Affix Ordering in Wolof Applicatives and Causatives

Leston Buell and Mariame Sy
University of California, Los Angeles (UCLA)

1   Introduction

Like many Niger Congo languages, Wolof (West Atlantic) is characterized by a morphologically complex verbal system which includes several valence-changing affixes that may attach to a verb root to derive structures that typically contain new arguments, the thematic role of which varies according to the form of the affix. Such constructions include applicative as well as causative types, as illustrated in (1) through (5) below.

(1)   Plain
      Faatu   togg   na   jën   wi.
      Faatu   cook   PAST   fish   the
      "Faatu cooked the fish."

(2)   Benefactive (Ben)
      Faatu   togg   al   na   Gàllaay   jën   wi.
      Faatu   cook   BEN   PAST   Gàllaay   fish   the
      "Faatu cooked the fish for Gàllaay."

(3)   Instrumental (Instr)
      Faatu   togg   e   na   jën   wi   (ag)   diwtiir.
      Faatu   cook   INSTR PAST   fish   the   (with)   palm.oil
      "Faatu cooked the fish with palm oil.

      (4)   Locative (Loc)
      Faatu   togg   e   na   jën   wi   ci   waañ   wi.
      Faatu   cook   LOC   PAST   fish   the   in   kitchen the
      "Faatu cooked the fish in the kitchen."

      (5)   Causative (Caus)
      Faatu   togg   loo   na   Gàllaay   jën   wi.
      Faatu   cook   CAUS   PAST   Gàllaay   fish   the
      "Faatu had Gàllaay cook the fish."
      (Causer = Faatu, Causee = Gàllaay)

In this paper we examine some of the valence-changing affixes of Wolof, specifically those exemplified in (2-5) above. We consider the order in which these affixes occur, and the way in which particular affix orders correspond to particular DP/PP argument orders. We show that although affix reorderings often result in a different interpretation, sometimes these reorderings yield the same interpretation. These patterns may not, however, be described as free variation because there are cases in which a particular affix order blocks argument orders otherwise available, suggesting that affix

order has a syntactic effect. We therefore argue that affix reordering in these particular cases cannot be a mere morphological process.

In order to account for the Mirror Principle violations which arise as a consequence of affix reorderings, we draw on Kayne's (1994) Linear Correspondence Axiom (no right-adjunction), and further assume that words are built in the syntax, using only the usual syntactic mechanisms. We also posit that the scope of valence changing predicates are fixed by their hierarchy of merger. However, under these assumptions, we cannot account for all Wolof verb forms with valence-changing affixes by head movement. We therefore propose an analysis which appeals to the morphological component, indistinguishable scopes in particular cases, and XP movement.

The remainder of the paper is organized as follows. Section 2 discusses affix orderings in the simplest case, that is, when there are only two affixes involved in a particular construction. Section 3 examines structures which combine three affixes, and Section 4 introduces the impersonal causative affix, and considers the way in which it combines with each of the other affixes under study. Finally, section 5 presents our conclusions.

2 Two-affix structures

Before we go any further in our investigation, we must necessarily establish our basic idea of the status of the various affixes under consideration, and the way in which they combine with the verb. Concerning their morphological structure, we consider these affixes to be simplex forms, i.e. they are indecomposable. In the syntax, we assume that all such affixes are merged somewhere above the lexical verb as shown in (6) below.

(6) ApplP/CausP
         ╱‾‾╲
            ╲ VP
             △

2.1 Caus/Inst structures

Two-affix structures generally allow only one affix order. Thus, a combination of the instrumental affix -e (Instr) and the causative affix -loo (Caus) yields the unique order $e_{Instr}\ loo_{Caus}$ as evidenced by the ungrammaticality of (7b).

(7) a. Gàllaay dóór e   loo   na   Faatu   xeer bi   (ag) bant.
        Gàllaay hit   INSTR CAUS   PAST Faatu   stone the   with stick
    "Gàllaay made Faatu hit the stone with a stick."

    b. * ... dóór   loo   e   na   ...
   hit CAUS   INSTR PAST

Crucially, this combination also yields only one scope which is differentiated by who the user of the instrument is. Consider these two instrumental propositions:

(8) a. The teacher made the pupil write the essay with a pen.
    b. With a whip, the teacher made the pupil write the essay.

