

# Stacked passives in Turkish

Andrew Murphy\*

## Abstract

This paper deals with ‘stacked passives’ in Turkish, an impersonal passive construction with two occurrences of passive morphology and two instances of argument reduction. The aim will be to adequately capture the fact that each instance of passivization seems to be mirrored by a morphological reflex on the verb. I will adopt the theory of passivization in Müller (2014), who assumes that passivization involves merging and subsequently removing the external argument from the structure. The analysis of double passivization will involve assuming two Voice projections above vP, each headed by a passive suffix. This approach will allow us to capture the relevant data for Turkish and it will also be shown how this approach extends to another case of double passivization in Lithuanian as well as antipassive constructions.

## 1. Introduction

In this paper, I propose an analysis of stacked passives, that is passives with two occurrences of passive morphology, which assumes that each passive morpheme corresponds to the head of a Voice projection. Furthermore, I argue that argument reduction in passivization is triggered by each of these heads and is carried out by an operation I call *Slice* (proposed by Müller 2014), which removes arguments from the structure. Accordingly, two Voice projections in SP entails that two instances of argument reduction must take place. This analysis will capture two main properties of stacked passives as identified by Postal (1986): (i) They are only possible with transitive verbs, (ii) both internal and external arguments are understood as implicit. Since two Voice projections entail two argument reduction operations, only transitive verbs will allow for all relevant features to be checked. Furthermore, the fact that these syntactic

---

\*Thanks go to Gereon Müller for the inspiration for this paper as well as the participants of the seminar *Passives* in summer semester 2014 at the Universität Leipzig. Particular thanks go to Murat Özgen for providing judgements for Turkish and Doreen Georgi and Sandhya Sundaresan for helpful comments. Any errors in exposition or interpretation are entirely my own.

arguments were present in the structure at some point in the derivation, will allow their traces to be existentially bound and therefore derive the implicit argument property of passives in (ii). In Section 2, I will present the data pertaining to passives and stacked passives in Turkish. Section 3 will discuss various approaches to argument reduction and to what extent they can be applied to stacked passives. Section 4 presents an analysis of stacked passives based on the operation *Slice*. Section 5 will discuss some further implications of this approach to the passive such as accusative absorption as well how this analysis extends to argument demotion in double passives in Lithuanian and antipassive constructions with argument reduction.

## 2. The data

Passivization is typically analysed as suppression of the ‘most prominent’ (external) argument coupled with promotion of the internal argument to the subject. In this paper, I will focus on a particular passive construction in Turkish involving two occurrences of passive morphology as well as what looks like two instances of passivization, i.e. reduction of both the internal and external argument. In the following, I use the term ‘stacked passive’ to refer to double passivization coupled with two instances of a passive suffix. Thus, the passive suffixes are ‘stacked’ on top of each other. The term ‘double passivization’ is more general and used for cases of dual argument reduction without two morphological reflexes of passivization. Instances of ‘stacked’ or double passives have received little attention in the literature for perhaps two reasons: (i) They are typologically rare (Kiparsky 2013 attributes this to a ‘morphological bottleneck’), (ii) They do not exist in English and other languages where the passive has been particularly well studied. Nevertheless, instances of double passives have been reported in Turkish (Özkaragöz 1986), Kazakh (Şahan Güney 2006), Lithuanian (Timberlake 1982, Keenan and Timberlake 1985), Sanskrit (Ostler 1979) and Irish (Nerbonne 1982). Its existence has important implications for any theory of the passive since a theory of the passive designed to handle one instance of argument reduction should be able to be extended to account for instances of dual argument reduction. As will be shown, this is not always straightforward for many of the analyses we will encounter.

## 2.1. Stacked passives in Turkish

Being a nominative-accusative language like English, the passive in Turkish is expressed by suppression of the external argument (*Hasan* in (1)), promotion of the argument normally marked with accusative to the nominative and passivization is indicated by a morphological reflex on the verb:

- (1) a. Hasan-Ø kapı-yı kapad-ı  
 Hasan-NOM door-ACC close-PAST  
 ‘Hasan closed the door.’  
 b. Kapı-Ø (Hasan tarafından) kapat-ıl-dı  
 door-NOM Hasan by.ABL close-PASS-PAST  
 ‘The door was closed (by Hasan)’ (Kornfilt 2010)

The passive suffix takes the form *-(I)l* after consonants (1), *-n* after vowels (2) and *-(I)n* after laterals, where (*I*) stands for a vowel, which harmonizes to the closest vowel in the stem.

- (2) Dün bütün gün kitap oku-n-du  
 yesterday whole day book read-PASS-PAST  
 ‘Books were read the whole day yesterday.’

The focus of this paper are so-called ‘stacked passives’, where there are two occurrences of this passive morpheme. Examples are given in (3)-(5):

- (3) a. Bu şato-da boğ-ul-un-ur  
 this chateau-LOC strangle-PASS-PASS-AOR  
 ‘People are being strangled in this chateau.’  
 b. Harp-te vur-ul-un-ur.  
 war-LOC shoot-PASS-PASS-AOR  
 ‘People get shot in wars.’ (Özkaragöz 1986)
- (4) Bu oda-da döv-ül-ün-ür  
 this room-LOC beat-PASS-PASS-AOR  
 ‘There is beating going on in this room.’ (Kiparsky 2013)
- (5) Bu hamam-da iyi yıka-n-ıl-ır  
 this bath-LOC well wash-PASS-PASS-AOR  
 ‘[One] can get washed pretty well in this bath house.’  
 (Göksel and Kerslake 2005)

Note that in each example we have a transitive verb and therefore two instances of argument reduction. Furthermore, each sentence has an implied internal and external argument, which follows from the fact that only transitive verbs are possible in the construction. Finally, all above examples exhibit aorist tense. These are identified as the main three characteristics of stacked passives by Postal (1986) and can be summarized as follows:

- (6) *Characteristics of stacked passives in Turkish* (Postal 1986):
- a. Only passives of transitive verbs are possible.
  - b. Both arguments must be understood as implied arguments.
  - c. They are only possible with aorist tense.

In this paper, I will focus on providing an explanation of the first two characteristics as the third is perhaps largely semantically motivated.<sup>1</sup> Evidence for (6a,b) comes from the fact that stacked passives are not possible with non-transitive verbs such as unergatives (7) and unaccusatives (8):

- (7) \*Bura-da koş-ul-un-ur.  
 here-LOC run-PASS-PASS-AOR  
*Int.* 'There is running here.' (Unergative)
- (8) \*Okyanus-ta bat-ıl-ın-ır  
 ocean-LOC sink-PASS-PASS-AOR  
*Int.* 'In this ocean, there is sinking.' (Unaccusative)

### 3. Previous approaches to argument reduction

A central characteristic of passive clauses is that they often involve argument reduction.<sup>2</sup> Every theory of personal passives has to explain argument reduction and thus, an analysis should be applicable to instances of dual argument reduction.

<sup>1</sup>Furthermore, it seems to be more of a strong tendency than an inviolable property of the construction (Göksel and Kerslake 2005: 136). The fact that both arguments are implied may strongly lend itself to a generic interpretation and thus explain the use of the aorist. (Özkaragöz 1986: 78) provides some examples with past tense marking rather than aorist. However, she also claims that these are not 'genuine' double passives as the passive marker can be used in disambiguate cases where the passive marker -n is syncretic with the reflexive marker.

<sup>2</sup>Or 'argument demotion', i.e. realization of an argument in an oblique case, but the focus of this paper is on argument reduction as in the Turkish cases. See Section 5.1 for a tentative analysis of argument demotion in Lithuanian, however.

Ideally, one should simply be able to apply a passivization operation twice (once to the active structure and again to the resulting personal passive) and arrive at double passive. In the following section, I will review the main approaches to argument reduction in the literature and assess how each analysis can be extended to double passivization. We will see that extending these analyses to the problem at hand is not always without problems.

### 3.1. Lexical approaches

Some of the earliest approaches to argument reduction in passive assumed that this process takes place in the lexicon (Chomsky 1981, Bresnan 1982, Jackendoff 1987, Booij 1992, Wunderlich 1993). Although these theories obviously differ in the details of the frameworks they are couched in, the basic idea is the same: Passivization modifies the valency requirements/theta grid/argument structure of a verb to remove one of the arguments (namely, the external argument). If we consider a possible lexical entry for a transitive verb taking to two arguments in (9a) and compare it with the passivized form in (9b), we see that we can derive the latter from the former using the rule in (10).

- (9) a. *Active verb*:  $V(x,y)$   
 b. *Passive verb*:  $V(x,-)$
- (10) *Lexical passivization rule*:  
 $V(x,y) \rightarrow V(x,-)$

For cases of double passivization, one could simply propose an additional rule removing both arguments rather than one.<sup>3</sup> Such a rule would look as in (11).

