

This printout has been approved by me, the author. Any mistakes in this printout will not be fixed by the publisher. Here is my signature and the date \_\_\_\_\_

# Sources of (A)symmetry in Bantu Double Object Constructions

Mark C. Baker, Ken Safir, and Justine Sikuku  
Rutgers University, Rutgers University, and Moi University

## 1. The puzzle: asymmetry in a symmetrical language

For more than thirty years, symmetrical and asymmetrical object constructions have been a classic topic in the syntax of Bantu languages and beyond, at least since controversies in the Relational Grammar literature over whether clauses must have a unique direct object or not. In these terms, the Lubukusu language, from the Luyia group of Western Kenya seems to be a rather canonical “symmetrical object language” (Diercks and Sikuku, 2011), much like Kinyarwanda (Kimenyi, 1980) and Kichaga (Bresnan and Moshi, 1990). For example, (1) illustrates a double object construction (DOC) that results from adding the causative suffix *-esy* to a transitive verb root. (1) also shows that either the causee object or the theme object can come before the other object in such a construction. (2) shows that either the causee or the theme can become the subject of the passive of the causative verb. (3) shows that either the causee or the theme argument (but not both) can be expressed as an object marker (OM)—a kind of pronominal clitic prefixed before the verb stem.<sup>1</sup>

- (1) a. Wafula a-nyw-esy-a Wekesa ka-ma-lwa. (Causative word order)  
Wafula SM.c1.TNS-drink-CAUS-fv Wekesa c6-c6-beer  
‘Wafula made Wekesa drink beer.’
- b. Wafula a-nyw-esy-a ka-ma-lwa Wekesa.  
Wafula SM.c1.TNS-drink-CAUS-fv c6-c6-beer Wekesa  
‘Wafula made Wekesa drink beer.’
- (2) a. Wekesa a-nyw-esy-ebw-a ka-ma-lwa. (Passive of causative)  
Wekesa SM.c1.TNS-drink-CAUS-PASS-fv c6-c6-beer  
‘Wekesa was made to drink beer.’
- b. Ka-ma-lwa ka-nyw-esy-ebw-a Wekesa.  
c6-c6-beer SM.c6.TNS-drink-CAUS-PASS-fv Wekesa  
‘Beer was made to be drunk by Wekesa.’
- (3) a. Wafula a-mu-nyw-esy-a ka-ma-lwa. (Causative object marking)  
Wafula SM.c1.TNS-OM.c1-drink-CAUS-fv c6-c6-beer  
‘Wafula made him/her drink beer.’

---

\*We acknowledge NSF grants BCS-0523102 and BCS-0919086, awarded to the Afranaph Project, Ken Safir, PI. An earlier version of this research was presented at ACAL 43 at Tulane University (March 2012) and at a seminar at Rutgers University. We thank participants at these events as well as at WCCFL 30 at the University of California-Santa Cruz for their comments and input, including (but not limited to): Michael Diercks, Kristina Riedel, Vicki Carstens, Larry Hyman, Juvenal Ndayiragije, and Amy Rose Deal. Thanks also to Matt Barros and Nick Danis who participated in some elicitations. Any errors of fact or interpretation remain our responsibility.

<sup>1</sup> Abbreviations used in the glosses include: AFOC, antifocus; APPL, applicative; CAUS, causative; cX, noun class X (X ranging from 1 to 20); FUT, future; fv, final vowel; INSTR, instrumental; LK, linker; LOC, locative; OM, object marker; PASS, passive; PRF, perfective; PST, past; RFM, reflexive marker; SBJV, subjunctive; SM, subject marker; TNS, tense.

- b. Wafula a-ka-nyw-esy-a Wekesa.  
 Wafula SM.c1.TNS-OM.c6-drink-CAUS-fv Wekesa  
 ‘Wafula made Wekesa drink it.’

Examples (4)-(6) show similar data for the other productive source of double object constructions in Lubukusu, namely benefactive applicatives formed by attaching the applied affix *-el/-er* to a transitive stem.<sup>2</sup> Here too we find symmetrical behavior: either the benefactee argument added by the applicative morpheme or the theme argument can be the first object in linear order ((4)); either can become the subject in a passive ((5)); either can be expressed as an object marker on the verb ((6)).