In (8a), the salient reading is that the pupil wrote the essay with a pen, which does not easily lead to the conclusion that the teacher used the pen to make the pupil do so. In (9b), under the salient reading that the teacher used the whip to make the pupil write the essay, we do not easily get the simultaneous reading of the pupil using the whip to write the essay. The two predicates can be abstracted as follows:

(9) a.   The Causer made the Causee [use an Instrument to do X]
     (Causativized instrumental).
   b.   The Causer used an Instrument to [make the Causee do X]
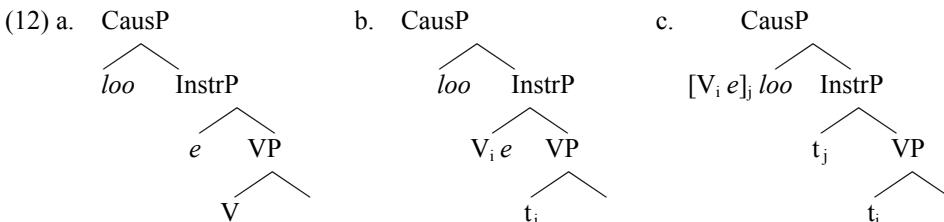   (Instrumental causative).

These two structures are clearly distinguishable, precisely because the interpretation yielded by each of them does not suggest the interpretation of the other. Thus, we consider that the instrument has the potential to be merged either above or below CausP and that its position with respect to CausP fixes its interpretation. The instrumental predicate has a silent argument which corresponds to the user of the instrument. This silent argument is represented as the specifier of UserP as in (10).

(10)
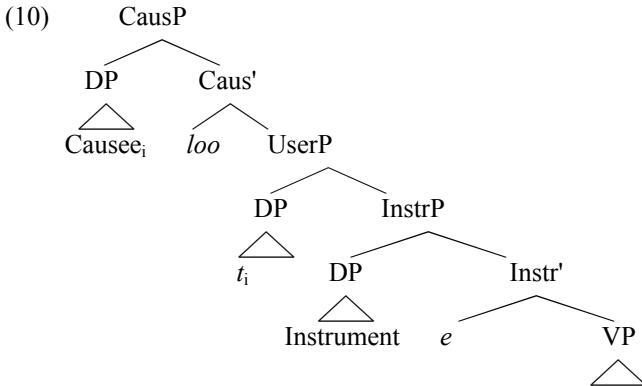
This User argument must be bound by a higher argument such that, to obtain the reading whereby the Causee is the user of the Instrument, the instrumental predicate must be embedded inside the causal predicate. Further evidence for this claim comes from additional Wolof data which demonstrates that the reading in which the Causer binds the silent User argument (i.e. instrumental causative) does not arise:[1]

(11) a.   Jàngalekat   bi bind e   loo   na   ndongo li taalif bi kereyo_.
          teacher   the write INSTR CAUS PAST student the poem   the pen
          "The teacher made the student write the poem with a pen.

     b. *   Jàngalekat   bi bind e   loo   na   ndongo li   taalif bi yar.
             teacher   the write INSTR CAUS PAST student the   poem   the whip
          "The teacher made the student write the poem with a whip."

This fact can be captured by always embedding InstrP inside CausP whenever they co-occur. Doing so also accounts for the observed affix order, using only LCA-compliant head movement as illustrated in (12).