- (11) *Double passivization rule*:  
 $V(x,y) \rightarrow V(-,-)$

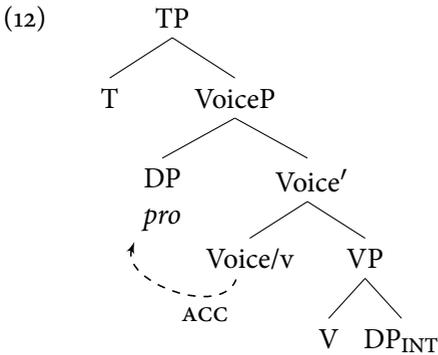
The question at this juncture is whether this approach can derive the properties in (6). A rule such as the one in (11) will only apply to transitive verbs and as such will derive this property, however, the second property (implied arguments) is more difficult. Lexical approaches would have to assume that there are no arguments in double passives. The lexical entry is modified before syntax and will thus bleed any combination of a verb and its arguments. As a result, one

<sup>3</sup>Another option would be to apply the passivization rule twice, although see Müller (2013, to appear) for problems with this approach in certain frameworks.

would have to simply build this implied property into the rule itself. While this may not be entirely satisfying, it would work. A more serious problem is posed by data we will encounter in Section 3.3 showing that the external argument does seem to syntactically present after all (i.e. as the controller of PRO, or as the argument of a subject-oriented adverb). It seems that lexical approaches are not straightforwardly compatible with this kind of data.

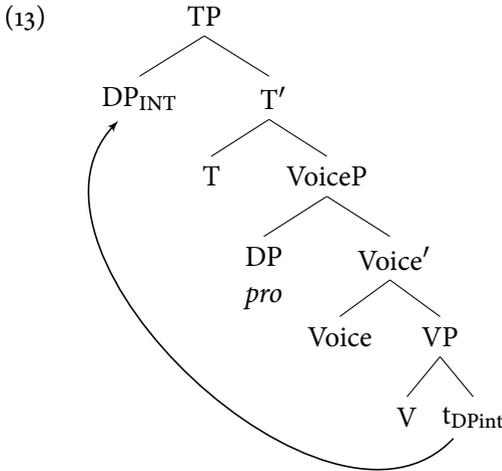
### 3.2. Silent external arguments

A entirely different approach is to assume that the external argument is in fact present but simply not pronounced (Sternefeld 1995, Borer 1998, Collins 2005). In generative approaches, this is normally assumed to be *pro*. This silent argument then occupies the ordinary subject position (e.g. Spec-vP) and absorbs accusative case and the external theta-role usually assigned to the external argument:



One of the main criticisms that can be levelled at this kind of approach when applied to double passivization is that they do not derive the link between dual passive morphology and dual instances of argument reduction. The analysis of stacked passives under this view would simply consist of ensuring that two *pro* arguments be merged in place of the internal and external argument. Thus, the link here seems somewhat arbitrary. Also, the approach by Sternefeld (1995) requires very complicated assumptions about case assignment (Case Linking to  $\theta$ -roles to be precise) in order to yield the correct results. As I will show, it is possible to provide an account of these data without modifying standard assumptions about case assignment. Furthermore, such approaches suffer

another technical problem: if the external argument is syntactically present, then it is unclear why it does not count as an intervening goal for movement to Spec-TP. In (12), the silent external argument is higher and thus Minimality considerations should block movement of the internal argument (13).<sup>4</sup>



Furthermore, the existence of a small *pro* does not receive any kind of independent motivation for passives in non *pro*-drop languages such as English (Wanner 2009: 145). Its postulation is only motivated a solution for this problem in passives and is therefore an *ad hoc* solution to a technical problem. Furthermore, the question of how this *pro* argument is semantically-linked to a DP in a *by*-phrase is far from trivial and will certainly entail more than simple co-indexation (cf. Sternefeld 1995).

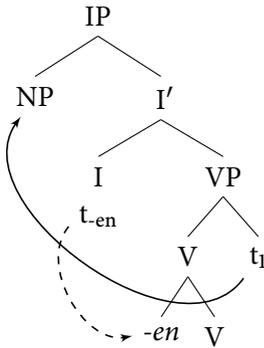
### 3.3. Passive morphemes as arguments (Baker, Johnson & Roberts 1989)

Following Jaeggli (1986), Baker, Johnson and Roberts (1989) propose approach to the passives in the framework of Government & Binding, where the passive morpheme (*-en* in English) has argument status. I summarize the details of the approach and how it captures some important properties of passives, but I will

<sup>4</sup> This is what Collins (2005) worked hard to avoid with his ‘smuggling’ analysis. Nevertheless, I will not discuss his approach here as it is essentially a *pro* approach: He assumes that the external argument in *by*-phrases is in the canonical Spec-vP position, however, in passives without a *by*-phrase he is forced to assume a *pro* argument.

not recount all the details since much of the theoretical apparatus utilized by them is now obsolete. Under their approach, the passive morpheme is present in syntax and behaves like an NP argument in that it can be assigned  $\theta$ -roles and case. Following assumptions in Chomsky (1981), the passive morpheme is base-generated in I and then assigned accusative case and the external argument  $\theta$ -role. It is assumed that the passive morpheme behaves like a clitic syntactically. Thus, BJR propose a ‘downgrading’ operation where -PASS lowers onto the verb:

(14) *Passivization in English* (Baker, Johnson and Roberts 1989):



The assumption here is that accusative case is assigned to the passive morpheme under government and this ultimately forces movement of the internal argument to Spec-IP in order for it to receive case. This captures both case-driven movement of the internal argument to subject position and absorption of accusative case in passive clauses. Baker, Johnson and Roberts (1989: 232f.) discuss stacked passives such as those discussed here in Turkish and those in Lithuanian. They claim that these can be captured by making different assumptions about the syntactic nature of the passive morpheme in such languages. Double passivization is ruled out in English as this would entail having two passive morphemes outside the VP yet only having one external  $\theta$ -role to assign. They claim that the passive morpheme in languages such as Lithuanian and Turkish, which allow stacked passives, is actually an N element and not INFL. This element is then base generated directly in argument positions. This allows for the possibility of having two instances of passive morphology: one in subject position and the other in argument position. Their proposed derivation of stacked passives is given in (15):

## (15) Derivation of stacked passives (BJR 1989: 233):

- a. [IP -PASS [<sub>I'</sub> I [VP V -PASS ]]]  
 b. [IP t<sub>pass</sub> [<sub>I'</sub> I+PASS [VP V -PASS ]]] (Incorporation)  
 c. [IP -PASS [<sub>I'</sub> I+PASS [VP V t ]]] (NP-movement)  
 d. [IP t<sub>pass</sub> [<sub>I'</sub> I+PASS+PASS [VP V t<sub>pass</sub> ]]] (Incorporation)  
 e. [IP t<sub>pass</sub> [<sub>I'</sub> t<sub>I+PASS+PASS</sub> [VP V+I+PASS+PASS t<sub>pass</sub> ]]] (Cliticization)

Both argument positions are occupied by a passive morpheme (15a). The first step is that the passive morpheme in subject position lowers onto INFL (15b). Next, the passive morpheme in object position moves to the subject position (15c). This would be the derivation of a normal passive clause in these languages. However, since it is another passive morpheme that moves to subject position and not an NP, this also incorporates into INFL (15d). In a final step, the entire complex cliticizes to the verb (15e).

This analysis mirrors the one I will eventually propose in Section 4 in that we first form a standard passive (15c) by promoting the internal argument to the subject position and then passivize the resulting construction by demoting this subject. Furthermore, this analysis can capture the observation in (6) that stacked passives are only possible with transitive verbs. Under the assumption that each passive morpheme is an argument of the verb, then this restriction follows naturally. In this sense, BJR's analysis seems to capture the basic facts about stacked passives nicely. There are, however, a number of issues that make the analysis less attractive. I will discuss each in turn.

The most glaring issue is that the theory as it stands seems to make incorrect predictions regarding affix order in Turkish. The order of affixes in Turkish is rigidly V+PASS+PASS+I (cf. (5)), yet following Baker's own *Mirror Principle* (1985), the order of affixes mirrors the order in which syntactic operations take place and therefore the structure in (15) derives the incorrect order \*V+I+PASS+PASS since the complex I+PASS+PASS (15d) is first formed and then this entire complex cliticizes onto I (15e). No matter how it is linearized (\*V+[I+PASS+PASS] (16) or \*[I+PASS+PASS]+V), it is not possible to derive the correct order without further assumptions.

- (16) \*Bu hamam-da iyi yıka-ır-n-ıl.  
 this bath-LOC well wash-AOR-PASS-PASS  
*Int.* '[One] can get washed pretty well in this bath house.'

This may work if one is willing to entertain the idea that adjunction can be to the right for one kind of head and to the left for another, but this goes against assumptions about incorporation in Baker (1988, 1998), namely that adjunction is always to the left of the targeted head (Baker 1998: 29).