- (4) a. Wekesa a-a-tekh-el-a Sara by-akhulia. (Applicative word order)  
 Wekesa SM.c1-TNS-cook-APPL-fv Sara c8-food  
 ‘Wekesa cooked food for Sara.’
- b. Wekesa a-a-tekh-el-a by-akhulia Sara.  
 Wekesa SM.c1-TNS-cook-APPL-fv c8-food Sara  
 ‘Wekesa cooked food for Sara.’
- (5) a. Sara a-a-tekh-el-w-a by-akhulia. (Passive of applicative)  
 Sara SM.c1-TNS-cook-APPL-PASS-fv c8-food  
 ‘Sara was cooked some food.’
- b. By-akhulia by-a-tekh-el-w-a Sara.  
 c8-food SM.c8-TNS-cook-APPL-PASS-fv Sara  
 ‘The food was cooked for Sara.’
- (6) a. Wafula a-mw-ir-ir-a li-khese. (Applicative with OM)  
 Wafula SM.c1.TNS-OM.c1-kill-APPL-fv c5-sheep  
 ‘Wafula killed a sheep for him/her.’
- b. Wafula a-li-ir-ir-a Wekesa.  
 Wafula SM.c1.TNS-OM.c5-kill-APPL-fv Wekesa  
 ‘Wafula killed it for Wekesa.’

In these respects, Lubukusu differs systematically from asymmetrical object languages of the Bantu family like Swahili and Chichewa, in which the equivalents of the (b) sentences are all ungrammatical (for Chichewa, see Baker 1988 and Mchombo 2005).

There is a systematic exception to this, however, which provides the focus of this paper. The exception appears in causative constructions in which one of the nonsubject arguments is a *local* (1<sup>st</sup> or 2<sup>nd</sup> person) pronoun. In this special situation, Lubukusu behaves like an asymmetrical language, favoring the causee over the theme. Specifically, a local pronoun that is right-adjacent to the verb can be understood as the causee but not as the theme ((7)); a local pronoun in the subject position of the passivized clause can be a causee but not a theme ((8)), and a local pronoun expressed as an OM on the verb can be a causee but not a theme ((9)).<sup>3</sup>

- (7) a. Ok-esy-a ese Wekesa.  
 SM.c1.TNS.show-CAUS-fv me Wekesa  
 ‘He showed me Wekesa.’ Not: ‘He showed me to Wekesa.’

<sup>2</sup> Lubukusu also uses the applied affix *-el* to make instrumental applicatives, another type of double object construction (Diercks and Sikuku 2011). However, first and second person pronouns cannot be used as instruments for basic semantic reasons, and for this reason we do not consider instrumental applicatives here.

<sup>3</sup> In contrast, there seems to be no particular problem in Lubukusu with having a local pronoun functioning as the theme if it is the second object of a DOC, or the postverbal argument in the passive of a DOC, or an overt pronoun following the verb when the other object is expressed as an OM. Lubukusu is apparently different in this respect from Sambaa, Limbum, Nyaturu, and Swahili, according to Riedel (2009:141, 149, 151)).



In light of this data, we consider questions like the following: Why is there a difference between causative and applicative in Lubukusu?<sup>5</sup> Given that there is a difference, why does it show up only with local pronouns, not with third person nominals, in a rather obscure corner of grammar? Finally, what do these new facts tell us about the nature of (a)symmetry in double object constructions?

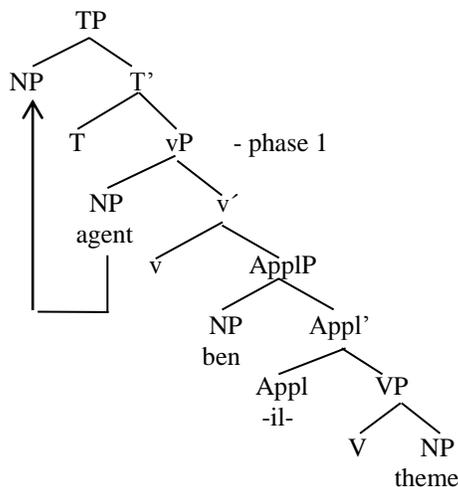
Our proposal in a nutshell is as follows. First we claim that the causative affix takes a vP as its complement, whereas the applicative affix selects a VP (section 2). Then we argue that, since vP is a phase (but VP is not), Chomsky’s Phase Impenetrability Condition constrains movement within the greater verb phrase of a causative construction but not in an applicative—a difference that shows up more robustly in Sesotho (section 3). Finally, we claim that special person restrictions appear when two nominals occur at the edge of the same (vP) phase (section 4). Our formulation of this constraint is general enough so that it also restricts so-called Object-Subject Reversal in some Bantu languages, and we conjecture that it may be behind Person-Hierarchy effects in languages like Southern Tiwa as well.

