

VERBAL MORPHEMES IN THE SAME SYNTACTIC CONTEXT WITH DIFFERENT MORPHOSYNTACTIC FEATURES*

Kyumin Kim
University of Calgary

1. Introduction

In a wide range of languages, the same morpheme used to indicate that a predicate is reflexive is also used in the transitivity alternation (Marantz 1984). This occurs in, for example, Greek (1) and Kannada (2), a Dravidian language spoken in South India. In Greek (1), the same Non-Active (N/A) morpheme occurs with both reflexive (1a) and transitive-intransitive alternating verb (1b). In Kannada (2), the Verbal Reflexive (VR) morpheme shows the same pattern as the Greek N/A morpheme in (1).¹

- (1) a. I Maria xtenize-**te** kathe mera.
The-NOM Maria-NOM comb-N/A.3S every day
'Maria₁ combs herself₁ every day.'
- b. tsakizo : tsakizo-**me**
break break.N/A
'break'-Transitive 'break'-Intransitive
(Embick 2004)

- (2) a. joon₁ tann-annu₁ hoDedu-**koLL**-utt-aane.
John self-ACC hit.PP-VR-PRES-3SM
'John₁ hits himself₁.'
- b. wad : wada-**koLL**
break break.PP-VR
'break'-Transitive 'break'-Intransitive
(Adapted from Lidz 1998)

According to Embick (1997, 1998), the pattern of the Greek N/A morpheme in (1) is motivated by a certain morphosyntactic context which (1a) and (1b) share. By analogy, (1a) and (1b) in Kannada must share some

* I would like to thank Martha McGinnis and Kimiko Nakanishi for their helpful comments on this material. In this paper, the following abbreviations are used: 3 = third person, ACC = accusative case, DAT = dative case, M = masculine gender, N = neuter gender, N/A = non-active morpheme, NOM = nominative case, PRES = present tense, PP = past participle, PRED = predication marker, S = singular, VR = verbal reflexive. Also, each person, number, and gender marking are used together to indicate agreement morphology on verbs. For example, the abbreviation '3SM' indicates 3rd person singular masculine agreement morphology on the verb.

¹ The VR is always suffixed to a past participle form of the verb (Sridhar 1990).

morphosyntactic context. In this paper, I examine whether the morphosyntactic context of the VR is the same as the morphosyntactic context of the Greek N/A morpheme. I argue that the Kannada VR and the Greek N/A morpheme are subject to different morphosyntactic contexts even though they have the same distribution as shown in (1) and (2).

The paper is organized as follows: Section 2 introduces Embick's (1997, 1998) proposal for the Greek N/A morpheme. Section 3 compares the Greek N/A morpheme and the Kannada VR with respect to syntactic context where they appear. Section 4 proposes the morphosyntactic context of the Kannada VR. Section 5 is the conclusion.

2. The Morphosyntactic Condition of the Greek N/A morpheme

Embick (1997, 1998) argues that the N/A morpheme in Greek can be viewed as reflecting properties of the syntactic environment in which it appears. In particular, within the framework of Distributed Morphology (Halle & Marantz 1993, 1994), Embick (1997, 1998) argues that the N/A morpheme in Greek is analyzed as being related to the morphological feature, [NonAct], which is assigned post-syntactically to the verb when the verb is in a particular structural configuration. The following is a morphological rule that shows the process of the assignment of the feature [NonAct]:

- (3) $V \rightarrow V\text{-VOC [NonAct]} / \text{ ______ SYNTACTIC ENVIRONMENTS}$
(Embick 1997)

The morphological rule (3) states that the feature [NonAct] can be assigned to the verb when a particular syntactic environment is met. As a consequence of the application of the rule (3), the verb is realized with the N/A morpheme. As for the 'syntactic environment' where the [NonAct] feature can be assigned, Embick (1997, 1998) argues that it can be assigned to the verb when *v* is not in a local relationship with an external argument:

- (4) $V \rightarrow V\text{-VOC [NonAct]} / \text{ ______ No external DP argument}$
(Embick 1997, 1998)

