

# MORE ON UNDERMERGE: PHRASAL AND HEAD MOVEMENT INTERACTIONS IN KIKUYU\*

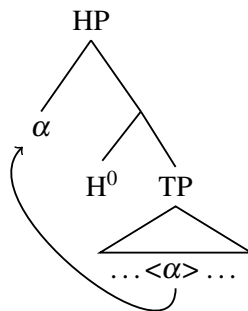
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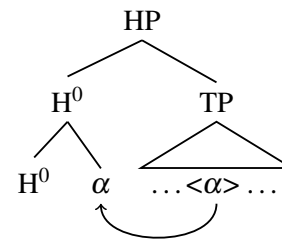
## 1 Introduction

Pesetsky (2007, 2013) argues that phrasal movement can target two different kinds of positions relative to a probing head  $H^0$ . While it is accepted that phrasal movement results in the formation of a specifier of  $H^0$ , Pesetsky proposes that *Undermerge*—phrasal movement forming a complement of  $H^0$ —is also attested. The distinction is illustrated in (1):

(1) a. *Overmerge*:



b. *Undermerge*:



Pesetsky argues that Undermerge is attested cross-linguistically. For instance, he cites McCloskey (1984), who identifies a series of constructions in Modern Irish in which a subject originating within an embedded non-finite clause appears to raise to the object of  $P^0$  within a higher clause. As shown below, the object of the preposition exhibits various hallmarks of A-raising; it may alternate with an expletive (2a) and be interpreted as part of a larger idiom chunk with the material in the embedded clause (2b).<sup>1</sup>

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<sup>1</sup>**Abbreviations:** AA = anti-agreement; AGR = agreement; APPL = applicative; COMP = complementizer; COND = conditional; COP = copula; FOC = focus marker; FUT = future; FV = final vowel; HAB = habitual aspect; NEG1 =

(2) *Modern Irish:*

a. thiocfadh [<sub>PP</sub> leis ] [ a bheith fíor go raibh Ciarán i láthair ]  
 come.COND **with-it** to be true COMP was Ciarán present  
 ‘It could be true that Ciarán was present.’

b. b’ éigean [<sub>PP</sub> do-n-a ainm ] [ a bheith i mbéal na ndaoine ]  
 COP.PST must **to-his name** to be in mouth the people  
 ‘He must have been very famous.’

*Lit.* ‘His name must have been in the mouth of the people.’ (McCloskey, 1984)

In this short paper, I argue that Kikuyu (Bantu; Kenya) also exhibits Undermerge, and therefore constitutes novel evidence for Undermerge itself. Specifically, Kikuyu  $\bar{A}$ -movement always results in the formation of a complement to the movement-triggering head in the left periphery. I also develop an accompanying, though not fully explored, idea from Pesetsky (2007, 2013) that *head movement* may also be reduced to Undermerge (as Undermerge always creates a constituent containing the attractor and the mover). The difference between phrasal Undermerge and head movement thus simply boils down to the type of complement-forming element. The idea that head movement is also Undermerge comes from a curious interaction between phrasal movement and head movement in the Kikuyu left periphery. Specifically, we find that phrasal  $\bar{A}$ -movement to a movement-triggering head blocks head movement to that same head; conversely, when head movement takes place instead, phrasal movement is impossible. We may make sense of this pattern under an Undermerge account, assuming that a given head may only host one complement.

## 2 The Kikuyu Left Periphery

Our starting point is the prefix *nĩ*. In declarative constructions this prefix surfaces optionally on the verb, and, when present, contributes semantics pertaining to verum focus (Schwarz, 2003, 2007, Nurse, 2008). In yes/no questions, *nĩ* is obligatory.

- (3) a. mũndũ **nĩ**-a-kũ-gũr-a ngari  
 man FOC-ISM-FUT-buy-FV car  
 ‘The man *will* buy a car.’
- b. Mwangi **nĩ**-a-ra-rug-ag-a?  
 Mwangi FOC-ISM-PROG-cook-HAB-FV  
 ‘Does Mwangi cook?’