## 2. The difference between causative and applicative

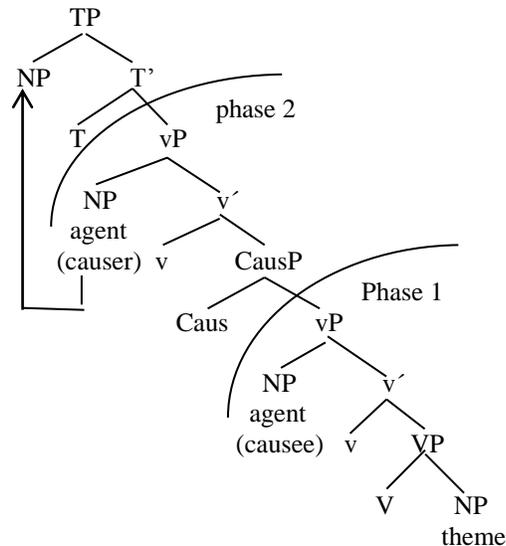
Applicative constructions and causatives superficially look very similar in Bantu languages: both are commonly described as valence-increasing processes in which an affix (*-el* or *-esy*) is suffixed to the verb stem, between the verb root and the final vowel *-a*, and the derived verb seems to take one more argument than the simple verb did. However, there is a clear difference between the two when it comes to thematic roles. Causative constructions typically have two agents: the agent of the causing event (the causer) and the agent of the caused event (the causee). In contrast, applicative constructions have only one event and one agent; the extra argument has a distinct role, here benefactee (or goal).

Now in minimalist style work, thematic roles are taken to be assigned in certain characteristic syntactic positions. In particular, the agent role is taken to be assigned in SpecvP (also known as VoiceP (Kratzer, 1996)). It seems natural, then, to say that the causative morpheme is a head (presumably verb) that takes a vP as its complement. In contrast, the applicative morpheme simply takes a VP as its complement, the only v node in an applicative structure appearing higher. (Compare, for example, Pylkkänen (2008:14) on benefactive applicatives in Bantu with Pylkkänen (2008:105) on causatives in Bantu. See also McGinnis (2001) on applicatives and Harley (to appear) on structural differences between applicatives and causatives in Hiaki.) Assuming this, we have a representational difference like the one in (13) below.

(13) Applicative



Causative



<sup>5</sup>Perhaps surprisingly, the only morphologically simple verb in Lubukusu that takes two internal arguments, *-w-* ‘give’, behaves asymmetrically with local pronouns—like a causative, not an applicative. We tentatively assume that it decomposes into a causative structure meaning ‘X causes Y to have Z’, so that our analysis applies to it.





Thus, it is not unexpected in these terms that movement in a causative would be more constrained than movement in an applicative.

If nothing else is added to this account, then we expect applicatives to be symmetrical but causatives to show uniformly asymmetrical behavior in languages that have LkP available. And, in fact, this pattern is found within the Bantu family, particularly in Sesotho (Machobane, 1989), as can be seen by comparing the applicative data in (17)-(19) with the causative data in (20)-(22).