Another major drawback of their approach is that the argument status of the passive morpheme means that there is no external argument syntactically present. This is problematic in the light of evidence suggesting that there is a syntactically present external argument. For example, it is possible for this phonologically absent subject to control a PRO in a lower clause (Manzini 1983, Sternefeld 1995):

- (17) a. They<sub>i</sub> decreased the price [PRO<sub>i</sub> to the help poor].  
 b. The price was decreased [PRO<sub>i</sub> to the help poor].

Furthermore, it possible for so-called 'subject-oriented adverbs' to occur in passives. In (18b), the passivized variant of (18a), it is still possible for the subject-oriented adverb to occur. This suggests that there is in fact a syntactically/semantically present external argument at some point of the derivation in order to establish control and adverbial modification of the subject.

- (18) a. Die Mädchen haben die Cocktails nackt serviert.  
 the girls have the cocktails naked served  
 'The girls served the cocktails (while) naked.'  
 b. Die Cocktails sind nackt serviert worden.  
 the cocktails have naked served been  
 'The cocktails were served naked.' (Sternefeld 1995)

Baker, Johnson and Roberts (1989) do in fact discuss some of these data and want to claim that the passive suffix can fulfil all the functions of a genuine referential DP, but as far as I can see, these assumptions are implausible from a semantic point of view.

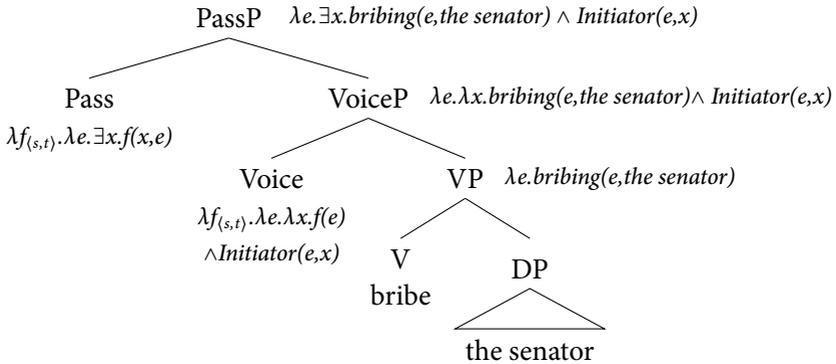
Another issue is that their analysis employs a number of non-standard operations not only resulting from the out-datedness of the analysis. Even if we restate the analysis in modern terms, the situation does not improve. We could instead, assume the following clause structure:

- (19) [TP [vP -PASS [v' v [vP V DP<sub>int</sub> ]]]]



Under his account, there is an additional Pass projection in passives, which corresponds to the Voice projection in the majority of other analyses we will discuss here. Bruening assumes that this head selects a Voice projection without an external argument.<sup>5</sup> This Pass head therefore introduces existential closure ( $\exists$ ) of the unsaturated variable corresponding to the external argument ( $x$  in this case):

(21) The senator was bribed.

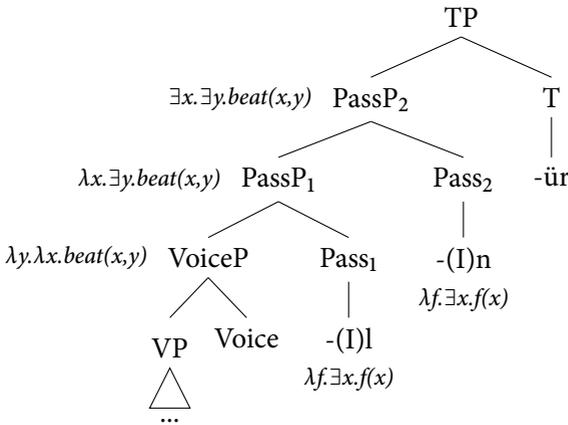


The fact that the denotation of PassP contains an existentially bound variable explains the implied existence of the argument corresponding to that variable (external argument) and, furthermore, the fact that this argument slot is now closed, removes the possibility of introducing the external argument somewhere higher in the structure. For stacked passives, where we assume that there are two instances of argument reduction, we could assume that there are two Pass heads each introducing existential closure of an argument as in (22):<sup>6</sup>

(22) Bu oda-da döv-ül-ün-ür  
 this room-LOC beat-PASS-PASS-AOR  
 ‘There is beating going on in this room.’

<sup>5</sup>I will not go into the details of his selection mechanism here. Furthermore, I will omit his discussion of *by*-phrases and concentrate on the relevant issue of reduction of the external argument.

<sup>6</sup>I have simplified the semantic denotations in the following to easier illustrate reduction. Nothing changes using full event semantics and the denotations assumed by Bruening in (20) and (21).

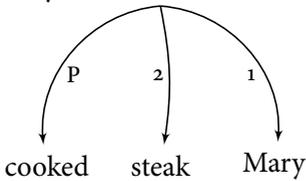


The problem with this approach is that the lower Pass head (Pass<sub>1</sub>) first reduces the internal argument (by closing the  $y$  slot) and then the higher head existentially binds the external argument slot. Thus, the derivation of the passive in Turkish under this approach would be *transitive* → *antipassive* → *passive*. If this analysis were correct, a single passivization operation in Turkish should result in an antipassive and then stacked passives would be derived by a second passivization operation. The antipassive is characterized by reduction or demotion of the internal argument rather than the external argument (see Silverstein 1972 and Section 5.2). The fact that the antipassive construction is impossible in Turkish yields this analysis untenable.

### 3.5. The passive in Relational Grammar

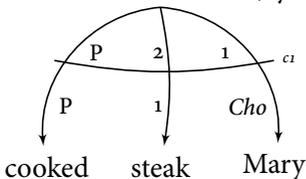
In Relational Grammar (Perlmutter 1980), grammatical relations are represented by arcs annotated with relations such as P (predicate), 1 (subject), 2 (direct object) and 3 (indirect object). Unlike in other theories of grammar (e.g. GB, Minimalism, HPSG), these relations constitute primitives of the theory. A simple example of the analysis of an active clause in Relational Grammar is given below:

(23) Mary cooked the steak.



Here, the subject *Mary* bears the relation 1 corresponding to the subject and the object *steak* bears the relation 2. Grammatical function changing operations such as passivization are captured by assuming that these relations are not fixed, but rather fluid, i.e. they can change (Perlmutter and Postal 1983*a*, 1984*a,b*). Relational Grammar makes use of different levels of representation, or strata, to capture this. It is possible for a given lexical item to bear a relation (e.g. 1 for subject) in one stratum and a different relation (e.g. 2 for object) in another. For example, in the RG analysis of the passive (Perlmutter and Postal 1983*a*), the thematic object can bear the object relation (2) in the first stratum ( $c_1$ ) and the relation 1 in the second stratum:

(24) The steak was cooked (by Mary).

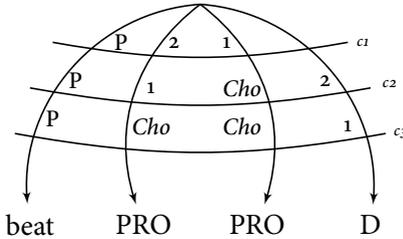


Much in the same way as transformational approaches, we have promotion of the internal argument to the highest grammatical role (subject). In the same way, the demotion/suppression of the external argument in passives is captured by demotion of the external argument from 1 to *Cho*, which stands for *chômeur* (the process is referred to as *chômage*). I will not go into the nature of this relation here (see Perlmutter and Postal 1983*a*, 1984*a* for discussion), it suffices to view this as an argument, which has undergone some kind of demotion/reduction.

Now, let us consider how double passives can be analyzed in Relational Grammar. Özkaragöz (1986) discusses stacked passives in Turkish in this framework and claims the phenomenon constitutes passivization of a 'personal passive'. Essentially, this results in two instances of passivization or multiple

advancement to 1.<sup>7</sup> As shown in (25), in the second stratum (c2) *Mary* is demoted from 1 to *Cho* and *steak* undergoes advancement from 2 to 1. In a later stratum (c3), the internal argument is demoted to *Cho* and the dummy advances from 2 to 1.

(25) *Double Passivization in Relational Grammar* (Özkaragöz 1986):



What Özkaragöz (1986) fails to capture, however, is that this double passivization is linked to two instances of passive morphology.<sup>8</sup> The status of the dummy element she assumes is not particularly clear in Turkish, i.e. what exactly is advanced to one in the final stratum seems to be unexplained in this analysis (although the intuition seems to be that it needs to be something and therefore assume it is a dummy element). In languages such as Dutch, Perlmutter and Postal (1984*b*) claim that the expletive advances to 1:

(26) Er werd gevaren  
 EXPL be.PASS sail  
 ‘People were sailing’ (Zwart 2011)

A more parsimonious approach might be to assume that each argument advances to a passive morpheme in the case of stacked passives. In this way, it may be possible to more directly capture the link between two instances of passive morphology. In the first stratum the external argument would be demoted to *Cho* and the first passive suffix would advance to 1 and the internal argument would advance to 1. This forms a standard personal passive. In the next stratum, the first passive morpheme would undergo *chômage* and the

<sup>7</sup> In early Relational Grammar (Perlmutter and Postal 1983*b*), it was assumed that there can only be one advancement to 1 per clause (cf. their 1 *Advancement Exclusiveness Law* (1AEX)). This was then challenged by Özkaragöz (1986). Since the focus of this paper is not an in-depth discussion of RG analyses of the passive, I will not go into this issue.