In wh-questions (and with other types of  $\bar{A}$ -dependencies), however, a different pattern obtains. Kikuyu exhibits both full movement to the matrix left periphery and partial movement to the edge of an embedded clause (Bergvall, 1987, Mugane, 1997, Fanselow, 2006, Schwarz, 2003, 2007, Schardl, 2014); as shown below, *nĩ* must surface to the left of the extracted wh-phrase, rather than on the verb; moreover, it is obligatorily present.<sup>2</sup>

negation 1; NEG2 = negation 2; NOM = nominative; PL = plural; PROG = progressive aspect; PST = past tense; REL = relativizer; SM = subject marker; 1 = class 1; 2 = class 2; 9 = class 9

<sup>2</sup>The same facts hold for focus fronting, omitted here for space.

- (4) a. **nĩ kũĩ** Kamau a-r-ecir-ia [ atĩ Mwangi a-ra-thom-ir-e \_\_\_ ]  
**FOC** what Kamau 1SM-PROG-think-FV that Mwangi 1SM-PROG-read-PST-FV  
 ‘What does Kamau think Mwangi read?’
- b. Kamau a-r-ecir-ia [ atĩ **nĩ kũĩ** Mwangi a-ra-thom-ir-e \_\_\_ ]  
 Kamau 1SM-PROG-think-FV that **FOC what** Mwangi 1SM-PROG-read-PST-FV  
 ‘What does Kamau think Mwangi read?’

In addition to full and partial wh-movement, Kikuyu permits wh-in situ (5). Unlike what we have seen so far, however, *nĩ* cannot surface at all in wh-in situ constructions.

- (5) ngui (**\*nĩ-**)ĩ-kũ-rũm-a (**\*n-**)ũũ  
 dog (**\*FOC-**)9SM-FUT-bite-FV (**\*FOC-**)who  
 ‘Who will the dog bite?’

It has been argued that wh-movement in Kikuyu is actually derived by clefting (Bergvall, 1987), on the basis that the Kikuyu copula appears to surface as *nĩ*. However, I follow Schwarz (2003, 2007) and Schardl (2014) in taking Kikuyu wh-questions to be formed via bona fide focus-driven  $\bar{A}$ -movement, and *nĩ* to be a generalized focus marker preceding a null copula in copular constructions. This is corroborated by (6), in which we see that extraction within a copular construction results in the obligatory association of *nĩ* with the wh-phrase.

- (6) a. Mwangi **nĩ** mũ-ruaru  
 Mwangi **FOC** 1AGR-sick  
 ‘Mwangi is sick.’
- b. **n-ũũ** mũ-ruaru  
**FOC-who** 1AGR-sick  
 ‘Who is sick?’

I assume that wh-movement in Kikuyu is Agree-driven Internal Merge (e.g. Chomsky, 2000). Evidence for this treatment comes from superiority facts, which can in turn be reduced to typical conditions on locality. As shown below, Kikuyu is strictly superiority-obeying, meaning that in multiple wh-questions only the higher wh-word is able to move to the left periphery (the lower wh-word remains in situ).

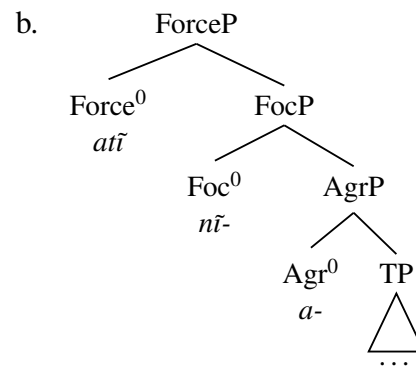
- (7) *Subject > VP-level adjunct*
- a. **n-ũũ** ũ-rug-ir-e thamaki **rĩ**  
**FOC-who** AA.SM-cook-PST-FV fish **when**  
 ‘Who cooked fish when?’
- b. **\*[ nĩ rĩ ] [ ũũ ]** a-rug-ir-e thamaki  
**FOC when who** 1SM-cook-PST-FV fish  
*Intended:* ‘When did who cook fish?’
- (8) *VP-level adjunct > object*
- a. **nĩ rĩ** Mwangi a-rug-ir-e **kũĩ**  
**FOC when** Mwangi 1SM-cook-PST-FV **what**  
 ‘When will Mwangi cook what?’
- b. **\*nĩ kũĩ** Mwangi a-rug-ir-e **rĩ**  
**FOC what** Mwangi 1SM-cook-PST-FV **when**  
*Intended:* ‘What will Mwangi cook when?’