- (17) Sello o-shap-el-a Lineo ba-shanyana. (Applicative word order)  
 Sello SM.c1-beat-APPL-fv Lineo c2-boys (Machobane 1989:23)  
 ‘Sello beats Lineo for the boys’ *or* ‘Sello beats the boys for Lineo.’<sup>9</sup>
- (18) a. ‘Me o-pheh-ets-o-e nama. (Passive of applicative)  
 mother SM.c1-cook-APPL-PASS-fv meat (Machobane 1989:24)  
 ‘My mother was cooked the meat.’
- b. Nama e-pheh-ets-o-e ‘me.  
 cX-meat SM.cX-cook-APPL-PASS-fv mother  
 ‘The meat was cooked for my mother.’
- (19) a. Ba-nana ba-mo-pheh-el-a nama. (Applicative with OM)  
 c2-girls SM.c2-OM.c1-cook-APPL-fv meat (Machobane 1989:24)  
 ‘The girls are cooking meat for her.’
- b. Banana ba-e-pheh-el-a ‘me.  
 c2-girls SM.c2-OM.cX-cook-APPL-fv mother  
 ‘The girls are cooking it for my mother.’
- (20) Sello o-shap-is-itse ba-shanyana Lineo. (Causative word order)  
 Sello SM.c1-beat-CAUS-ASP c2-boys Lineo (Machobane 1989:30)  
 ‘Sello made the boys beat Lineo’ *Not* ‘Sello made Lineo beat the boys.’
- (21) a. B-ana ba-bal-is-o-a buka ke-ntate. (Passive of causative)  
 c2-children SM.c2-read-CAUS-PASS-fv book by-father (Machobane 1989:31)  
 ‘The children are made to read the book by my father.’
- b. \*Buka e-bal-is-o-a b-ana ke-ntate.  
 cX-book SM.cX-read-CAUS-PASS-fv c2-children by-father  
 ‘The book is made to be read by the children by my father.’
- (22) a. Ntate o-ba-bal-is-a buka. (Causative object marking)  
 father SM.c1-OM.c2-read-CAUS-fv cX.book (Machobane 1989:31)  
 ‘My father makes them read the book.’
- b. \*Ntate o-e-bal-is-a b-ana.  
 father SM.c1-OM.cX-read-CAUS-fv c2-children  
 ‘My father makes the children read it.’

We take this as showing that our difference between causatives and applicatives is on the right track. But of course the direct analogs of (20), (21b), and (22b) are grammatical in Lubukusu, causatives in this language being asymmetrical only if the theme is a local pronoun. So we are not done yet.

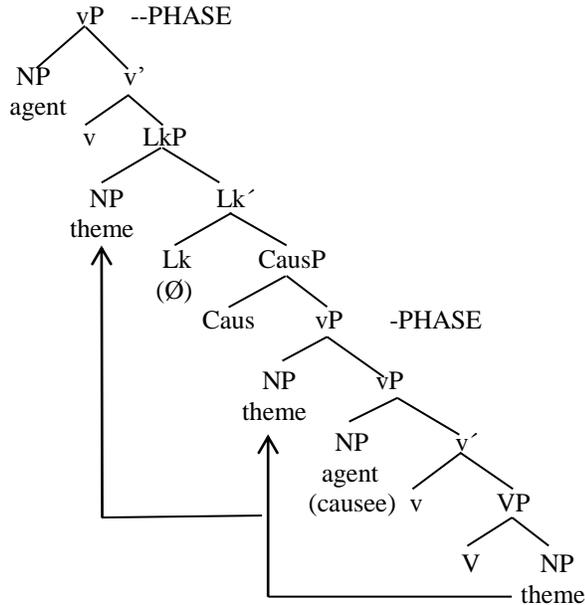
---

<sup>9</sup> Machobane shows, however, that word order in applicatives is fixed as verb-benefactee-theme if one or both of the internal NPs is inanimate. We take this extra condition to be independent of the factors discussed here.

#### 4. Person restrictions at a phase edge

Standard phase theory allows an element properly contained in a phase to move out of that phase under one condition: it must first move to the “edge” of that phase. In Chomsky’s terminology, this is made possible mechanically by associating an EPP/Edge feature with the phase head. Presumably this is what happens in Lubukusu causatives (and in Kinande, and other uniformly symmetrical languages). From there the theme argument could move on to Spec,LkP or higher, by a derivation like that in (23).

(23)



Sesotho could be a language which (unusually?) does not allow an NP to move to the edge of vP in this way (its causative morpheme has no EPP/edge feature), so there is no escape hatch in causatives. In contrast, Lubukusu apparently allows it *except for certain combinations of person features*.

Our proposal is that this qualification is akin to certain other person hierarchy effects found in natural languages. In particular, we suggest that the edge of a phase cannot contain two nominals with competing claims to prominence, where +local NPs and +agent NPs are both prominent along different dimensions. This is stated somewhat more precisely in (24).

- (24) Phase Edge Prominence Constraint (PEPC):  
 \*[ NP1 NP2 ... ] if [...] is a phase, and both NP1 > NP2 and NP2 > NP1.  
 (X > Y if the person of X is less than the person of Y; X > Y if X is higher on thematic hierarchy than Y, etc.<sup>10</sup>)

A straightforward consequence of this is that a 1<sup>st</sup> or 2<sup>nd</sup> person theme cannot occupy the edge of vP together with an agent NP in the structure in (23). (We assume that (24) is violated even if one of the NPs at the edge of vP moves on.) As a result, the escape hatch needed to create symmetrical object behavior in a causative is not open to these pronouns, and Lubukusu becomes like Sesotho.