<sup>8</sup> Furthermore, two PRO elements are assumed before any reduction takes place, which means that it is not clear to what extent argument reduction is not (at least partially) lexical.

second passive suffix would then advance to 1. This would capture double passivization but remains still problematic under the assumption of the 1 *Advancement Exclusiveness Law* (Perlmutter and Postal 1983*a*, 1984*a*) banning multiple advancement to 1. One of the main questions here, and a problem that arose with Baker, Johnson & Roberts' (1989) approach, is that we are giving argument status to passive morphology. In a framework such as RG where grammatical roles are primitives of the theory, it is not clear what it would mean to say that a dummy element or passive morpheme is the subject of a clause. Many analyses in this framework (e.g. Özkarağöz 1986) are not too explicit about the exact semantics of their proposals but this a more general problem with analyses that account for argument reduction by assigning argument status to non-canonical arguments such as suffixes. One redeeming quality of the Relational Grammar approach also shared by Baker, Johnson and Roberts (1989) is that we capture the intuition that double passives are simply two instances of a standard passivization operation applied successively (i.e. *transitive* → *passive* → *impersonal passive*). In the RG approach, this is two instances of advancement to 1 and *chômage* and in BJR's approach it is two instances of lowering to the INFL from Spec-IP.

### 3.6. Summary

In this section, we encountered various approaches to argument reduction and how they could be applied to instances of double passivization. Recall the problematic situation that we have evidence both for and against the existence of an external argument in passive constructions. Since lexical approaches simply deny the existence of an external (since its introduction is bled in the lexicon), they are not compatible with evidence for some syntactically-present external argument (e.g. control, subject-oriented adverbs). Furthermore, it is not made explicit how the link between argument reduction and passive morphology is captured, meaning that the link between two instances of passive morphology and dual argument reduction is not accounted for.

Approaches that assume a syntactically-present, silent external argument do not suffer from the same problems but instead incur into Minimality violations as it is not clear how the object DP can raise over the higher subject DP. Furthermore, the assumption of a *pro* element in passives seems independent of the availability of *pro*-drop in the language in question and thus has a decidedly *ad hoc* flavour to it.

The approaches by Baker, Johnson and Roberts (1989) and Özkaragöz (1986) share many similarities despite being couched in different frameworks. The BJR approach can circumvent many of the problems with regard to the external argument if one adopts the (controversial) assumption that lowering can take place in syntax proper. Nevertheless, both analyses inevitably suffer from the same problem of the argument status assigned to passive morphology, whose implications for both syntax (e.g. selection) and semantics are far from trivial.

Thus, it seems that whether one assumes that there is an external argument syntactically present or not, different problems arise in each case. The question at this juncture is whether there is a third possibility that avoids all these problems. An alternative recently explored by Müller (2014) assumes that the external argument is present for part of the derivation and is then later removed. This is the approach to argument reduction that I will adopt in the analysis to follow.

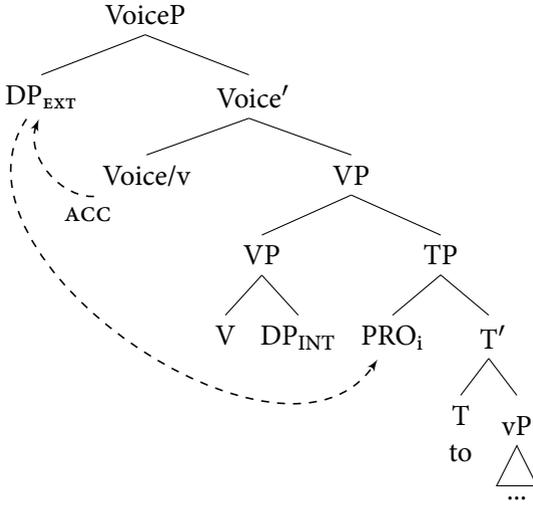
#### 4. The analysis

The problem we are facing with regard to the external argument in passives is that there seem to be arguments both for and against its syntactic presence. Thus, a completely satisfactory analysis would need to ‘have its cake and eat it’ by assuming that external argument is both syntactically present and absent. Rather pursue deep metaphysical questions of how a syntactic object can be both present and absent at the same time, I will follow Müller (2014) in assuming that the external argument is present for only part of the derivation and is then later removed. This is what he calls the ‘short life-cycle of external arguments’. This will allow an external argument to present in the structure long enough to established downward relations such as binding/control as well as absorbing accusative case<sup>9</sup> (27), but be removed from the structure at later stage of the derivation early enough for it not to act as an intervener for movement of the subject (28):

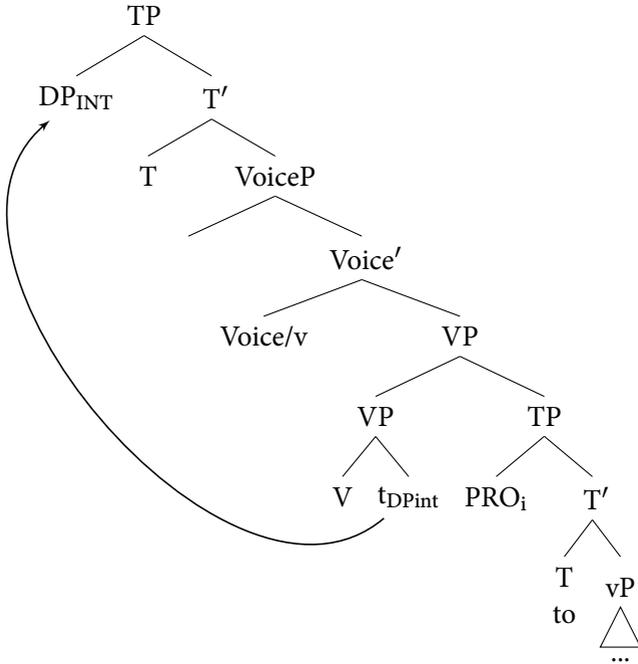
---

<sup>9</sup> This assumption is not entirely unproblematic, however. See Section 5.3 for discussion

(27) Case absorption and establishment of downward relations:



(28) No intervention after removal of DP<sub>EXT</sub>:



The question at this point is what kind of operation can be proposed in a Minimalist framework to achieve this result. Such an operation will be presented and discussed in the following section.

#### 4.1. Reversing Merge: *Slice*

In this section, I will present a syntactic operation recently discussed in Müller's (2014) analysis of the passive that will allow us implement the analysis sketched above. Whereas External Merge takes elements from the workspace/numeration and adds them to the existing structure, the operation I call *Slice* removes elements from the tree.<sup>10</sup> Note that this is very similar to Sideward Movement (Nuñez 2004), which is an operation that moves elements between workspaces. An important difference between *Slice* and Sideward Movement is that *Slice* occurs in a very strict structural configuration; in a Spec-Head configuration with a head bearing a [-D-] feature. As such it is very much the reverse operation of Merge (Merge = workspace → tree, Slice = tree → workspace).<sup>11</sup> We can view this structure removal therefore as movement back into the workspace. Müller (2014) assumes that, like Merge, this operation only applies at the root node and therefore does not violate the Extension Condition (Chomsky 1995). Following the notational conventions in Heck and Müller (2007), Müller (2011), there are two types of structure building features: 'bullet' features triggering (External or Internal) Merge [ $\bullet$ D $\bullet$ ], and 'star' features triggering Agree operations [ $\ast$ F $\ast$ ]. Assuming that *Slice* is also feature-driven, we can then add a corresponding *Slice* feature to our list of structure building features:

- (29) *Structure-building features*
- a. *Merge* features: [ $\bullet$ D $\bullet$ ]
  - b. *Probe* features: [ $\ast$ F $\ast$ ]
  - c. *Slice* features: [-D-]

In the following section, we will see how these features can be combined to successfully derive both passives and stacked passives in Turkish.