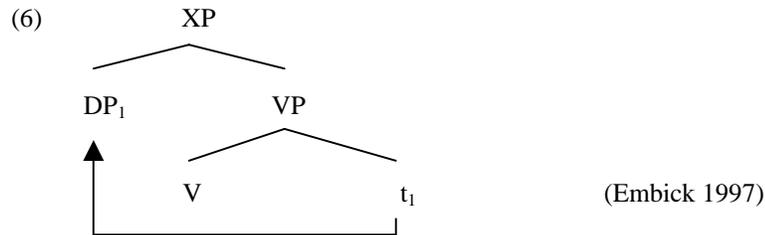
In other words, the verbs can be realized with the N/A morpheme when we find a particular syntactic environment, the absence of an external argument. The particular syntactic environment shown in (4) is the reflection of the common structural property between reflexives and intransitive alternating verbs where the N/A morpheme appears.²

Given the argument that the syntactic environment in (4) is a shared structural property between reflexives and intransitive alternating verbs, let us examine how reflexives and intransitive alternating verbs lack an external argument. The data are repeated below:

² The proposal of Embick (1997, 1998) is also based on the presence of the N/A morpheme in passives. Passives lack an external argument satisfying the syntactic environment in (4). However, the VR in Kannada is not used as a passive marker.

- (5) a. I Maria xtenize-**te** kathe mera.
 The-NOM Maria-NOM comb-N/A.3S every day
 ‘Maria_i combs herself_i every day.’
- b. tsakizo : tsakizo-**me**
 break : break.N/A
 ‘break’-Transitive ‘break’-Intransitive (=1)

The example (5a) is a reflexive clause where the verb has only one argument, ‘Maria’. Assuming the analysis of Romance reflexive clitics in which the surface subject is the logical object, Embick (1997, 1998) argues that the argument of the verb in (5a) is a logical object, as illustrated in the following tree:³



In (6), the logical object DP of the verb undergoes A-movement to the logical subject position. Under this analysis, therefore, reflexives lack an external argument. As for the verbs in (5b), Embick (1997) assumes that they are fundamentally intransitive roots following Chomsky (1970) and Marantz (1995). That is, the intransitive alternating verbs in (5b) are assumed to be unaccusatives, and therefore lacking an external argument. As illustrated so far, both reflexives (5a) and intransitive alternating verbs (5b) lack an external argument. Therefore, the condition for the application of the morphological rule (4) is met in both reflexives and intransitive alternating verbs. With the assignment of [NonAct] feature, the verbs in reflexives and intransitive alternating verbs are realized with the N/A morpheme.

Given the syntactic environment where the feature [NonAct] can be assigned, Embick (1997) further points out that the property of *v* is not

³ With respect to reflexives, the N/A morpheme also appears in reflexive clauses with a transitive verb prefixed with *afto-* ‘self’:

- (i) O Yanis **afto-katastraf-ik-e**
 the Yani self-destroy-N/A-3S
 ‘Yani_i destroyed himself_i.’ (Embick 1998)

Without the prefix *afto-* in (i), the sentence has a simple passive meaning ‘Yani was destroyed’. Embick (1998) argues that *afto-* can be treated as the realization of a deep clitic anaphor. He further argues that the subject *Yani* in (i) is the raised logical object if this type of analysis is right for *afto-*. Therefore, the clauses like (i) also lack an external argument meeting the syntactic environment for the application of the rule (4). For a detailed argument for *afto-*, see Embick (1998). For the purpose of the paper, I only discuss cases relevant to Kannada.

homogeneous with respect to the syntactic environment in which the Greek N/A morpheme appears. It is causative in reflexives but is not causative in intransitive alternating verbs.⁴ This property of *v* with respect to the N/A morpheme seems to be different from the property of *v* with respect to the Kannada VR. I will return to this matter after I present a syntactic environment for the Kannada VR.

To summarize, the syntactic environment needed for the realization of the Greek N/A morpheme is that no external argument is present. In reflexives, this environment is met by assuming that the only argument of the verb is a logical object. As for intransitive alternating verbs, they are assumed to be unaccusatives, which also meets the environment. Moreover, the clauses with the N/A morpheme do not necessarily have the same type of *v* (i.e. non-causative *v* vs. causative *v*).