(12) a. CausP   b. CausP   c.   CausP

1Except for unaccusative verbs, in which case the causativizing suffix is not *loo*, but *al*.
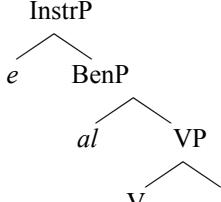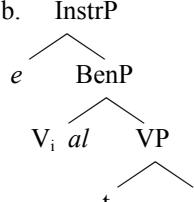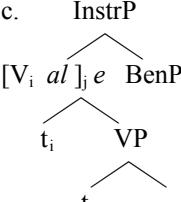
2.2 Ben/Instr structures

The benefactive affix (Ben) may also combine with the instrumental affix to form benefactive instrumental predicates. Again, in this particular two-affix structure, only one affix order is possible, namely the order $al_{Ben}e_{Instr}$:

(12) a.　Gàllaay　　togg　　al　　e　　na　　Faatu　　yàpp　　diwtiir.
　　　　Gàllaay　　cook　BEN　INSTR　PAST　Faatu　　meat　　palm.oil
　　"Gàllaay cooked Faatu some meat with palm oil."
　　*"G. cooked meat for Faatu in such a way that Faatu used palm oil."

　b.　*　... togge　　al　　na　　...
　　　　　　cook　　INSTR　BEN　PAST

Unlike causativized instrumentals, benefactive instrumentals do not allow interpretations from which a hierarchy of arguments may be inferred. The hierarchy of Beneficiary and Instrument with respect to each other is semantically irrelevant, because the Beneficiary is never interpreted as the user of the Instrument. This is shown by the incorrect interpretation in (12a).

Given the way in which these two affixes are ordered with respect to each other, and the fact that we have used head movement to derive the two preceding combinations of two morphemes, we will do the same here, using the hierarchy of merger *InstrP > BenP* as in (13) below.

(13) a.　InstrP　　　　　b.　InstrP　　　　　c.　InstrP
　　　／＼　　　　　　　　／＼　　　　　　　　　／＼
　　e　　BenP　　　　*e*　　BenP　　　$[V_i \; al]_j \; e$　BenP
　　　　／＼　　　　　　／＼　　　　　　　　　　　　／＼
　　al　　VP　　　V_i *al*　VP　　　　　　　t_i　　VP
　　　／＼　　　　　　　／＼　　　　　　　　　　　　／＼
　　　　V　　　　　　　t_i　　　　　　　　　　　　t_i
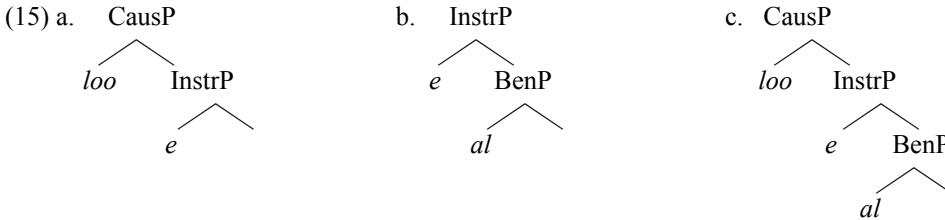
2.3 Ben/Caus structures

In contrast to the ordering we find in causativized instrumentals whereby the causative affix appears in the position farthest from the verb following the instrumental affix, in causativised benefactives the causative affix precedes the benefactive affix. A combination of the benefactive and applicative affixes always yields the morpheme order $loo_{Caus} \, al_{Ben}$, which after vowel coalescence surfaces as *lool*:

(14) a.　Gàllaay　　bind　loo　al　na　gan　gi　xale　yi　taalif.
　　　　Gàllaay　　write　CAUS　BEN　PAST　visitor　the　　child　the　poem
　　　　"Gàllaay made the children write the visitor a poem."

　b.　*　... bindal　loo　na　...
　　　　　　write　BEN　CAUS　PAST

In this case, a head movement analysis obtains the correct affix orders only if the *BenP > CausP* hierarchy is assumed. This is an interesting fact because, were we to think that the affix ordering was regulated by ranked constraints on the precedence of affix pairs (Hyman 2003), and we already know that the instrumental affix follows the benefactive affix in benefactive instrumentals, by transitivity we would expect the ungrammatical order $al_{Ben} \, loo_{Caus}$. That is, $al_{Ben} > e_{Instr}$ and $e_{Instr} > loo_{Caus}$ implies $al_{Ben} > loo_{Caus}$.

Similarly, if we assume that the structural height of these predicates is as we have claimed for Ben/Instr and Instr/Caus structures, we would expect CausP to embed BenP as illustrated in (15).