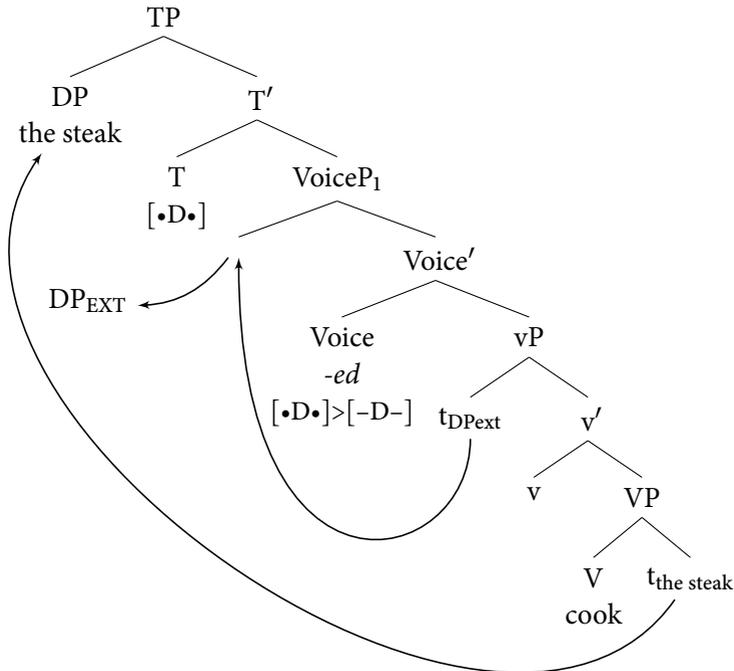
<sup>10</sup> Müller (2014) calls this operation *Cut*. I feel *Slice* is more appropriate as it implies that only a thin layer is removed. As will be discussed below, it is assumed that this operation only applies at the root node and therefore it is only ever the top layer of a given structure that can be removed.

<sup>11</sup>The triggers for Sideward Movement are somewhat unclear and thus it remains less-restricted than *Slice*, although see Nuñez (2012) for recent discussion of this point.

4.2. A *Slice*-approach to standard passives

Now, let us see how *Slice* can be applied to standard passives. I follow Merchant (2013), Harley (2013) and the growing body of literature, suggesting that Voice and *v* constitute distinct heads (contra Kratzer 1996) in the clausal spine. The morphological reflex of passivization is captured by assuming the passive suffix is the head of VoiceP above *v*P and that it bears a Merge-triggering feature [ $\bullet$ D $\bullet$ ] and a *Slice*-feature [-D-]. These are featured are ordered with regard to one another so that [ $\bullet$ D $\bullet$ ] precedes [-D-]. The derivation will precede as follows: The [ $\bullet$ D $\bullet$ ] feature first triggers internal merge of the closest DP (since the numeration is empty); in (30), the external argument. This DP is then moved back into the workspace in order to check the *Slice* feature [-D-] and is therefore no longer present at the point of the derivation where T probes for a goal for movement to Spec-TP:

(30) The steak was cooked.



As a result, it is the internal argument that is moved to Spec-TP, thus deriving a standard passive construction. Now that the analysis of a personal passive, the

corollary of our theory of double passivization was that we simply apply this passivization operation twice. In the following section, we will see that simply assuming a second Voice projection for stacked passives will derive this result.

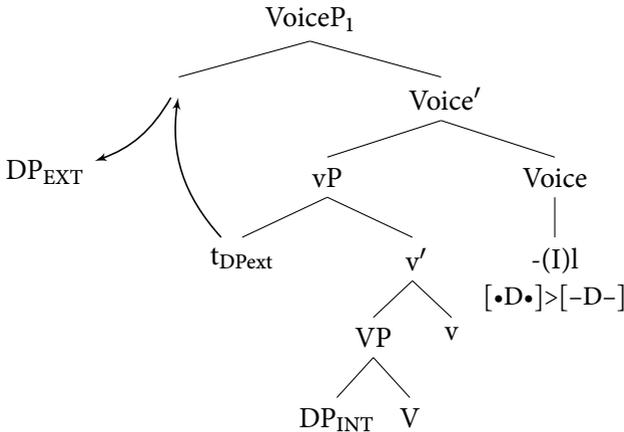
#### 4.3. Deriving stacked passives

Recall the following example of stacked passives from (4) (repeated below):

- (4) Bu oda-da döv-ül-ün-ür  
 this room-LOC beat-PASS-PASS-AOR  
 ‘There is beating going on in this room.’

The derivation of these structures proceeds as follows: the first passive suffix on Voice<sub>1</sub> bears both a Merge feature and a Slice feature. The Merge feature will trigger movement of the closest c-commanded DP to Spec-VoiceP. In this case, it is the external argument in Spec-vP. Subsequently, the next feature to be discharged is the Slice feature. This feature removes a DP from the specifier and moves it ‘sideways’ back into the workspace:

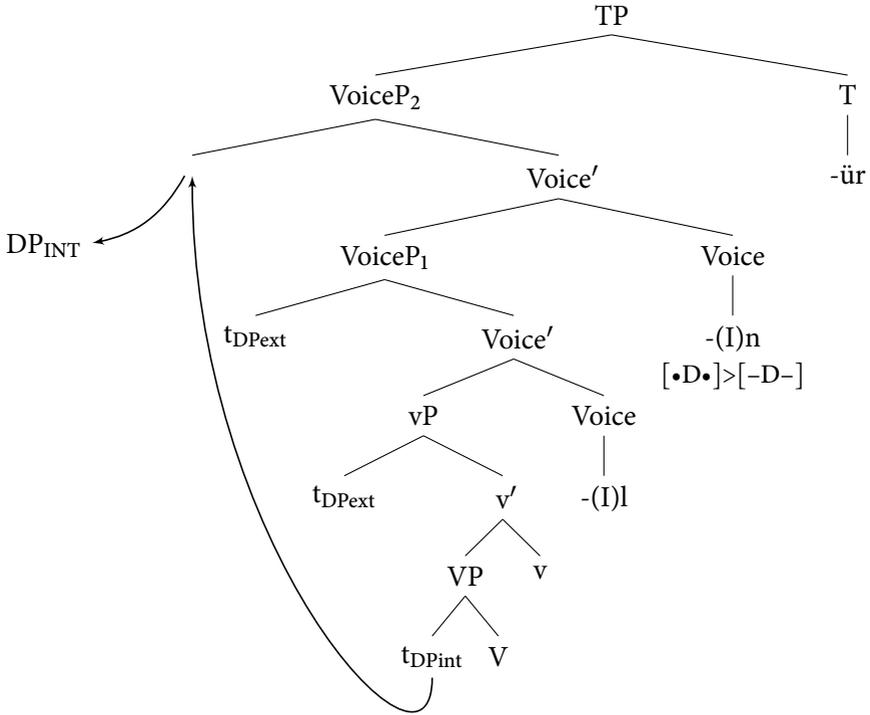
- (31) *Reduction of the External Argument:*



Since each passive morpheme corresponds to a Voice projection, stacked passives contain a second Voice projection headed by another passive suffix. This Voice projection has exactly the same features as the first and will thus result in a second passivization operation being carried out. The Merge feature **[•D•]** on Voice<sub>2</sub> requires that the closest c-commanded DP moves to its specifier.

Since the external argument has been removed, the closest (and only) DP in the structure is the internal argument (Müller 2014). Accordingly, the internal argument moves to Spec-VoiceP<sub>2</sub>. As before, the Slice feature now forces removal of this argument:

(32) *Reduction of the Internal Argument:*

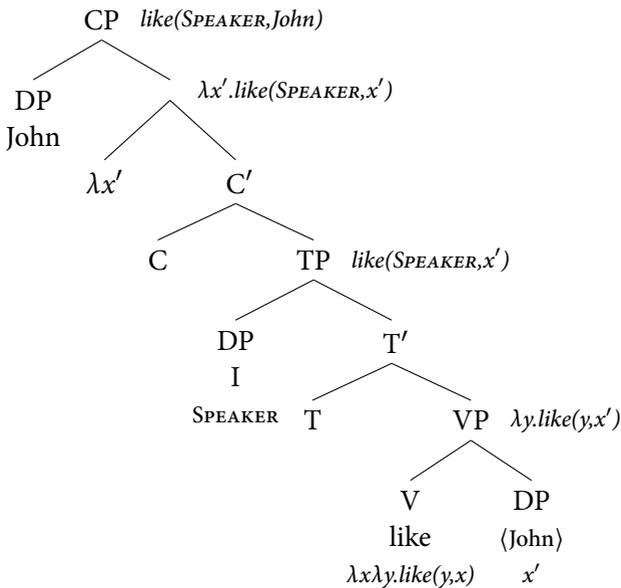


The structure we have now contains neither an internal nor external argument, i.e. double passivization constitutes two instances of argument reduction. This can therefore explain the fact that stacked passives are only possible with transitives and not possible with unergatives (7) or unaccusatives (8). In each of these cases, the second VoiceP would not be able to check its Merge and Slice features since there would be no further DP present in the structure after the first argument had been removed.

## 4.4. Semantic interpretation

One question that arises at this point is what *Slice* does semantically and how we can capture the characteristic of stacked passives in (6) that both the external and internal argument are implicit. If we remove arguments from the structure, what consequences does this have for semantic interpretation? The fact that both arguments are still implied can be captured in the following way: Assuming that movement leaves some kind of trace or copy that is interpreted as unbound variable (or a variable for an assignment function in Heim and Kratzer 1998), we can also assume that the *Slice* operation (being essentially a form of Sideward Movement) leaves a trace/copy of the DP corresponding unbound variable in its launching site.<sup>12</sup> Let us assume that the trace of a moved element is interpreted as an unbound variable (here:  $x'$ ):

(33) John<sub>1</sub>, I like t<sub>1</sub>.