3. Comparison of Greek and Kannada Verbal Reflexive Morphemes

Given the proposal for the N/A morpheme in Greek, let us examine whether the presence of the Kannada VR can be motivated by the absence of an external argument. Unlike the N/A morpheme in Greek, the Kannada VR does not seem to be motivated by the absence of an external argument. A piece of evidence comes from the transitive reflexive (7):

- (7) *joon*₁ *tann-annu*₁ *hoDedu-koLL-utt-aane*.
 John self-ACC hit.PP-VR-PRES-3SM
 ‘John₁ hits himself₁.’ (= (2a))

In (7), the verb *hoDedu-* ‘hit’ has two arguments, namely the logical subject *joon* ‘John’ and the logical object *tannannu* ‘self’. Importantly, the logical object is accusative case marked, suggesting that (7) is syntactically transitive. Therefore, (7) clearly has an external argument, in contrast with Greek (5a). Yet, the VR can also appear in the syntactic environment where no external argument is present:

- (8) *wad* : *wada-koLL*
 break break.PP-VR
 ‘break’-Transitive ‘break’-Intransitive (= (2b))

According to Lidz (1998), the verbs in (8) are unaccusatives. So the VR can appear in the syntactic environment where there is no external argument, just like the Greek N/A morpheme. The facts shown in (7) and (8) demonstrate that the VR can appear in both syntactic environments in which an external argument is present and absent, which suggest that the syntactic environment where the VR and the Greek N/A morpheme appear cannot be the same. Further evidence for the difference between the VR and the Greek N/A morpheme can be found in a raising construction in Kannada. I assume that a raising

⁴ In Embick (1997, 1998), the property of *v* is explained in terms of agentivity. As will be shown later in the paper, agentive *v* can be represented as causative *v*. For consistency, I use the term ‘causative’ throughout the paper.

construction does not have an external argument following in the spirit of Postal (1974). If we take this assumption, the VR should be able to appear in a raising construction if the absence of an external argument is the right syntactic environment for the VR. As shown in the raising construction in (9), however, the VR is not allowed:

- (9) Hari₁ tann₁-age santooshaag-iruw-aage kaNis-(***koLLu**)-utt-aane
 Hari self-DAT happy-be-PRE seem-(*VR)-PRES-3SM
 ‘Hari₁ seems to himself₁ to be happy.’ (Lidz 1996)

The fact that the VR cannot appear in a raising clause like (9) suggests that the absence of an external argument does not correlate with the presence of the VR.

The following table summarizes the relation between an external argument and the VR:

Table 1. The Relationship Between an External Argument and the VR

(10)	An external argument	VR
a. Intransitive alternating verbs	NO	YES
b. Reflexives	YES	YES
c. Raising	NO	NO

As shown in (10a), intransitive alternating verbs lack an external argument and can have the VR. This fact seems to suggest that the presence of VR correlates with the absence of an external argument. However, from (10c), we can see that it is not always true: there is no external argument in (10c) but the VR cannot appear. Moreover, as (10b) demonstrates, the VR can appear even when there is an external argument.

Given this evidence, it is clear that the presence of the Kannada VR cannot be motivated by the same syntactic environment as the Greek N/A morpheme. Like the Greek N/A morpheme, the emergence of the VR in reflexives and intransitive alternating verbs is due to a shared syntactic environment between them. However, the syntactic environment needed for the realization of the VR must not be the same as that of the Greek N/A morpheme.

4. The Morphosyntactic Condition of the Kannada VR

The previous section demonstrates that the VR cannot be motivated by the same syntactic environment as the Greek N/A morpheme. In particular, I showed that the absence as well as the presence of an external argument does not explain the presence of the VR in Kannada. This raises the question: what is the syntactic environment that can explain the presence of the Kannada VR? In order to answer this question, consider the following examples:

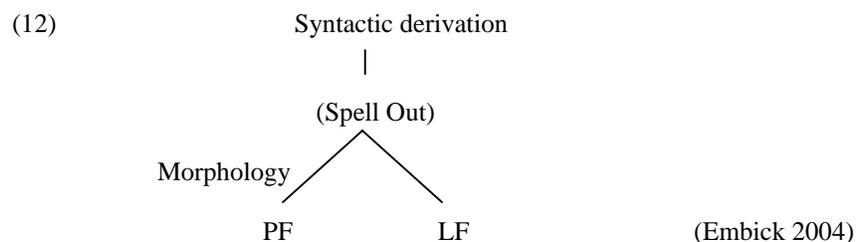
- (11) a. **gaal-ige** baagil-u tere-du-**koND**-itu
 wind-DAT door-NOM open-PP-VR.PAST-3SN
 ‘Because of the wind, the door opened.’
- b. ***gaal-ige** baagil-u terey-i-tu
 wind-DAT door-NOM open-PAST-3SN
 ‘Because of the wind, the door opened.’ (Lidz 1999)

When intransitive alternating verbs occur with the dative cause adjunct, as in (11a), the VR must appear. Without the VR, the sentence is ungrammatical, as in (11b). This contrast shown in (11) suggests that the verbs with the VR are causative but the verbs without the VR are not. Based on this observation, I argue that the syntactic environment needed for the realization of the VR is a particular type of *v*, a causative *v*.