The PEPC is a rather specific condition, designed to have a particular effect within our set of assumptions. But it is not so specific that it fails to make interesting predictions for other constructions.

<sup>10</sup> We leave open the possibility that the details of what counts as more prominent than something else might be more extensive than this, and might vary somewhat from language to language. For example, preliminary observations suggest that in Lubukusu even third person pronouns rank higher than nonpronominal NPs, and hence create similar asymmetrical effects. Furthermore, Jelinek and Demers (1993) (for one variety of Straits Salish) and Chung (1998) (for Chamorro) discuss cases in which second person outranks third, but there is no interaction between first person and third. Although these variations are an interesting topic for further research, our present goal is only to show how some kind of hierarchy condition might fit best into grammatical derivations.

Consider, for instance, the phenomenon of Object-Subject Reversal (OSR) found in some central Bantu languages. Kirundi (Ndayiragije, 1999) and Kinyarwanda (Kimenyi, 1980), for example, productively allow the theme to move past the agent generated in SpecvP into the SpecTP position, even when the verb is in active voice. An example is (25b), to be compared to (25a) in Kirundi. (25c) shows that even an animate human pronoun (here pro) can undergo this movement.

- (25) a. Abanyeshule ba-á-ra-bonye uwo mwarimu.  
 c2.students SM.c2-PST-AFOC-see.PRF that c1.teacher  
 ‘Students saw that teacher.’
- b. Uwo mwarimu a-a-bonye abanyeshule. (Kirundi, Ndayiragije 1999:423)  
 that c1-teacher SM.c1-PST-see.PRF c2-students  
 ‘The students (not the dean) saw that teacher.’
- c. A-a-bonye abanyeshule. (Kirundi, Ndayiragije p.c.)  
 SM.c1-PST-see.PRF c2-students  
 ‘The students (not the dean) saw him.’

But our PEPC correctly predicts that a local (1<sup>st</sup> or 2<sup>nd</sup>) pronoun cannot move to Spec,TP in this way:

- (26) #n/u-a-bonye abanyeshule. (Kirundi, Ndayiragije p.c.)  
 SM.c1.1st/2nd-PST-see.PRF c2-students  
 Not: ‘The students (not the dean) saw me/you.’ (Only as: ‘I/you saw the students.’)

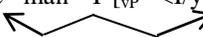
We predict this because the OSR structure is very much like the causative structure in relevant respects. The matrix vP counts as a phase. In order to escape this vP phase and reach SpecTP, the theme argument must stop at the edge of vP, where the agent resides. If the theme is a third person argument, this is possible, but if it is a local pronoun when the other argument is an agent, the PEPC is violated. The structure is sketched in (27). Hence, the PEPC productively reveals this nonobvious similarity between symmetrical object properties in causatives and Object-Subject Reversal.

- (27) [<sub>TP</sub> I/you/he T+see [<sub>vP</sub> <\*I/\*you<sup>OK</sup>he> children v [<sub>vP</sub> <see> <I/you/he> ]]

Somewhat further afield, the PEPC could be behind (some) more classic Person-Hierarchy effects of the sort discussed by Aissen (1999), Rezac (2011) and others. For example, consider the Southern Tiwa (ST) paradigm in (28) (Allen et al., 1990:331-332). (28a) is an ordinary transitive construction with third person subject and object (the object happens to be incorporated). (28b) shows that passive can optionally apply in this situation. But (28c) indicates that it is impossible to have a third person subject and a local pronoun object in this language. ST has prefixes that agree with both the subject and the object, but there is simply no agreement form for this particular combination. (28d) shows the solution: the relevant notion is expressed by a passive clause, where the local pronoun becomes the subject, and the third person agent is expressed as an oblique ‘by’-phrase (or not at all).

- (28) a. Seuanide Ø-liora-mu-ban. Active: 3rd on 3rd  
 Man 3:3ISG-lady-see-PST  
 ‘The man saw the lady.’
- b. Liorade Ø-mu-che-ban seuanide-ba. Passive: 3rd on 3rd  
 lady 3-see-PASS-PST man-INSTR  
 ‘The lady was seen by the man.’
- c. \*’The man saw me.’ (ineffable, no agreement form) Active: \*3rd on 1st (or 2nd)
- d. Seuanide-ba te-mu-che-ban. Passive: 3rd on 1st (or 2nd)  
 Man-INSTR 1sS-see-PASS-PST  
 ‘I was seen by the man.’ (i.e., ‘The man saw me.’)

