 1995:400)

It is examples like (52) that make it tempting to say that the case marker affixes to the head of the nominal, but that assumption is problematic for examples like (45) and (48). Our proposal in (43) can capture them all. 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-. 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 (53).
This derived M-Word (the complex head ā-gdl) is now the highest M-Word inside this DP, asymmetrically c-commanding the object and anything else that may remain inside VP. Therefore, this is the word that the PreP attaches to, resulting in (52).

We account for the fact that the PreP (and –n) attaches 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 maintain 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, since then it would presumably land in a position higher than the adjectives. This assumption seems valid. In the simplest examples 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 (53).

(54) [bet-u]
    house-DEF
‘the house’

But the overall distribution of –u is considerably more complex, and in more articulated structures it typically does not affix to the head noun. For example, in (55) it attaches to the adjective:

(55) tillik’-u bet
    big-DEF house
‘the big house’

So (55) strongly suggests that N does not move to D in Amharic—at least not in the presence of an adjective or other modifier. On this basis, Kramer (2009, 2010) argues that –u is the realization of D, but it is morphophonologically dependent and must undergo a PF operation where it attaches to a suitable host.16 Her account explicitly assumes that N cannot move to D in Amharic, in fact. In contrast, mä does always affix 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 cases in the way that our account assumes.

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16 In fact, the distribution of –u in the Amharic NP is very similar to, although not quite identical to, the distribution of the PrePs and accusative –n as presented here. The subtle differences emerge in structures where the last word of the relevant phrase is different from the highest word in the phrase (e.g., ‘the very big house’; see (59)). In these cases, the PreP attaches to the highest word (‘very’), and the definite marker attaches to the last word (‘big’). The placement of the definite marker, therefore, seems to be sensitive to linear order, whereas the placement of the PreP is sensitive only to hierarchical structure. Kramer’s (2009, 2010) account of –u can be seen as a Distributed Morphology approach to capturing the sensitivity of the definite marker to linear order. We leave open for future research how much the rule proposed there for the placement of the definite marker (Local Dislocation) should overlap in terms of form and approach with the insertion rule proposed here for the PrePs.
This brings us to our most complex and surprising data: the placement of PreP in DPs in which the head noun is modified by a relative clause. As shown in (2) in the introduction, the PreP shows up in the middle of such a relative clause, between the complement of the verb and the verb itself. Another example is (56).

(56) k’äyy mäkina lā-gāzza astämari
red car for-buy teacher
‘for a teacher who bought a red car’

Another way of putting the challenge here is the PreP lā- does not prefix to the first word of the DP (k’äyy), or to the last word (astämari), or to the traditional head (astämari again), but rather to one of the middle words, of all things!

Our account in terms of (43) can be generalized to account for this surprising datum. To do so, we need to take a stand on the structure of a relative clause in Amharic, so we can identify the highest M-word in a phrase that is modified by one. A simpler example containing a relative clause (one that has no PreP) is (57).

(57) k’äyy mäkina yā-gāzza astämari
red car C-buy teacher
‘a teacher who bought a red car’

In fact, we can leave many details about the structure of relative clauses open, and concentrate on two clear facts about examples like (57). The first is that the relative clause comes before the noun it modifies, much as attributive adjectives do. So it is reasonable to say that the relative clause as a whole is, like an AP, generated in the specifier of a functional head that mediates the relationship between it and the NP (as in Cinque 2009). Then the relative clause as a whole asymmetrically c-commands the NP. The second crucial fact about (57) is that the relative complementizer-like element yā- appears prefixed to the verb of the relative clause, much as mā- prefixes to the verb in nonfinite-nominalized constructions. Indeed, relative yā- is like mā- in that it never prefixes to anything but the 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, as a way of forming a single M-word with the relative complementizer yā-. 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, yā- appears as a prefix on the auxiliary, not on the main verb:

(58) lidʒɔtʃif-u-n bāhayl yī-gārf yā-nābbār-ā-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 (59).
Now what is the highest M-word in this structure? Technically, there is no highest M-word here: there is no M-word that c-commands all the other M-words. In particular, the M-Word *yä-gärza* (C+V) does not c-command the M-Word *astämari* ‘teacher’ (N) because it is properly contained in the relative CP, and this CP does not contain *astämari*. But it is close to being the highest M-word in the DP. In particular, the relative CP is the highest phrase that contains phonologically overt material, and *yä-gärza* is the highest morphological word inside the relative clause. So we get the correct result if we apply (43) recursively, so that affixation targets the highest element in the highest element in the highest element … of the target phrase. One way of expressing this is given in the revised version of (43) in (60).

(60) **Insertion Rule, Revised** *(F = case marker, X = DP)*

(i) If feature F is associated with a term\(^{17}\) 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 M-word, then associate F with the highest term that is properly contained in X and contains at least one M-word. (recursive step)

This rule places the prefix on the relative verb in an example like (52). This correctly derives (51) once the relative prefix *yä*- deletes after the PreP *lä-, by the deletion rule that was mentioned back in Section 3.2.