4.1 Theoretical Assumptions

4.1.1 Distributed Morphology

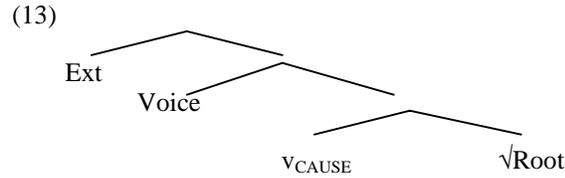
The analysis presented in this paper is based on Distributed Morphology (henceforth, DM) proposed by Halle & Marantz (1993, 1994). DM assumes the model of grammar illustrated below:



In (12), the syntax consists of a set of rules that generate syntactic structures, which are then subject to further operations in the derivation of PF and LF interface levels. Crucially, under DM, morphemes are inserted into the terminal nodes of a syntactic structure between Spell Out and PF. The terminal nodes of a syntactic structure are complexes of semantic and syntactic features that systematically lack all phonological features. Phonological features of these terminal nodes are added by the insertion of morphemes after all syntactic derivations have taken place. In particular, the insertion takes place when the features of morphemes are the subset of the features of terminal nodes. However, the features of morphemes do not need to match every feature of terminal nodes. Rather, the features of morphemes may be underspecified with respect to the features of the terminal nodes. In this paper, following DM, I assume that the VR is inserted after all syntactic derivations have taken place.

4.1.2 A Separation of Voice and v_{CAUSE}

Following Pylkkänen (2002), I assume that Voice and a verbal event head (v) are separated. Pylkkänen (2002) assumes that an external argument is syntactically introduced by Voice following Krazter (1996), and a verbal event head v merges syntactically with a category neutral root, following Marantz (1997). By combining these two assumptions, Pylkkänen (2002) proposes the following structure:⁵



In (13), Voice and v_{CAUSE} are two independent syntactic heads. Voice is the head that introduces an external argument. v_{CAUSE} is the head that produces a constituent by combining with a category neutral lexical root and introduces a causative meaning to the constituent. v_{CAUSE} in (13) assigns a theta-role to an external argument via Voice. Assuming Voice and v_{CAUSE} are independent and separate syntactic heads, the structure (13) has an important implication. It is expected that causativity and an external argument are dissociated. Although v_{CAUSE} can generate a causative predicate, it does not mean that v_{CAUSE} also produces a thematic syntactic position for an external argument. That is, v_{CAUSE} does not necessarily project a position for an external argument (i.e., a spec-VoiceP in (13)), although it generates a causative predicate. So, in certain cases, a structure can bear v_{CAUSE} without an external argument.

As for causative v , v_{CAUSE} , I assume that a verbal event head v can be represented as v_{CAUSE} if the root has a causative meaning. The ‘causative meaning’ here is understood in a very abstract sense. In particular, v can be represented as causative if the predicate can produce an agentive predicate which can assign an Agent role to an external argument.

4.2 The Analysis of the VR

Given the assumptions in the previous section, the proposal that v_{CAUSE} is the syntactic environment needed for the realization of the VR can be expressed as follows:

$$(14) \quad \text{VR} \rightarrow v_{\text{CAUSE}}$$

(14) states that the VR can be realized when a particular syntactic environment is met, namely v_{CAUSE} .

Let us examine whether the syntactic environment, v_{CAUSE} , is met in intransitive alternating verbs and reflexives in Kannada. Consider the intransitive alternating verbs repeated below:

⁵ The structure does not always have to be bi-eventive, as assumed in Pylkkänen (2002).

- (15) a. **gaal-ige** baagil-u tere-du-**koND**-itu
 wind-DAT door-NOM open-PP-VR.PAST-3SN
 ‘Because of the wind, the door opened.’
- b. ***gaal-ige** baagil-u terey-i-tu
 wind-DAT door-NOM open-PAST-3SN
 ‘Because of the wind, the door opened.’ (= (11a))

The fact that the verbs with the VR are compatible with a cause adjunct, as in (15a) but verbs without the VR are not, as in (15b), suggests that the verbs with the VR are causative, projecting v_{CAUSE} . This difference can be represented in the tree as follows:

- (16) a.
-
- ```

graph TD
 vP --> VP
 vP --> vCAUSE["vCAUSE
VR"]
 VP --> baagil
 VP --> tere_minus["tere-"]