<sup>12</sup>In the following, I will simplify assumptions about traces/copies slightly for reasons of exposition and simply assume that lower copies are unbound variables. Nevertheless, an implementation using the assignment function in Heim and Kratzer (1998) would derive the same result.

Following Heim and Kratzer (1998), let us assume lambda abstraction over the variable below the point at which the moved phrase is remerged. Under this approach, what happens if the moved element is not remerged into the structure? Let us assume that the variables remain unbound in such cases. Furthermore, I will follow Diesing (1992) in proposing that existential closure of variables takes place at what she called the ‘VP’ edge. For present purposes, this corresponds to everything below T (so the highest VoiceP). Diesing (1992) discussed examples such as the following that show that if a bare plural (assumed to have a variable-like meaning) stays inside the VP, it receives an existential interpretation (34)b:

- (34) Sharks are visible.
- a.  $[\text{IP } \text{Sharks}_i \exists [\text{VP } t_i \text{ are visible}]]$   
‘Sharks generally have the property of being visible.’
  - b.  $[\text{IP } \exists [\text{VP } \text{Sharks are visible}]]$   
‘There are some sharks visible right now.’

Similarly, we can assume that existential closure of unbound variables takes place below T:



## 5. Extensions: Deriving other properties of the passive

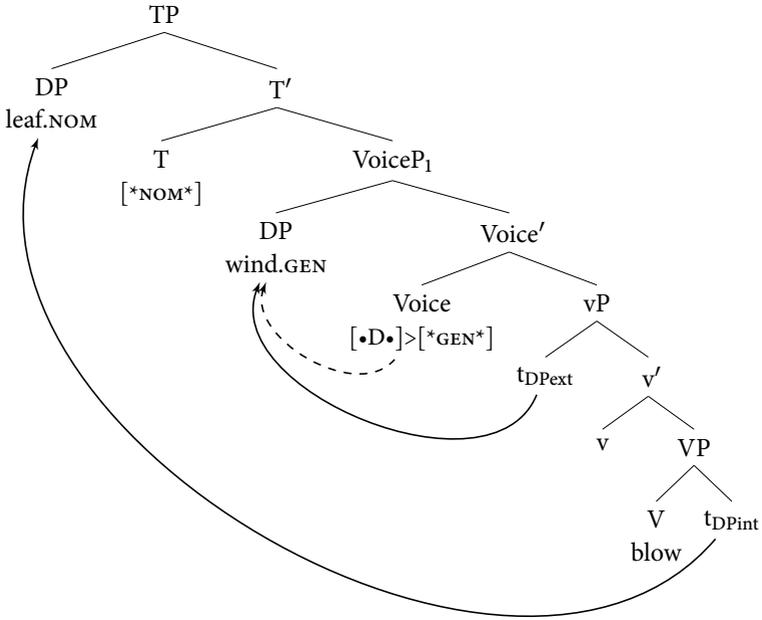
### 5.1. Double passives in Lithuanian

In this section, we will see how the analysis developed here for Turkish can be applied to similar cases of double passivization, e.g. in Lithuanian (Timberlake 1982, Keenan and Timberlake 1985). Double passives in Lithuanian differ from those in Turkish in that there are not two instances of passive morphology in double passivized structure, which is why I have refrained from calling them ‘stacked’ (since stacking refers here to morphemes). Furthermore, Lithuanian does not form the passive by means of argument reduction, but rather argument *demotion*. The external argument in passives is realized as an oblique argument in the genitive case (38), rather than the nominative as in active clauses (37):

(37) Vėjas nupūte tą lapelį.  
 wind.NOM blow that leaf.ACC  
 ‘The wind blew down that leaf.’

(38) Tas lapelis vėjo nupūstas.  
 this leaf.NOM wind.GEN blow  
 ‘That leaf was blown down by the wind.’ (Timberlake 1982)

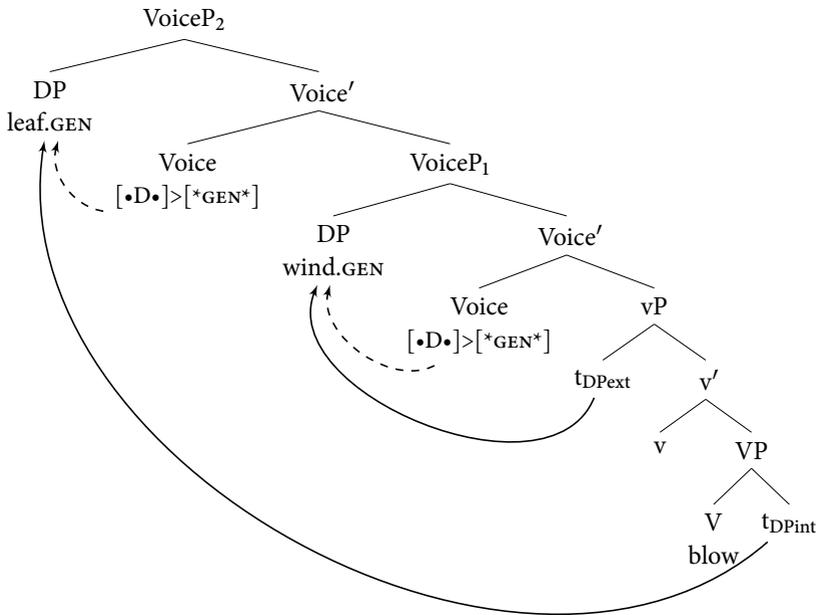
Since there is no argument removal, we can assume that the Voice head in Lithuanian does not bear a [-D-] feature, but rather a case feature for genitive ([\*GEN\*]). This feature will assign genitive to the external argument that moves to Spec-VoiceP via Spec-Head Agree and will thereby bleed further assignment of nominative to the external argument. Instead, the internal argument is assigned nominative and moves to Spec-TP:

(39) *Personal passive in Lithuanian:*

In Lithuanian double passives, the internal argument is also realized with genitive case as shown in (40):

- (40) To lapelio būta vėjo nupūsto.  
 this leaf.GEN was wind.GEN blow  
 'That leaf was blown down by the wind.' (Timberlake 1982)

Thus, we have two instances of argument demotion parallel to the two instances of argument reduction in stacked passives in Turkish. Accordingly, we can follow the analysis of the Turkish data and assume that double passives in Lithuanian contain a second VoiceP projection bearing the same features ([.D.], [\*GEN\*]) thereby resulting in movement of the internal argument to Spec-VoiceP<sub>2</sub> where it is also assigned genitive and thus bleeding of nominative case assignment:

(41) *Double passive in Lithuanian:*

Thus, we see that languages can differ with regard to their passive strategies (argument reduction vs. demotion) and whether passivization is realized morphologically (i.e. whether the Voice head has an overt Spellout or not), but nevertheless the analysis with two identical VoicePs can be extended to both.

## 5.2. Antipassives

This section will show how the *Slice* approach to passives sketched above can explain the availability of so-called ‘antipassive’ constructions in ergative-absolutive languages. The ‘antipassive’ (Silverstein 1972) is a construction in ergative languages that is characterized as the demotion or reduction of the internal argument. In antipassives in Godoberi (42), the internal argument is suppressed and the antipassive marker *-a* appears on the verb. In Chukchee (43) and West Greenlandic Inuttut (44), we see a similar process of reduction of the internal argument coupled with antipassive marking on the verb.