The rule in (60) makes a number of accurate predictions. First, it predicts that if the predicate of the relative clause has a main verb-plus-auxiliary structure, the PreP should attach to the auxiliary (suppressing *yä-*). This is correct, as shown in (61).

(61) *täfäw šilä-näbbär-u sost nägär-o³ʃʃ*
lost about-were-3PL three thing-PL
‘about three things that were lost’ (Leslau 1995:90)

It also predicts that when an adjective is modified by an intensifier (e.g., *bät'am* ‘very’), the PreP attaches to the intensifier. The intensifier modifies the adjective, and we assume it asymmetrically c-commands what it modifies, just like adjectives and relative clauses c-command the noun. Alternatively, the intensifier could be a Deg head that takes an AP complement and thus be the highest M-Word inside the modifier (the whole phrase therefore being a DegP); see Doetjes, Neeleman and de Koot 2004. Under either approach, the intensifier will be the highest M-Word within the highest phrase (AP) in (62), and the PreP is predicted to attach to it. This is correct, as shown in (62).

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\(^{17}\) That is, anything which is a constituent in syntactic structure -- a head or a phrase.
The structure of (62) assuming that there is a DegP is sketched in (63).

It is worthwhile to compare (62) with (64), where a modifier (the adverb tät’änk’ık’o ‘carefully’) modifies the verb in a verbal noun.

This modifier is adjoined to the VP where the verb originates, whereas the verb itself raises out of the VP to n (see (53)). The resulting verbal noun (verb+n) is the highest M-Word in the DP since it c-commands the VP, so the PreP attaches to the verbal noun and not to the adverb. Given these accurate predictions, we conclude that (60) is empirically well-supported.

5 Discussion and Theoretical Implications

Although applying our theory to relative clauses requires a bit of an innovation (generalizing (43) to (60)), we think that the change is mild compared to what would have to be done to derive an example like (2), (51) or (56) in the syntax, by a sequence of movements. 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 Spec, PP or some higher position in the case of postpositions but not PrePs. So far, so good. But a refinement would be needed for verbal nouns and relative clauses, such that not the whole DP but some proper subpart of it moves higher in the case of PrePs. What would that subpart be? In (2) and (51), 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. 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 practically every language, including Amharic (Eilam 2010). Similarly, (56) would require moving the main verb out of the relative clause, leaving the auxiliary behind. Even if such derivations could be squared somehow with what we know about locality conditions on movement, the question would still remain as to why exactly these particular elements must move higher—why the object of a relative clause or verbal noun must move, but a simple AP or possessor DP must not, even though one would expect the latter to be more
No good reason comes to mind, at least for us. Therefore, we find an approach in terms of affixation/cliticization to morphological words at PF based on their relative positions to be much more plausible, since traditional islandhood is not relevant at that level.

We might well ask how our proposal, empirically supported as it is, is connected to other current theories of post-syntactic insertion. It is standard in the DM literature to say that morphological operations like insertion happen at PF. Entire 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-researched. The general assumption has been that the morpheme or feature is inserted locally 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 sister to that node, resulting in a new projection above of the triggered node (McFadden 2004). However, in Amharic, it is not helpful to insert the case marker local to 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. It is conceivable that the dissociated morpheme could undergo some kind of PF movement from its original high position, but this would not be a recognizable kind within DM's emerging typology of PF operations. 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 in DP somewhere, sticking it on 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).

Another question raised by our analysis is how general is our rule in (43)/(60) within the grammar of Amharic. One easy extension that we have already hinted at is saying that it also applies to the accusative case marker -n. We saw in Section 3.2 that this has nearly the same distribution as the semantic case markers, the only differences being that it is even smaller phonologically (a consonant rather than a light syllable) and it is a suffix/enclitic rather than a prefix/proclitic. Thus, there has been no temptation to call it a preposition in the descriptive literature. But we take it as a positive feature of our analysis that it brings out a real similarity in the grammar of these elements that at first glance seem to belong to different categories. Also within Amharic, there is potential to analyze other functional elements realized as affixes or clitics in odd places in a similar way. Candidates include the definite marker -n, which shows up in various locations inside the nominal (see note 9 and references there), the possessive:relative marker yä-, other C-like particles that prefix to the verb inside their TP complement (see índä in (5)), and perhaps negation (also surfacing 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 does seem to be a rather widespread characteristic of this language.

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 DP (as opposed to being inserted on/near a triggering head). However, the details of the rule almost assuredly vary, so this conclusion is pending further study of the morphosyntax of case markers cross-linguistically. It might be that there are certain parametric choices as to where a dissociated morpheme can be placed at PF (first word, last word, highest word…) and Amharic’s choice happens to reveal the PF nature of the phenomenon in a particularly clear way, but the phenomenon itself is of considerable generality, also applying to more “normal” looking languages. This is a possible topic for future research.

6 Conclusion

In this chapter, 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, 

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18 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.
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 DPs using a PF insertion rule—a distribution that would be difficult or impossible to account for with normal 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/clitics placed at PF in interesting ways.

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