We might then ask what general condition is violated by (28c) in ST, but not by (28a) or (28d). Our tentative answer is the PEPC. The steps could go like this. First, in ST local pronouns (at least) must be licensed by agreeing with the verb; this sometimes called the Person Licensing Condition (Bejar and Rezac, 2003). Second, we can assume that T agrees with more than one NP in ST, whereas v does not agree at all (see Bobaljik and Branigan (2006) and Baker (2008) for other languages in which this is true). However, if the object stays in situ inside VP, it is not close enough for T to agree with it, by the PIC. The solution would be for the local object to move to the edge of vP, so that it is accessible to Agree with T, and hence can be licensed. But if the thematic agent is also at the edge of vP, then the PEPC is violated. The offending structure for ungrammatical (28c) is sketched in (29).

(29) \*<sub>[TP</sub> The man T <sub>[VP</sub> <I/you> <the man> v <sub>[VP</sub> see <I/you> ]]  
 (OK with 'lady' in the place of 'I/you')

In contrast, (28a) is possible because both NPs are third person, so there is no conflict in relative prominence. And (28d) is possible because the passive agent is not generated in Spec, vP. Therefore the local pronoun theme is the only NP at the edge of vP, and there is no conflict in relative prominence there either. It then follows that passive is de facto obligatory if one wants to express the notion in question. The PEPC thus gives us a unified solution for OSR in Bantu and person hierarchy in ST, even though the two seem to be opposites in the sense that local pronouns are required to become the subject in ST (by passive) but are forbidden from doing so (by OSR) in Kirundi.<sup>11</sup> Although the final structures of (26) and (28c) are different in terms of what occupies the SpecTP position, the agent or the theme, they are similar in their intermediate structure in that both must have the theme at the edge of the vP for reasons related to the PIC. That serves to rule out both. Other languages in which T agrees with both subject and object, and this forces passive rather than active are Lummi (Aissen, 1999, Jelinek and Richard, 1983) and Chamorro (Chung, 1998), and our account might extend to these as well. It might also extend to languages with direct-inverse marking like Mapudungun and many Algonquian languages, if the so-called inverse marking found in those languages is a similar category to passive voice in relevant respects—a matter of considerable controversy among the experts on these languages.

We conclude that the PEPC could be more than an ad hoc stipulation, but may prove to be rather general—although a deeper conceptual understanding of the condition would be most welcome,<sup>12</sup> and we do not yet know much about how widespread this person condition is on causative constructions and OSR constructions in Bantu languages and beyond.<sup>13</sup>

## 5. Conclusion

In this study, we have discovered that two distinct kinds of movement need to be distinguished in order to understand variation in double object constructions in Bantu languages: movement to phase edges (i.e., vP), and movement to extra positions (in our terms, SpecLkP). These movements are subject to

<sup>11</sup> In contrast, we suspect that one could not get a unified analysis of the two phenomena within the terms of Aissen 1999, because the bad example in (26) does put the most prominent nominal in terms of person features in the most prominent grammatical position, the configuration that is favored by her harmonic alignment constraints.

<sup>12</sup> In future work we intend to explore the possibility that the hierarchy relations that the PEPC is sensitive to may take on the properties of dependency relations. For whatever dimension of the hierarchies is considered (e.g., thematic, local versus non-local person), lower members on the hierarchy are dependent on higher ones just in case two arguments must occur at the edge of the same phase. The syntactic restrictions on dependency (such as Safir's (2004) Independence Principle) may then predict PEPC effects for A-movements in much the way that they predict superiority effects for A-bar movements.