This also allows us to make sense of why *nĩ* cannot co-occur in a wh-in situ construction (repeated below). Assuming that the movement-triggering EPP feature is obligatory, constructions like in (9) are ruled out simply because the wh-word must undergo movement.

- (9) *ngui (\*nĩ-)ĩ-kũ-rũm-a*      *ũũ*  
 dog \*FOC-)9SM-FUT-bite-FV who  
 ‘Who will the dog bite?’

As I showed earlier in the partial doubling construction in (4b), the left-peripheral wh-word follows the complementizer. This suggests that the CP domain is articulated, consisting of a number of subprojections (Rizzi, 1997). For concreteness, I take the post-complementizer projection hosting the wh-word to be FocP, and assume the following basic structure for the Kikuyu the left periphery:

- (10) a. *atĩ nĩ-a-kũ-rug-a*  
 that FOC-1SM-FUT-cook-FV  
 ‘...that he will cook.’



In the structure above, the complementizer *atĩ* ‘that’ occupies Force<sup>0</sup>, while *nĩ* is base-generated in Foc<sup>0</sup>. The latter assumption roughly follows Schwarz (2003, 2007) and Abels and Muriungi (2008). However, I diverge from previous work in my treatment of the interaction between wh-movement and the distribution of *nĩ*. One of the central questions in the next section will thus concern why *nĩ* in Foc<sup>0</sup> fails to attach to the verb when a wh-word has moved to FocP.

### 3 Kikuyu Wh-movement Undermerges

As shown earlier, in clauses without wh-movement (including both declarative clauses and yes-no interrogative clauses), the focus prefix *nĩ* (when present) attaches to the verbal complex (11a); however, in wh-questions, the same prefix must attach instead to the moved wh-phrase (11b).

- (11) a. *mũndũ nĩ-a-thi-ir-e*      b. *n-ũũ*      *ũ-thi-ir-e*  
 man FOC-1SM-leave-PST-FV      FOC-who AA.SM-leave-PST-FV  
 ‘The man left.’      ‘Who left?’

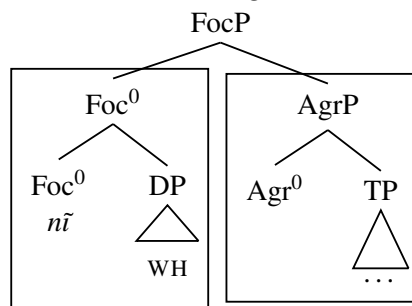
To account for this pattern, Clements (1984) and Bergvall (1987) posit that *nĩ* is base-generated high but *lowers* onto the verb in the absence of a wh-phrase. Conversely, Schwarz (2003, 2007) suggests that either a focused DP (as in (11b)) or a focused verbal complex (as in (11a)) can move to Spec-FocP, thus joining with *nĩ*. In both types of analyses, that *nĩ* happens to be a prefix is determined by other means.

I argue instead that we may capture the same facts by taking wh-movement to be *Undermerge to Foc<sup>0</sup>*. The idea is that a probe on Foc<sup>0</sup> searches for a suitable goal in its c-command domain—in this case, a focus-bearing XP—and draws it to its *complement* position rather than its specifier position. Below, I present two morphological arguments for this claim.

First, Undermerge accounts for *nĩ*'s prefixal status; the landing site of the moved wh-phrase, the complement of Foc<sup>0</sup>, is linearly to the right of *nĩ* in Foc<sup>0</sup>. Recall that Undermerge feeds the formation of syntactic constituency between the probe and the mover, and that this feeds affixation (this was shown earlier with the Modern Irish data). Let us moreover assume, with Bobaljik (1994), Embick and Noyer (2001), Harley (2013) and others, that adjacency between two terminal nodes (heads) is a prerequisite for their affixation. Thus, we may conclude that affixation between *nĩ* and the rest of the verbal complex in Kikuyu is blocked because *nĩ* in Foc<sup>0</sup> and the immediately lower head (Agr<sup>0</sup>, as illustrated in (10)) are no longer adjacent—the Undermerged wh-phrase intervenes by forming a constituent with Foc<sup>0</sup> to the exclusion of the rest of the clause.