(15) a.   CausP
     loo   InstrP
          e

  b.   InstrP
     e   BenP
         al

  c.   CausP
     loo   InstrP
   *e*   BenP
              al

And in fact, if we consider possible interpretations of arguments as we did in the case of benefactive instrumentals, we do find motivation for this state of affairs.

Consider these paraphrases of *CausP > BenP* and *BenP > CausP* propositions:

(16) a.   The Causer made the Causee [do X for the Beneficiary]
         (Causativized benefactive).
   b.   The Causer helped the Beneficiary by making [the Causee do X]
         (Benefactive causative)

In (16a) the Causer is the subject of a predicate which contains the benefactive predicate, while in (16b) the Beneficiary is outside the scope of the Causer. However, it is actually difficult to distinguish the two readings, because by virtue of causing an act of benefaction, one is acting as benefactor, regardless of whether one actually performs that act or whether the act has an independent agent. Consequently, the structure in (16a) can also give rise to the interpretation in (16b). Similarly, the structure (16b) could give rise to the interpretation of (16a), because (16b) is silent on the question of how the Causer benefacted the Beneficiary. Thus, the possibility is open, and may be at times pragmatically salient, that the Causer did so by making the Causee perform the act of benefaction.

While in benefactive instrumentals the impossibility of the benefactor to be interpreted as the user of the instrument leads to the impossibility of a binding relation between the two, in this case the possibility of interpreting the causer as benefactor, and the actual difficulty of distinguishing the two roles gives rise to two possible scope relations which we contend translate into two possible hierarchies for CausP and BenP at the level of merger, that is the benefactive predicate may either embed, or be embedded in, the causative predicate as shown in (17).

(17) a. Ben > Caus
       BenP
          CausP
             VP

  b. Caus > Ben
       CausP
          BenP
             VP
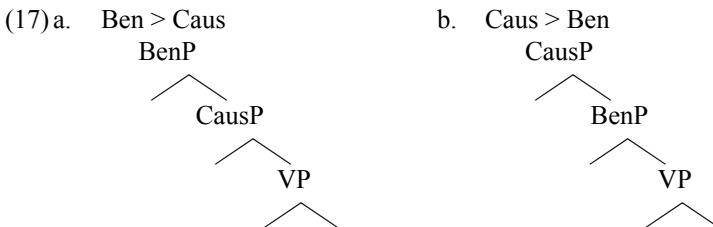
In view of the fact that the interpretations are so close as to be almost indistinguishable, these different hierarchies of merger result in an identical range of interpretations.

In the absence of a principled reason why the affix order al_{Ben} loo_{Caus} cannot surface in a two-affix combination, we must say that there is a morphological component in the language which has a preference between two syntactically licit forms. We will see in the more complex structures in the following section that the *CausP > BenP* hierarchy will be needed to obtain alternate affix orders.

3 Three-affix structures

When causative, benefactive, and instrumental affixes are combined, two different affix orders are possible:

(18) a.   V al$_{Ben}$ e$_{Instr}$ loo$_{Caus}$
   b.   V e$_{Instr}$ loo$_{Caus}$ al$_{Ben}$ (*pronounced* elool)

These affix orders yield the same range of interpretations. However, the preferred argument orders differ with respect to the two affix orders. In (19), the affix order is V al$_{Ben}$ e$_{Instr}$ loo$_{Caus}$ and the Beneficiary argument preferably precedes the Causee argument, while in (20) the affix order is V e$_{Instr}$ loo$_{Caus}$ al$_{Ben}$ and the Causee argument preferably precedes the Beneficiary argument.

(19) Gàllaay   dóór   al   e   loo   na   Faatu xale   yi   bant xeer.
    Gàllaay   hit   BEN   INSTR   CAUS   PAST   Faatu child   the   stick stone
    a.   "Gàllaay made the children hit the stick with a stone for Faatu."
        ..V alBen eInstr looCaus Beneficiary Causee...
    b.   ?? "Gàllaay made Faatu hit the stick with a stone for the children."
        ?? ...V alBen eInstr looCaus Causee Beneficiary...