(42) *Antipassive in Godoberi:*

- a. ?ali-di q'iru b-el-ata-da.  
 Ali-ERG wheat NEUT-thresh-IPF.CONV-AUX  
 'Ali is threshing wheat.'
- b. ?ali w-ol-a-da.  
 Ali MASC-thresh-APASS.CONV-AUX  
 'Ali is threshing.' (Kibrik 1996)

(43) *Antipassive in Chukchee:*

- a. yemronə-na qərir-ərkən-in ekək  
 Yemron-ERG<sub>i</sub> search-PRES-3SG<sub>i</sub>.3SG<sub>j</sub> son.NOM<sub>j</sub>  
 'Yemron is searching for his son.'
- b. yemron ine-lqərir-ərkən  
 Yemron.NOM<sub>i</sub> APASS-search-PRES-3SG<sub>i</sub>  
 'Yemron is searching.' (Bittner and Hale 1996)

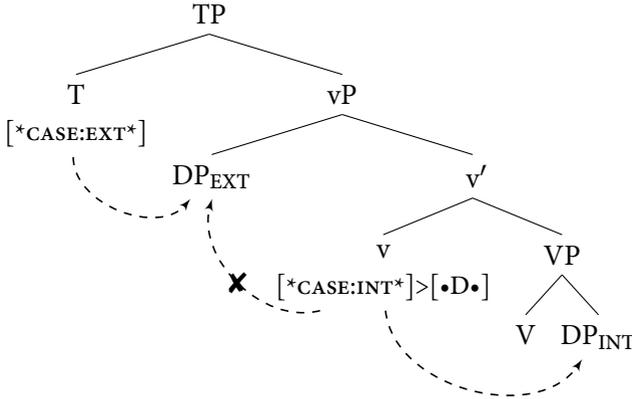
(44) *Antipassive in West Greenlandic Inuttut:*

- a. toqut-Va-a ('Toquppa')  
 kill-IND-3S/3S  
 'He/she/it killed him/her/it.'
- b. toqut-si-Vu-q ('Toqutsivoq')  
 kill-APASS-IND-3S  
 'He/she/it killed (something).' (Saddock 2003)

The analysis I propose rests on assumptions in Müller (2009) about how ergative-absolutive systems are derived. Müller proposes that the order of the operations on *v* determines what the alignment system will be. Let us assume abstract types of case: A morphologically marked internal case (ACC, ERG) and a morphologically unmarked external case (NOM, ABS). Müller assumes that the former is assigned by T and the latter by *v*. At the point in the derivation  $\sigma$  where *v* has merged with VP, there is what Müller calls an 'indeterminacy in rule application'. Assuming the *v* head carries out (at least) the following two operations, (i) externally merge an argument in its specifier ([•D•]), (ii) assign case to the 'closest element' (e.g. [\*CASE:INT\*]), whereby elements in its specifier are preferred (*Spec-Head Bias*), then in principle, either rule can apply at  $\sigma$ . If [\*CASE:INT\*] applies before [•D•], then the 'closest' goal will be the internal argument and internal (or accusative/ergative) case will be

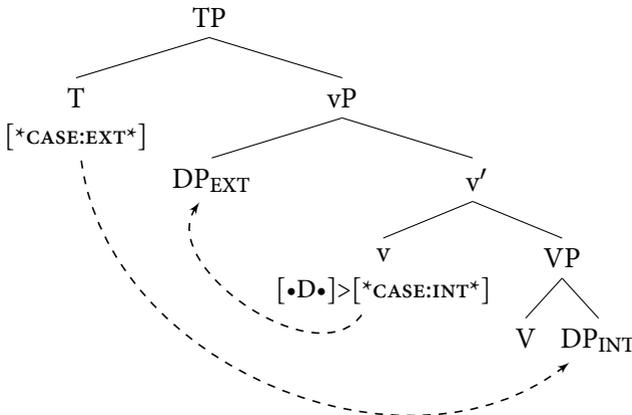
assigned. Subsequently, T will assign external case to the external argument (45).<sup>13</sup> This derives a nominative-accusative alignment:

(45) *Nominative-Accusative Alignment:*



For ergative-absolutive alignments (those languages, which tend to have antipassive constructions), the order of operations on v is reversed. Since  $[•D•]$  applies before  $[*CASE:INT*]$ , it feeds Spec-Head Agree and internal (ergative case) is assigned to DP<sub>EXT</sub>. T then assigns external case (absolutive) to the internal argument as in (46).

(46) *Ergative-Absolutive Alignment:*



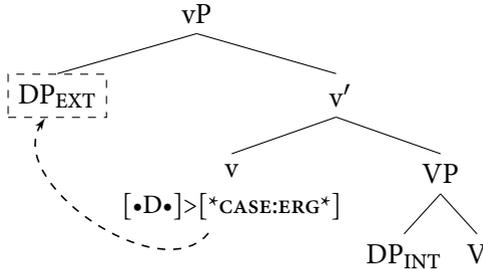
<sup>13</sup> This is a case of *counterfeeding* (Kiparsky 1973) of Spec-Head Agree as if  $[•D•]$  had applied before  $[*CASE:EXT*]$ , it would have fed this operation.

Thus, the difference between ergative-absolutive and nominative-accusative languages is simply the order of operations on the *v* head. Accordingly, the analysis of the antipassive will rely on this fact. It is often assumed that the availability of a DP as potential goal for Agree is directly linked to whether it has been assigned case or not. DPs which have not yet been assigned case are still ‘active’ for Agree operations, whereas those already assigned case are ‘deactivated’ in the process. This can be summarized as follows:

- (47) *Activity Condition* (Chomsky 2000, 2001):  
A syntactic object  $\alpha$  is a potential goal for syntactic operations iff  $\alpha$  bears an unvalued Case feature.

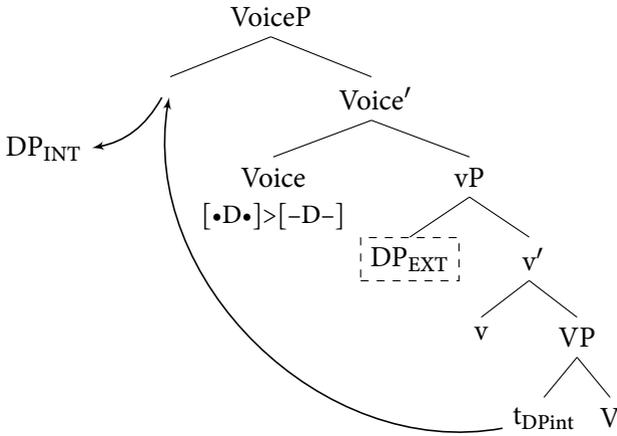
In ergative-absolutive languages such as (42)–(44), [ $\bullet$ D $\bullet$ ] feeds Spec-Head assignment of internal case to the external argument in Spec-*v*P. In the derivation of structures in an ergative language, the external argument is assigned internal (ergative) case and is therefore deactivated for further Agree operations as indicated by the dashed box:

- (48) *Deactivation of DP<sub>EXT</sub>*:

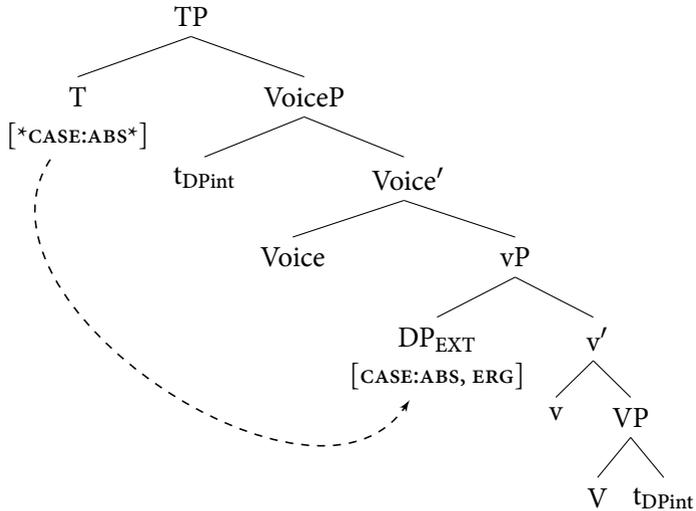


Thus, when Voice is merged above *v*P, DP<sub>EXT</sub> is not an active goal for the [ $\bullet$ D $\bullet$ ] feature. Instead, it probes further and attracts the internal argument to Spec-VoiceP and subsequently removes it from the structure:

(49) *Reduction of Internal Argument:*



A necessary assumption at this point is that cases can be ‘stacked’ (see McCreight 1988, Yoon 2004, Merchant 2006, Richards 2013), i.e. multiple case assignment is possible. Since assignment of absolutive to **DP<sub>INT</sub>** in (49) was bled by the *Slice* operation, T still has internal (absolutive) case to assign: [ $\ast$ CASE:INT $\ast$ ]. Therefore, let us assume that a case-marked DP is inactive for all syntactic operations (e.g. movement or extraction; Chomsky 2000) apart from further case assignment. Accordingly, T can assign absolutive case to the external argument as in (50) (where internal and external case have been replaced by the corresponding ergative and absolutive):

(50) *Case Stacking:*

The case features on the external argument DP now bears two values and the question arises at this point as to which case is realized on a DP with stacked cases. I assume that this conflict is resolved by referring to the Case Accessibility Hierarchy proposed in (Otsuka 2006: 84) given in (51):

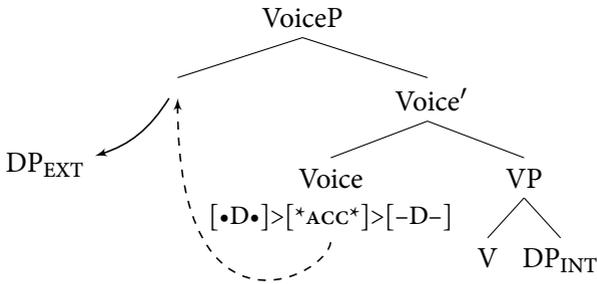
(51) *Case Accessibility Hierarchy:*

Unmarked Case (NOM/ABS) > Marked Case (ACC/ERG) > Oblique

This means that for a DP which was assigned both internal and external case (or absolutive and ergative in this present example), only the highest case on the hierarchy in (51) would be morphologically realized (i.e. absolutive).