However, in the absence of a left-peripheral Undermerged wh-phrase, word formation between the material in Foc<sup>0</sup> and other heads may take place, because the head-head adjacency relation is preserved. The overall idea is summarized in (12). Note that I take only *phrasal complements*, and not *phrasal specifiers*, to interfere with word formation (contra e.g. Bobaljik 1994); I leave the implications of this distinction for further research.

(12) *Phrasal Undermerge blocks Merger:*



(*separate phonological words*)

The second argument is that, as shown throughout this paper, the phrasal constituent targeted by Foc<sup>0</sup> always surfaces to the right of *nĩ*. Moreover, as (13) shows, the post-*nĩ* constituent can be of any structural complexity. In the examples given, we see that the moved constituent may contain a CP and coordinated DPs.

- (13) a. *nĩ* [<sub>DP</sub> **mũndũ** [<sub>CP</sub> **ũ-rĩa** **Mwangi a-ra-rug-ĩ-ir-e** **irio**]]  
 FOC **man** **1AGR-REL Mwangi 1SM-PROG-cook-APPL-PST-FV food**]]  
 ũ-gũr-ir-e ngari  
 AA.SM-buy-PST-FV car  
 'It's the man that Mwangi cooked for that bought the car.'
- b. *nĩ* **mũndũ ũ-rĩkũ na ngui ĩ-rĩkũ** ma-ra-thak-a hamwe  
 FOC **man 1AGR-which and dog 9AGR-which** 2SM-PROG-play-FV together  
 'Which man and which dog are playing together?'

This presents a challenge for an alternative treatment that might make use of postsyntactic morpheme reordering. Such an alternative might posit that the extracted constituent moves to Spec-

FocP, producing a *XP-nĩ* morpheme order, but a morphological operation applies postsyntactically to yield the correct morpheme order. For instance, Local Dislocation (Embick and Noyer, 2001) swaps the adjacency relationship between two elements for one of affixation.

A problem with this approach, however, is that Local Dislocation is typically very local, and targets morphologically simplex elements such as heads or minimal words. Apparent exceptions to this are due to successive applications of Local Dislocation. For example, the second-position clitic *que* ‘and’ in Latin normally encliticizes to the first minimal word in its complement (14a), but it may also skip over the first minimal word if this word is a monosyllabic  $P^0$  (14b); Embick and Noyer suggest that this is allowed because the preposition and its nominal complement first undergo string-vacuous Local Dislocation themselves. Thus, even in this example, Local Dislocation continues to operate on minimal words (15).

(14) *Latin:*

- a. bon-ī            puer-ī            bon-ae-**que**            puell-ae  
     good-NOM.PL boy-NOM.PL good-NOM.PL-**and** girl-NOM.PL  
     ‘good boys and good girls’
- b. in rēbus-**que**  
     in things-**and**  
     ‘and in things’

(15) *Two applications of Local Dislocation:*

- a. que- \* [ in \* rē+bus ] → que- \* [ in+rē+bus ]  
 b. que- \* [ in+rē+bus ] → [ in+rē+bus+que ]                      (Embick and Noyer, 2001)

In a Local Dislocation-based treatment of Kikuyu, we must posit that the operation applies between a head and the maximal projection in the specifier of this head, and, moreover, that all of the elements within the maximal projection have undergone Local Dislocation themselves and are therefore interpreted as a single minimal word. However, there is no evidence for this. Furthermore, a morpheme reordering operation such as Local Dislocation says nothing about when *nĩ* is expected to affix to the wh-phrase or to the verbal complex, and therefore cannot be invoked to capture the distribution of *nĩ*—the puzzle that we are hoping to capture in the first place. Conversely, an Undermerge analysis can straightforwardly capture the correct morpheme order without recourse to additional morphological operations; it comes for free simply by moving the phrase to a position under the head.

A question that remains unaddressed is *why* the moving element targets the complement of  $Foc^0$  rather than its specifier. I suggest that this is because *nĩ* is a focus sensitive operator (cf. Abels and Muriungi, 2008) that takes its sister as its semantic argument; Undermerge to the complement of  $Foc^0$  creates this sisterhood configuration. I leave the implications of this semantics-fed movement for future work (though see Wagner 2006 for a similar proposal).