(20) Gàllaay   dóór   e   loo   l   na   Faatu xale   yi   bant xeer.
    Gàllaay   hit   INSTR   CAUS   BEN   PAST   Faatu child   the   stick stone
    a.   ?? "Gàllaay made the children hit the stick with a stone for Faatu."
        ?? ... V eInstr looCaus alBen Beneficiary Causee...
    b.   "Gàllaay made Faatu hit the stick with a stone for the children."
        ...V eInstr looCaus alBen Causee Beneficiary...

It is important to note that the dispreferred argument orders are perfectly fine in 2-affix structures, i.e the beneficiary argument may either precede or follow the causee argument. While there is no obvious reason why these particular preferences hold, and we might actually expect the inverse, the fact that there is a preference at all shows that the affixes are not rearranged by the morphological component. The morpheme orders have a syntactic effect.

If we maintain a head movement approach so as to be consistent with our proposal concerning two-affix structures, the following two hierarchies of merger must be assumed:

(21) a. V al$_{Ben}$ e$_{Instr}$ loo$_{Caus}$ b. V e$_{Instr}$ loo$_{Caus}$ al$_{Ben}$

Both of these structures adhere to the condition in Wolof that CausP not be embedded inside InstrP.

In sum, we have shown so far that in two-affix structures, and three-affix structures not including the impersonal causative, the available surface affix orders may be derived by head movement assuming the following:

InstP has the potential to be merged either above or below CausP. The instrumental predicate has a silent argument represented as the specifier of UserP, which must be bound by a higher argument such that, to obtain the reading whereby the Causee is the user of the Instrument, the instrumental predicate must be embedded inside the causal predicate.

There are two possible hierarchies for CausP and BenP at the level of merger, as described above. Consequently, two hierarchies of merger are possible in three-affix structures: V al$_{Ben}$ e$_{Instr}$ loo$_{Caus}$ and V e$_{Instr}$ loo$_{Caus}$ al$_{Ben}$. Both of these structures adhere to the condition in Wolof that CausP not be embedded inside InstrP.

With these assumptions at hand, we can proceed to examine structures involving the causative affix -*lu*. We provide evidence that in these particular cases, a head movement approach cannot be maintained.

4   ImpCaus

In addition to the valence-changing affixes which license an overt argument, there is an affix which licenses a silent Causee argument. We will refer to this affix as the impersonal causative (ImpCaus).

(24) Faatu togg   ***lu***   na   jën   wi.
     Faatu cook   IMP.CAUS   PAST   fish   the
     "Faatu had someone cook the fish."

Note that the ImpCaus affix -*lu* licenses a semantic argument (a Causee) but does not allow a DP argument to appear. There are two affixes in Wolof which suppress an overt argument in this way. We will call these argument absorbers. The object argument absorber is *e*, while the subject argument absorber is *u*.

(25) a.   Plain
           Faatu   jox   na   *(xale   bi   )   tééré   bi.
           Faatu   give   PAST   child the   book   the
           "Faatu gave *(the child) the book."

     b.   With object argument absorber *e* (Absorb)
           Faatu   jox   *e*   na   tééré   bi.
           Faatu   give   ABSORB PAST   book   the
           "Faatu gave the book."

(26) a.   Plain
           Faatu   wat   na   Gàllaay.
           Faatu   shave   PAST   Gàllaay
           "Faatu shaved Gàllaay."

     b.   With subject argument absorber -*u* (Absorb)
           Gàllaay   wat   ***u***   na.
           Gàllaay   shave   ABSORB   PAST
           "Gàllaay got shaved."

The examples in (25) show that when the object argument absorber -*e* occurs with a ditransitive verb such as *jox* 'give', the indirect object DP may no longer surface in the derived construction. Similarly, affixation of the subject argument absorber -*u* to a monotransitive verb like *wat* 'shave' results in the suppression of the agent in the derived structure in the same way as affixation of -*lu* results in the suppression of the Causee agent of the lexical verb in the derived structure in (24). The ImpCaus affix -*lu* can thus be seen as the combination of a morpheme which licenses the Causee argument and the subject argument absorber *u*.