```
- b.
- 
- ```

graph TD
  VP --> baagil
  VP --> tere
  VR["*VR"]
  
```

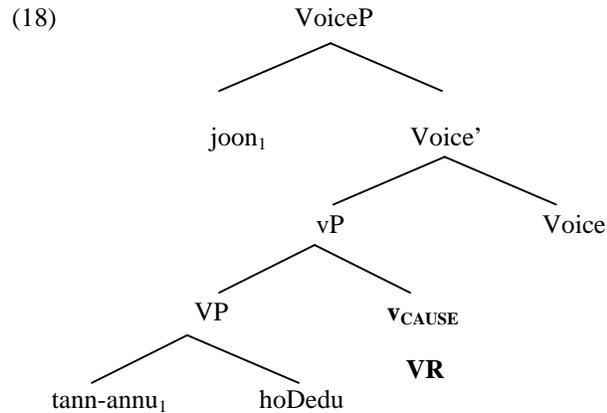
Since both (15a) and (15b) are unaccusative, no active VoiceP is projected in (16). Furthermore, the DP *baagil* ‘the door’ merges in the object position both in (16a) and (16b) although it will move to subject position later. However, they are different with respect to the projection of v_{CAUSE} . In (16a), there is v_{CAUSE} which is a syntactic environment needed for the presence of the VR. In (16b), there is no v_{CAUSE} and thus the VR cannot appear.

As for the VR in reflexives, the VR can also appear when *v* is causative. Consider the following examples:

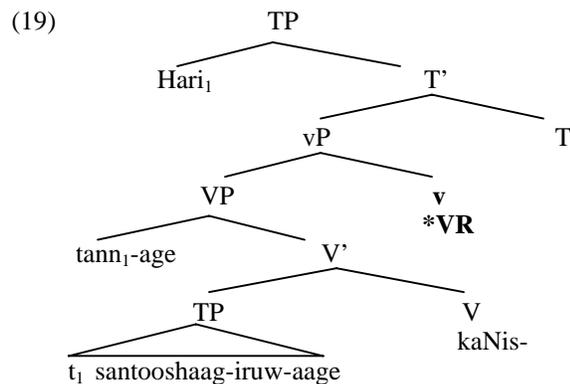
- (17) a. $joon_1$ $tann-annu_1$ $hoDedu-koLL$ -utt-aane.
 John self-ACC hit.PP-VR-PRES-3SM
 ‘John₁ hits himself₁.’ (= (2a))

- b. Hari₁ tann₁-age santooshaag-iruw-aage
 Hari self-DAT happy-be-PRE
- kaNis-(*koLLu)-utt-aane
 seem-(*VR)-PRES-3SM
 ‘Hari₁ seems to himself₁ to be happy.’ (=9))

The VR must appear in the transitive reflexive (17a) whereas it cannot appear in the raising clause (17b). In order to see why the former allows the VR, but the latter does not, consider the structure of (17a) depicted in (18):



In (18), there is an external argument *joon* ‘John’ which merges in spec-VoiceP and the object *tann-annu* ‘self’ merges in the object position. Importantly, the *v* in (18) is causative since the verb *hoDedu* ‘hit’ can produce an agentive predicate; therefore, (18) meets the syntactic environment for the realization of the VR and it can appear in this structure. Now consider the structure of a raising clause:



There is no VoiceP projected in the root clause of (19) since a raising clause lacks an external argument. Importantly, the root clause is not causative as we

can see in the meaning of the verb ‘seem’: it cannot produce an agentive predicate. Therefore, there is no causative v in (19), and it does not meet the syntactic environment needed for the realization of the VR. Thus, the VR cannot appear in (19). As the contrast in the type of v between transitive reflexives and raising clauses suggests, the VR can appear when v is causative.⁶

Given this conclusion, the syntactic environment needed for the realization of the VR is v_{CAUSE} , as shown in (14). It is repeated below:

(20) $\text{VR} \rightarrow v_{\text{CAUSE}}$

The VR can be inserted when a particular syntactic environment is met, as the Greek N/A morpheme. However, the particular syntactic environment where the VR can be realized is different from that of the N/A morpheme.⁷ Finally, the property of v with respect to the VR also seems to be different from that of the Greek N/A morpheme. It appears to be homogeneous in Kannada, in contrast to v in Greek. As presented throughout the section, both reflexives and intransitive alternating verbs in Kannada have v_{CAUSE} being able to have the VR. In contrast, in Greek, only reflexives have v_{CAUSE} , as mentioned in section 2.