## 4 Head movement as Head-Head Undermerge

Earlier, I suggested that phrasal Undermerge to the complement of  $Foc^0$  may disrupt word formation processes involving this head. In this section, I propose that phrasal Undermerge blocks head movement to the same head, suggesting that head movement should also be understood as

a variety of Undermerge. Evidence for this comes from the behaviour of negation. Kikuyu, like many other Bantu languages, has multiple negation morphemes (Nurse, 2008); in Kikuyu, they are *nd*, *ti*, and *ta*. The first two, *nd* and *ti*, are phonologically-conditioned allomorphs;<sup>3</sup> I will refer to this type of negation as NEG1. NEG1 is used in full declarative clauses and yes/no questions, as shown in (16). Also, note that the presence of NEG1 is in complementary distribution with preverbal *nĩ*.

- (16) a. mwana **nd**-a-gũ-thom-a            ibuku  
 child NEG1-1SM-FUT-read-FV book  
 ‘The child will not read the book.’
- b. Mwangi a-r-ecir-ia                    [ Njeri **nd**-a-ra-rug-a                    thamaki ]  
 Mwangi 1SM-PROG-think-FV Njeri NEG1-1SM-PROG-cook-FV fish  
 ‘Mwangi thinks that Njeri isn’t cooking the fish.’
- c. Mwangi **nd**-a-rug-ag-a?  
 Mwangi NEG1-1SM-cook-HAB-FV  
 ‘Doesn’t Mwangi cook?’

The choice between NEG1 and the third negation morpheme, *ta* (NEG2) is *controlled by the syntax*. For example, in reduced clauses that do not allow *nĩ* or partial movement (i.e., that lack the CP layer altogether), NEG2 must be used (NEG1 is not possible in such clauses).

- (17) a. Mwangi a-haan-a            ta [ (\***nĩ**-)a-ra-rug-a                    ]  
 Mwangi 1SM-seem-FV like (\***FOC-**)1SM-PROG-cook-FV  
 ‘Mwangi seems to be cooking.’
- b. (**nĩ kũĩ**) Mwangi a-haan-a            ta [ (\***nĩ kũĩ**)                    a-ra-rug-a                    (**kũĩ**) ]  
 (**FOC what**) Mwangi 1SM-seem-FV like (\***FOC what**) 1SM-PROG-cook-FV (**what**)  
 ‘What does Mwangi seem to be cooking?’
- c. Mwangi a-haan-a            ta [ a-**ta**-ra-rug-a                    ]  
 Mwangi 1SM-seem-FV like 1SM-NEG2-PROG-cook-FV  
 ‘Mwangi seems to not be cooking.’

That NEG2 surfaces in reduced clauses suggests that NEG2 is lower than  $\text{Foc}^0$ —I will refer to this position as  $\text{Neg}^0$ . An additional argument that NEG2 occupies a position lower than  $\text{Foc}^0$  comes from the fact that NEG2 and *nĩ* are able to co-occur in certain environments. In non-reduced matrix clauses, for example, NEG2 is used in wh-questions:

- (18) *nĩ kũĩ* mwana a-**ta**-na-rug-a  
 FOC what child 1SM-NEG2-PST-cook-FV  
 ‘What didn’t the child cook?’

The generalization is therefore that NEG2 appears in reduced clauses that lack  $\text{FocP}$  as well as in wh-questions; NEG1, conversely, surfaces in full clauses. Moreover, NEG2 may co-occur with *nĩ* (in wh-questions) while NEG1 may not. Although the distributions of the two negations appear

<sup>3</sup>Whether negation surfaces as *nd* or *ti* depends on whether the agreement morpheme adjacent is vowel- or consonant-initial.

heterogeneous, I argue that they follow straightforwardly from the current proposal. I propose that NEG1 and NEG2 occupy different syntactic positions. While NEG2 is in  $Neg^0$ , NEG1 is in  $Foc^0$ , which explains why NEG1 and *nĩ* may not co-occur. Now, consider the contrast in (19). Although it was shown above that NEG2 is used in *wh*-questions, this is not the complete picture. NEG2 is used in *wh*-questions *with overt movement*; if the *wh*-word remains in situ, NEG1 must be used instead.