4.1 Two-affix structures with ImpCaus

Having established the morphological structure of ImpCaus *-lu* we turn to consider structures in which this morpheme combines with the other affixes of concern. ImpCaus *-lu* may co-occur with either the benefactive affix *-al* or the causative affix *-loo* and, in both cases, *-lu* follows the lexical verb immediately.[2]

4.1.1   ImpCaus/Ben

Like the two-affix structures previously examined, ImpCaus/Ben constructions allow only one affix order, as evidence by the ungrammaticality of (27b).

(27) a.   Gàllaay   togg   ***lu***   ***l***   na   Faatu   yàpp.
    Gàllaay   cook   IMP.CAUS   BEN   PAST   Faatu   meat
    "Gàllaay had someone cook the meat for Faatu."

   b.   *... togg ***al***   ***lu***   na   ...
         cook BEN   IMP.CAUS   PAST   ...

For this particular combination of affixes, there is no consequence of interpretation for choosing between the two potential hierarchies of merger *ImpCausP > BenP* and *BenP > ImpCausP* for the same reason that there is no such consequence for causativized benefactives. As in that case, if the Causer is the benefactor, then the Causee can also be interpreted as the benefactor, and *vice versa*.

4.1.2   ImpCaus/Caus

Consider the examples in (28):

(28) a.   Gàllaay   togg   ***lu***   ***loo***   na   Faatu   yàpp.
    Gàllaay   cook   IMP.CAUS   CAUS   PAST   Faatu   meat
    "Gàllaay had someone make Faatu cook some meat."
    "Gàllaay made Faatu have someone cook some meat."

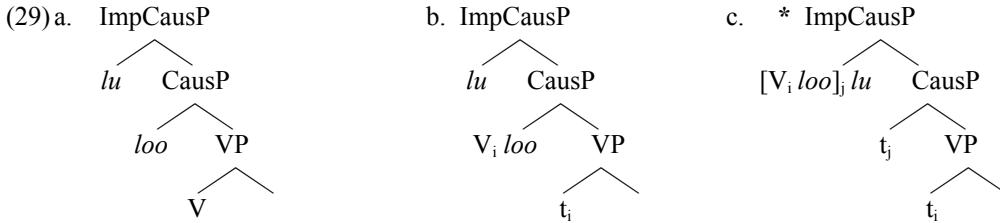   b.   *   ... togg***loo***   ***lu***   na   ...
             cook   CAUS   IMP.CAUS   PAST

In this case, merging the two predicates as *ImpCausP > CausP* results in two different interpretations, as is shown by the two distinct translations given for (28a). The agent of COOK can be either Faatu or someone. While both the *ImpCausP > CausP* and *CausP > ImpCausP* interpretations are possible, importantly, they are read off the same affix order: $lu_{\text{ImpCaus}}\ loo_{\text{Caus}}$. Assuming that a uniform interpretation entails a uniform hierarchy of arguments, the fact that the impersonal causative suffix appears closer to the verb root than the causative affix seems to constitute a Mirror Principle violation.
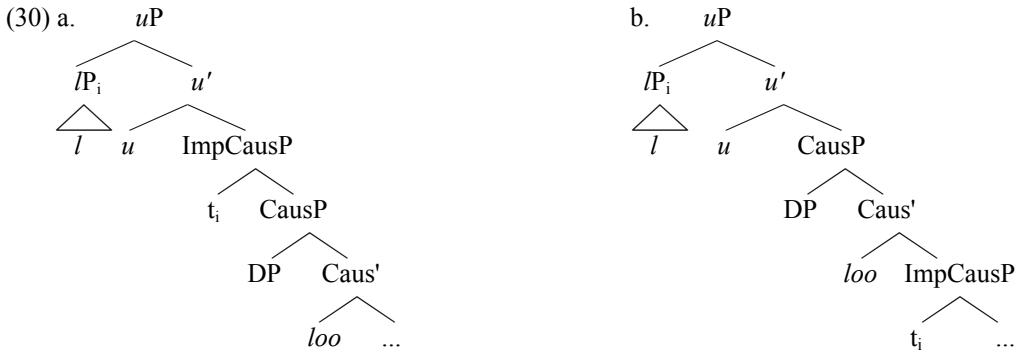
Moreover, this structure cannot be accounted for if the verb word is a complex head derived by a constrained theory of head movement. Under our assumptions, for the interpretation *ImpCausP > CausP* to be possible, the Caus morpheme *-loo* should appear closer to the lexical verb than the ImpCaus morpheme *-lu* as shown in (29) below.