5. Conclusion

The analysis given here identifies languages with the same kind of morphemes as having different morphosyntactic contexts. This result implies that distributional similarities among cross-linguistic morphemes do not necessarily indicate that these morphemes have the same morphosyntactic context. For example, as shown in the paper, the syntactic environment of the VR is not the same as that of the Greek N/A morpheme. The VR in Kannada can appear when there is v_{CAUSE} whereas the Greek N/A morpheme can appear when there is no external argument.

Moreover, the analysis for the VR has an important consequence for theories of syntax-morphology interface: given the same kind of morphemes in different languages, v_{CAUSE} as well as the absence of an external argument play a role in the syntax-morphology interface.⁸

⁶ Notice that the transitive reflexive (18) and the raising clause (19) are also different with respect to the presence of an external argument. The former has one but the latter does not. However, the presence of an external argument cannot be the syntactic environment where the VR is realized. Inchoatives are unaccusatives lacking an external argument but the VR still can appear in them, which suggests that the presence of an external argument is not the syntactic environment where the VR can be realized.

⁷ v_{CAUSE} is not the only syntactic environment where the VR can be realized. In addition to v_{CAUSE} , a dependency between the v and one DP is needed for the realization of the VR. For more detail, see Kim (2006). However, reflexives and intransitive alternating verbs are related in terms of causativity bearing a v_{CAUSE} .

⁸ Turkish passive morphemes show the same pattern as the Greek N/A morpheme and the Kannada VR appearing in both reflexives and intransitive alternating verbs (Kim 2006). Importantly, it is shown in Kim (2006) that the morphosyntactic context where the Turkish passive morpheme can be realized is v_{CAUSE} like the VR in Kannada.

References

- Chomsky, Noam. 1970. Remarks on Nominalization. In *Readings in English Transformational Grammar*, eds. R Jacobs and P Rosenbaum. Washington D.C.: Georgetown University Press.
- Embick, David. 1997. Voice and the Interfaces of Syntax. Doctoral dissertation, University of Pennsylvania.
- Embick, David. 1998. Voice Systems and the Syntax/Morphology Interface. *MIT Working Papers in Linguistics* 32:41-72.
- Embick, David. 2004. Unaccusative Syntax and Verbal Alternation. In *The Unaccusativity Puzzle*, eds. Artemis Alexiadou, Elena Anagnostopoulou and Martin Everaert, 137-158. Oxford: Oxford University Press.
- Halle, Morris., and Marantz Alec. 1993. Distributed Morphology and the Pieces of Inflection. In *The View from Building 20*, eds. Kenneth L. Hale and Samuel J. Keyser, 111-176. Cambridge, Mass: MIT Press.
- Halle, Morris., and Marantz Alec. 1994. Some Key Features of Distributed Morphology. *MIT Working Papers in Linguistics* 21:275-288.
- Kim, Kyumin. 2006. The Morphosyntax of Reflexives: A Case Study of Kannada. M.A. Thesis, University of Calgary.
- Kratzer, Angelika. 1996. Serving the External Argument from its Verb. In *Phrase Structure and the Lexicon*, eds. Johan Rooryck and Laurie Zaring, 109-137. Dordrecht: Kluwer Academic Publishers.
- Lidz, Jeffrey 1996. Dimensions of Reflexivity. Doctoral dissertation, University of Delaware.
- Lidz, Jeffrey. 1998. Valency in Kannada: Evidence for Interpretive Morphology. *Penn Working Papers in Linguistics* 5:37-63.
- Lidz, Jeffrey. 1999. Causativity, Late Insertion and the Projection of vP. *MIT Working Papers in Linguistics* 35:117-136.
- Marantz, Alec. 1984. *On the Nature of Grammatical Relations*. Cambridge, Mass: MIT Press.
- Marantz, Alec. 1995. Cat as a Phrasal Idiom: Consequences of Late Insertion in Distributed Morphology. Ms., MIT.
- Marantz, Alec. 1997. No Escape from Syntax: Don't Try Morphological Analysis in the Privacy of Your Own Lexicon. *University of Pennsylvania Working Papers in Linguistics* 4:201-226.
- Postal, Paul. 1974. *On Raising*. Cambridge, Mass: MIT Press.
- Pykkänen, Liina. 2002. Introducing Arguments. Doctoral dissertation, MIT.