- (19) a. *nĩ kĩ mwana a-ta-na-rug-a*  
 FOC what child 1SM-NEG2-PST-cook-FV  
 ‘What didn’t the child cook?’
- b. *mwana nd-a-na-rug-a kĩ*  
 child NEG1-1SM-PST-cook-FV what  
 ‘What didn’t the child cook?’

To account for this contrast, plus the other properties of NEG1 and NEG2 discussed above, I propose that negation is *always base-generated in  $Neg^0$*  but undergoes head movement to  $Foc^0$  whenever it can. Whether negation is spelled out as NEG1 (*nd/ti*) or NEG2 (*ta*) is controlled by its syntactic position at the point of spell-out.<sup>4</sup> In typical declarative clauses, negation undergoes head movement to  $Foc^0$ , so negation is spelled out as NEG1. In reduced clauses, head movement to  $Foc^0$  is not possible, so negation remains in its base position in  $Neg^0$  and is realized as NEG2. This is schematized below.

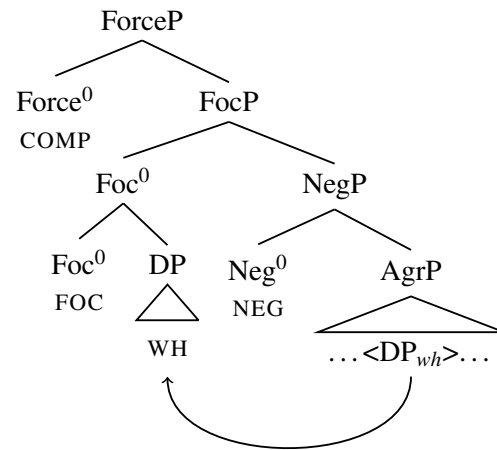
- (20) a. *Full declarative clause; head-head Undermerge possible:*
- 
- b. *Reduced declarative clause; head-head Undermerge impossible:*
- 

In *wh*-questions, however, we have a single head,  $Foc^0$ , able to trigger both phrasal Undermerge and head movement. I propose that this is the basis of the contrast in (19):  $Foc^0$  can only take one complement, but the probe on  $Foc^0$  is able to target either a focus-bearing phrase or a  $Neg^0$ . When a phrase is targeted, this phrase Undermerges to  $Foc^0$ , blocking head movement, so negation is realized as *ta* in its base-position. Conversely, when  $Neg^0$  is targeted, this head undergoes Undermerge and is spelled out as *nd/ti*; head movement blocks phrasal Undermerge so the *wh*-word remains in situ. This is illustrated below.

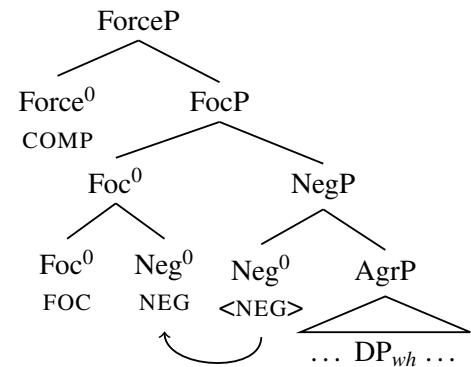
<sup>4</sup>Why this head movement from  $Neg^0$  to  $Foc^0$  takes place at all remains an open question for future work.



(21) a. *Phrasal Undermerge blocks head movement:*



b. *Head-head Undermerge blocks phrasal movement:*



Finally, this proposal is supported by the interaction between negation and *wh*-in situ in reduced clauses. As shown in (22), in such clauses, NEG2 and *wh*-in situ may co-exist. This is because there is no FocP in reduced clauses, so neither phrasal movement nor head movement are possible.

- (22) Mwangi a-haan-a ta [ a-ta-ra-rug-a kīī ]  
 Mwangi 1SM-seem-FV like 1SM-NEG2-PROG-cook-FV what  
 ‘What does Mwangi seem to not be cooking?’

In sum, I have identified two distinct ways in which phrasal Undermerge of a *wh*-phrase to the complement of Foc<sup>0</sup> may affect head-head processes in Kikuyu. Here, the disruption of head movement is reflected in the surface realization of negation. I additionally showed that the converse is also possible—head movement may block phrasal Undermerge.