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2 ImpCaus does not co-occur with Instr or Loc.

(29) a. ImpCausP
      /   \
   lu   CausP
          / \
     loo VP
          |
         V

b. ImpCausP
      / \
   lu CausP
        /   \
  V_i *loo* VP
           t_i

c. * ImpCausP
          / \
$[V_i \, loo]_j \, lu$ CausP
            / \
        t_j VP
             t_i

We therefore propose an alternate account based on the fact that *lu* seems to be a complex head. Assuming that part of it moves from the projection in which the ImpCaus argument is licensed, whether that be above or below CausP, we obtain the following structures for the two different readings that arise from the combination of Caus and ImpCaus:

(30) a. *u*P
     /   \
  lP_i *u*′
  /\   /   \
 l *u* ImpCausP
         /   \
      t_i CausP
          /   \
      DP Caus′
            / \
         loo ...

b. *u*P
     /   \
  lP_i *u*′
  /\   /   \
 l *u* CausP
         /   \
      DP Caus′
          /   \
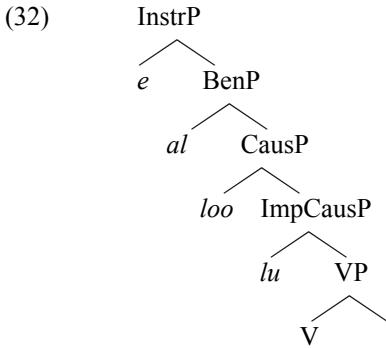   *loo* ImpCausP
             / \
        t_i ...

Treating the ImpCaus affix as containing both a head and phrasal material explains why *lu* does not appear finally on the cluster of verb-final affixes: a head cannot incorporate phrasal material. The structures in (30) will require the lexical verb to move as a phrasal remnant above *lu* as illustrated in (31) below.

(31)   TP
           /   \
      XP   T′
     /   \   /   \
  VP_i *u*P *na*   ...
   /\   / \
   V *lu loo* ... t_i
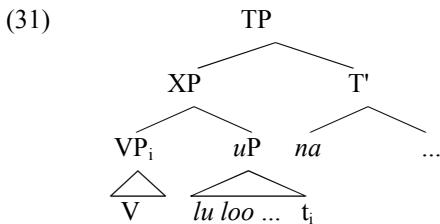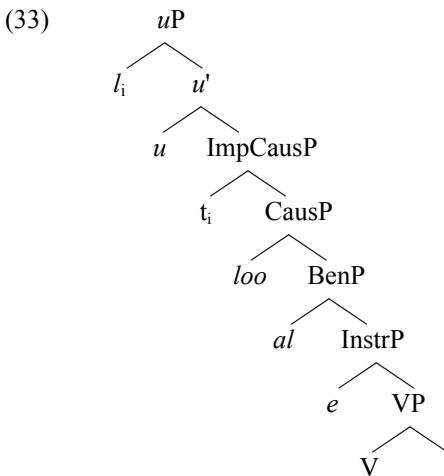
4.2 Four-affix structures

In structures combining all of the affixes under consideration in this study only one affix order is possible: V $lu_{ImpCaus}$ loo_{Caus} al_{Ben} e_{Instr}.

As in the previous cases involving ImpCaus -*lu*, a head movement analysis proves to be problematic here as well. Under such an approach, the only hierarchy that can be assumed, shown in (32), contradicts the possible interpretations in two ways.

(32)
```
            InstrP
           /      \
          e       BenP
                 /    \
                al    CausP
                     /     \
                   loo   ImpCausP
                         /      \
                        lu      VP
                                /  \
                               V
```

As is apparent from the structure in (32), the hierarchy that would allow a head movement analysis requires that InstrP embed both CausP and ImpCausP. However, such a hierarchy prevents either of the latter predicates from binding the User argument of InstrP. Furthermore, under the reading in which the agent of the lexical verb is the Causee (licensed by CausP), it is expected that ImpCausP will embed CausP, but such is not the case in this structure.