<sup>13</sup> We might also imagine the possibility of finding asymmetrical behavior with local arguments (but not third person arguments) even in applicatives in some languages. For example, Riedel (2009:ch.5) reports that constructions with 1<sup>st</sup> and 2<sup>nd</sup> person OMs behave asymmetrically in Sambia in both causatives and applicatives (although she does not say if the asymmetry extends also to passives with local pronouns). If the contrast is systematic, it might be analyzed by saying that in Sambia (but not in Lubukusu) ApplP counts as an “extra” phase head (cf. McGinnis 2001). Then theme arguments could only get past applied objects by moving to the edge of ApplP, and the PEPC will apply to applicative constructions in the same way it applies to causative ones.

somewhat different restrictions thanks to Chomsky's PIC and our own PEPC. We have also shown that causative constructions should always allow symmetry that is less than or equal to the symmetry found in applicatives, since the complement to the causative morpheme is consistently a phase (if the causative applies to agentive verbs). This is seen to be true blatantly in Sesotho, and more subtly so in Lubukusu. Finally, we observe that rarely-collected data from local pronouns in double object constructions could be very useful in identifying the kinds of intermediate movement involved in double object constructions, given a constraint like the PEPC. Just how widespread the effects of the PEPC are remains as an interesting topic for further research.

## References

- Aissen, Judith. 1999. Markedness and subject choice in Optimality Theory. *Natural language and linguistic theory* 17:673-711.
- Allen, Barbara, Frantz, Donald, Gardiner, Donna, and Perlmutter, David. 1990. Verb agreement, possessor ascension, and multistratal representation in Southern Tiwa. In *Studies in Relational Grammar 3*, eds. Paul Postal and Brian Joseph, 321-384. Chicago: University of Chicago Press.
- Baker, Mark. 1988. *Incorporation: a theory of grammatical function changing*. Chicago: University of Chicago Press.
- Baker, Mark, and Collins, Chris. 2006. Linkers and the internal structure of vP. *Natural Language and Linguistic Theory* 24:307-354.
- Baker, Mark. 2008. *The syntax of agreement and concord*. Cambridge: Cambridge University Press.
- Bejar, Susana, and Rezac, Milan. 2003. Person licensing and the derivation of PCC effects. In *Romance linguistics: Theory and acquisition*, eds. Yves Roberge and A.-T. Pérez-Leroux, 49-62. Amsterdam: John Benjamins.
- Bobaljik, Jonathan, and Branigan, Phil. 2006. Eccentric agreement and multiple case checking. In *Ergativity: Emerging Issues*, eds. Alana Johns, Diane Massam and Juvenal Ndayiragije, 47-77. Dordrecht: Springer.
- Bresnan, Joan, and Moshi, Lioba. 1990. Object asymmetries in comparative Bantu syntax. *Linguistic Inquiry* 21:147-185.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by Step*, eds. Roger Martin, David Michaels and Juan Uriagereka, 89-155. Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1-52. Cambridge, Mass.: MIT Press.
- Chung, Sandra. 1998. *The Design of Agreement*. Chicago: University of Chicago Press.
- Diercks, Michael, and Sikuku, Justine. 2011. Object marking as pronominal incorporation in Lubukusu. Ms. Pomona College and Moi University.
- Harley, Heidi. to appear. External arguments and the Mirror Principle: On the independence of Voice and v. *Lingua*.
- Jelinek, Eloise, and Demers, Richard. 1983. The agent hierarchy and voice in some Coast Salish languages. *International Journal of American Linguistics* 49:167-185.
- Kimenyi, Alexandre. 1980. *A relational grammar of Kinyarwanda*. Berkeley, Calif.: University of California Press.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, eds. Johan Rooryck and Laurie Zaring, 109-138. Dordrecht: Kluwer.
- Machobane, 'Malillo. 1989. Some restrictions on the Sesotho transitivizing morphemes, McGill University: Ph.D. Dissertation.
- McGinnis, Martha. 2001. Variation in the phase structure of applicatives. *Linguistic Variation Yearbook* 1:105-146.
- Mchombo, Sam. 2004. *The syntax of Chichewa*. Cambridge: Cambridge University Press.
- Ndayiragije, Juvénal. 1999. Checking economy. *Linguistic Inquiry* 30:399-444.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, Mass.: MIT Press.
- Rezac, Milan. 2011. *Phi-features and the modular architecture of language*. Dordrecht: Springer.
- Riedel, Kristina. 2009. The Syntax of Object Marking in Samba: a comparative Bantu perspective, Ph.D. dissertation, University of Leiden.
- Safir, Ken. 2004. *The Syntax of Anaphora*. New York: Oxford University Press.
- Safir, Ken, and Sikuku, Justine. 2011. Lubukusu anaphora sketch. Ms. Rutgers University and Moi University.
- Ura, Hiroyuki. 2000. *Checking theory and grammatical functions in Universal Grammar*. New York: Oxford University Press.