## 5 Conclusion

This paper proposed that Kikuyu *wh*-phrases Undermerge, forming a complement of its triggering head, Foc<sup>0</sup>. While the initial motivation for this claim comes from the observation that *wh*-phrases invariably follow the focus morpheme *nĩ*, the Undermerge approach is supported by the fact that *wh*-movement interacts with various head-head processes targeting the same head, Foc<sup>0</sup>. I showed that the presence of an Undermerged *wh*-phrase in the left periphery prevents *nĩ* from affixing to the verbal complex, and also proposed that Undermerging a phrase disrupts the head-head adjacency relationship necessary for affixation. I moreover illustrated how the analysis could also be extended to head movement, such that head movement is also analyzed as Undermerge: (otherwise obligatory) head movement of negation is blocked by phrasal Undermerge, and phrasal movement is similarly blocked by head-head Undermerge. This paper thus provides novel evidence in favour of the existence of Undermerge, as well as a more specific level of interaction between Undermerged phrases and heads.

I conclude with an open question and a possible direction. According to the proposal detailed here, both phrases and heads are able to be targeted for movement. This is unexpected under principles such as Attract Closest (Chomsky, 1995), given the local nature of head movement. It also contradicts certain views of head movement, e.g., Matushansky (2006), which reduce head

movement to phrasal movement to specifier. One possibility, which I leave for future work, is that all kinds of movement are *feature-driven*, and that the different types of features driving phrasal movement and head movement are hierarchically organized.

## References

- Abels, Klaus, and Peter Muriungi. 2008. The focus marker in Kîtharaka: Syntax and semantics. *Lingua* 118:687–731.
- Bergvall, Victoria. 1987. Focus in Kikuyu and Universal Grammar. Doctoral Dissertation, Harvard University, Cambridge, MA.
- Bobaljik, Jonathan. 1994. What does adjacency do? *Massachusetts Institute of Technology Working Papers in Linguistics* 22:1–32.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on Minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
- Clements, George Nicholas. 1984. Binding domains in Kikuyu. *Studies in the Linguistic Sciences* 14:37–56.
- Embick, David, and Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32:555–595.
- Fanselow, Gisbert. 2006. Partial wh-movement. In *The Blackwell companion to syntax*, ed. Martin Everaert and Henk van Riemsdijk, Vol. 3, 437–492. Malden, MA: Blackwell.
- Harley, Heidi. 2013. Getting morphemes in order: Merger, affixation, and head movement. In *Diagnosing syntax*, ed. Lisa Cheng and Norbert Hornstein, 44–74. Oxford: Oxford University Press.
- Matushansky, Ora. 2006. Head movement in linguistic theory. *Linguistic Inquiry* 37:69–109.
- McCloskey, Jim. 1984. Raising, subcategorization and selction in modern Irish. *Natural Language and Linguistic Theory* 1:441–485.
- Mugane, John M. 1997. *A paradigmatic grammar of gîkûyũ*. Stanford: GSLI Publications.
- Nurse, Derek. 2008. *Tense and aspect in Bantu*. Oxford: Oxford University Press.
- Pesetsky, David. 2007. Undermerge...and the secret genitive inside every Russian noun. *Presented at FASL16*.
- Pesetsky, David. 2013. *Russian case morphology and the syntactic categories*. Cambridge, MA: MIT Press.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: Handbook of generative syntax*, ed. Liliane Haegeman, 281–337. Dordrecht: Kluwer.
- Scharidl, Anisa. 2014. Optional wh-movement and clefts. In *Proceedings of WCCFL 31*, ed. Robert Santana-LaBarge, 391–398. Somerville, MA: Cascadilla Press.
- Schwarz, Florian. 2003. Focus marking in Kikuyu. In *Questions and focus*, ed. Regine Eckardt, 41–118. Berlin: ZASPIL.
- Schwarz, Florian. 2007. Ex-situ focus in Kikuyu. In *Focus strategies in African languages*, ed. Enoch Aboh, Katharina Hartmann, and Malte Zimmermann, 139–160. Berlin: Walter de Gruyter.
- Wagner, Michael. 2006. Association by movement: Evidence from NPI-licensing. *Natural Language Semantics* 14:297–324.