As an alternative, if we posit that *lu*, as a complex which carries phrasal material, blocks head movement in the same way that it does when combining with a single affix, we can straightforwardly derive four-affix structures as in (33).

(33)
```
              uP
             /    \
           l_i    u'
                 /    \
                u    ImpCausP
                    /        \
                  t_i       CausP
                           /     \
                         loo    BenP
                               /    \
                              al   InstrP
                                  /      \
                                 e       VP
                                         /  \
                                        V
```

This structure adheres to the condition that InstrP not embed CausP, and the two relative scopes of ImpCausP are obtained in the way shown in (30) above.

While this account clearly captures the possible affix ordering and scope relations involved in the various types of constructions examined here, it also raises some questions as to the relationship between the assumed underlying structures of these constructions. The first important point to be noted concerns affix order. The affix order found in four-affix structures which include -*lu* bears no resemblance to the orders found when the three other affixes are combined without *lu* as evidenced in (34).

(34) a. Four-affix order including –*lu*
      V lu$_{ImpCaus}$ loo$_{Caus}$ al$_{Ben}$ e$_{Instr}$

    b. Three-affix order without –*lu*
      V al$_{Ben}$ e$_{Instr}$ loo$_{Caus}$
      V e$_{Instr}$ loo$_{Caus}$ al$_{Ben}$

Though this is expected under the assumption that the cases without *lu* are derived using head movement while the case with *lu* is not, it does not explain the fact that the case with *lu* does not share an underlying structure with either of the cases without *lu*.

(35)   Affix Order   Underlying Hierarchy
   a.   V lu$_{ImpCaus}$ loo$_{Caus}$ al$_{Ben}$ e$_{Instr}$ CausP > BenP > InstrP > VP
   b.   V al$_{Ben}$ e$_{Instr}$ loo$_{Caus}$ CausP > InstrP > BenP > VP
   c.   V e$_{Instr}$ loo$_{Caus}$ al$_{Ben}$ BenP > CausP > InstrP > VP

As can be noted from the the data in (35) the underlying hierarchy of CausP, BenP, and InstrP in four-affix structures which involve -*lu* does not correspond to any of the possible hierarchies in three-affix structures which do not involve -*lu*. It seems that certain syntactically possible hierarchies are blocked in the presence of -*lu*. As in the case of three-affix combinations, we must appeal to a morphological component to rule out affix orders which do not occur, but which result from a syntactically valid underlying structure.

5   Conclusion

The account proposed here shows that affix reordering in Wolof constructions involving applicatives and causatives is not a mere morphological process but in most cases, arises as a result of syntactic operations which conform to binding and scope relations. However, in some cases the morphological component ends up choosing which of the syntactically licit underlying structures appears on the surface.

We have argued that two-affix and three-affix structures which do not involve the impersonal causative -*lu* can be accounted for by using LCA-compliant head movement only. In such cases, we suggest that we only need to assume two things:

a.   In the case of benefactive instrumentals in which scope is distinguishable and either the external argument or the benefactor is a potential binder, the syntax must allow two possible hierarchies of merger so that either the agent or the benefactor may bind the instrument when warranted.

b.   In the case of benefactive causatives in which each of the possible scopes suggests the other, and the two readings are so close as to be indistinguishable, the syntax must also allow two possible hierarchies of merger.

We have also shown that in structures combining all four affixes examined here, a head movement analysis is not possible, given that the only underlying structure that would allow a head movement account contradicts the available interpretation, and the different possible readings are read off the same affix order. In these particular cases we argued that a different type of movement occurs. This movement involves phrasal movement to the specifier of the argument suppressor phrase *u*P which dominates both CausP and ImpCausP. This account allows us to maintain both the Mirror Principle and a direct correspondence between interpretation and hierarchy of merger.

Finally, to account for mismatches between the assumed underlying structures of four-affix structures and three-affix structures we have argued that the morphological component selects between syntactically valid underlying structures.

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