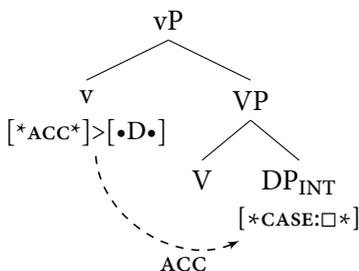
## 5.3. Accusative absorption

The question of how internal (accusative/ergative) case is 'absorbed' in passives still remains unanswered. This problem is not entirely straightforward, however. There are two options for capturing this fact under present assumptions. The first would be to assume that the external argument DP is first assigned accusative after it is merged in Spec-vP and is then removed from the structure (with accusative case). We would therefore require the order of operations on Voice to be  $[\bullet\text{D}\bullet > \ast\text{ACC}\ast > -\text{D}-]$ . This would work as follows:

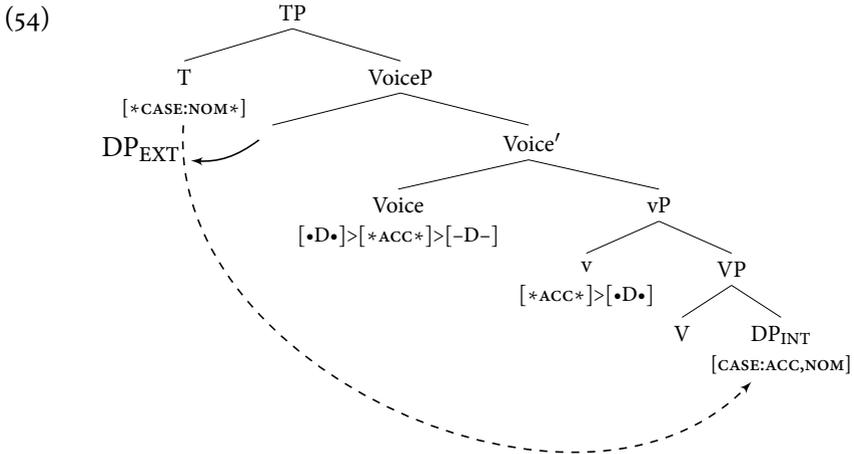
(52) *Accusative case absorption:*

This approach has a number of drawbacks, however. First, it is necessary to assume that Voice and *v* are in fact the same head after all since *Slice* needs to apply directly after the operations normally carried out by *v*. Furthermore, note that the order of operations on Voice/*v* would have to be [ $\bullet D \bullet$ ] >  $\ast ACC \ast$ ] > [-D-] for nominative-accusative languages. Recall from (45) that nominative-accusative alignment was derived by the exact opposite order [ $\ast ACC \ast$ ] > [ $\bullet D \bullet$ ], i.e. counterfeeding of Spec-Head Agree. It seems that we would have to assume that passives contain a special *v*/Voice head with the reverse order of operations. This would, however, seem to undermine the elegance of the present analysis and essentially reduce this analysis to a lexical approach to passivization.

A different option emerging from the discussion of antipassives in the previous section would be to assume case stacking in English as well. We can maintain our assumption that *v* and Voice are distinct heads (which was necessary for the analysis of antipassives) and the order [ $\ast ACC \ast$ ] > [ $\bullet D \bullet$ ] would result in accusative assignment to internal argument:

(53) *Accusative case assignment*

At a later stage of the derivation, the Voice head will attract the external argument and remove it. Subsequently at TP, the T head will be able to assign nominative to the internal argument:



If we follow the assumptions made in Section 5.2 that the highest case on the hierarchy in (51) (repeated below) is the one that is morphologically realized, then nominative will be realized over accusative.

- (51) *Case Accessibility Hierarchy* (Otsuka 2006: 84):  
 Unmarked Case (NOM/ABS) > Marked Case (ACC/ERG) > Oblique

#### 5.4. *by*-phrases

The last property of the passive that I will consider is the availability of the agent as an adjunct in *by*-phrases. With the exception of Collins (2005) and Bruening (2013), most theories of the passive do not have anything insightful to say about this fact. If we follow Müller's (2014) approach, the external is moved back into the workspace. This opens up the possibility of remerging it as either an oblique argument or as the argument of prepositional phrase. Since there is a semantic trace/copy of the external argument in subject position, the semantic linking will be unproblematic (see Section 4.4).

## 6. Conclusion

In this paper, I have presented an analysis of stacked passive constructions in Turkish, which exhibit both two instances of passive morphology and two instances of argument reduction. Although there are a number of theories of the passive available, it is clear not all of them can straightforwardly apply to instances of double passivization, where it seems that we have two subsequent applications of a passivization rule. It seems that any satisfactory theory of the passive should capture that fact that we have a morphological reflex, which seems to correspond to each instance of passivization. Furthermore, it was shown that there is a syntactic dilemma posed by the fact there is evidence (e.g. from control) suggesting that an external argument is present, however, at the same time this creates a problem as it should then act as intervener for raising of the object. Thus, it was shown that adopting the theory of the passive described in Müller (2014) and applying it, with some minor additions, to stacked passive in Turkish allows us to avoid these problems. Argument reduction is treated as introduction and subsequent removal of the external argument. As proposed by Müller (2014), there is an external argument present long enough in the structure to establish downward relations such as control, but it is removed in a subsequent step so as not to act as an intervener for movement of the internal argument. If one instance of passivization involves a Voice projection carrying out argument reduction of the closest c-commanded argument, then double passivization is simply achieved by adding another Voice projection on top and thereby repeating the process. The link between passive morphology and passivization/argument reduction is captured by the fact that the head of this Voice projection is the passive morpheme. Thus, two instances of argument reduction as in stacked passives will always result in two morphological reflexes of passivization. It was also shown that this analysis can adequately capture two important characteristics of stacked passives in Turkish (i) the restriction to transitive verbs, (ii) both an internal and external argument are implicit. The first property is captured by the fact that two Voice projections will require two DPs in order for all features to be checked. The second property comes from the fact that the DPs were syntactically present at some point and thereby leave a trace/copy behind that is interpreted as an unbound variable that undergoes existential closure.

Some extensions of this analysis were also shown, for example, how we can account for dual argument demotion (i.e. realization as an oblique argument)

in impersonal passives in Lithuanian by assuming two Voice projections, each assigning genitive to an argument in its specifier rather than removing it. An analysis of antipassive constructions in ergative languages was also proposed, which rests on the idea in Müller (2009) that ergative-absolutive alignments are derived by Spec-Head assignment of internal (ergative) case to the external argument. Unlike in nominative-accusative languages where this assignment is counterfed, the external argument in ergative languages is deactivated early in the derivation. This means that when the Voice head probes for the element it will move to its specifier and then remove, it will find the internal argument as the closest, active goal. A more problematic issue is posed by internal (accusative/ergative) case absorption under the present approach. In order to capture the fact the internal case is assigned to the DP that is subsequently removed, it is necessary to abandon the assumption that Voice and *v* constitute distinct heads and furthermore that their reverse order of operations must apply (i.e. Spec-Head assignment of accusative to the external argument must be fed in passive clauses). A possible alternative involving case stacking was also discussed but this issue, along with the semantics of *by*-phrases, still requires further attention.

In sum, this paper shows that Müller's (2014) theory of the passive can be successfully extended to cases of double passivization and even beyond. The status of the *Slice* operation may, however, prove to be controversial. Nevertheless, it is not necessarily just a tool tailor-made for the problem at hand. If one thinks more carefully about the nature of Internal Merge, it may well turn out that this operation decomposes into two separate operations: *Slice* which moves an already merged item back into the numeration/workspace and then External Merge. If this is the case, then an operation such as *Slice* would be independently motivated outside of passive constructions. The wider implications of this analysis still have to be investigated. For example, what is the relationship between double passives of the kind discussed here and run-of-the-mill impersonal passives with oblique arguments. Nevertheless, since transferring some of the older more parsimonious analyses from GB and Relational Grammar prove difficult (and come with their own independent problems), the present analysis is a promising Minimalist approach to a variety of passive constructions such as stacked passives, impersonal passives, antipassives and indeed passives in general.

## References

- Baker, Mark (1985): 'The Mirror Principle and Morphosyntactic Explanation', *Linguistic Inquiry* 16, 373–415.
- Baker, Mark (1988): *Incorporation: A Theory of Grammatical Function Changing*. Chicago University Press, Chicago.
- Baker, Mark (1998): *The Polysynthesis Parameter*. Oxford University Press, New York.
- Baker, Mark, Kyle Johnson and Ian Roberts (1989): 'Passive arguments raised', *Linguistic Inquiry* 20(2), 219–251.
- Bittner, Maria and Ken Hale (1996): 'The structural determination of case and agreement', *Linguistic Inquiry* 27, 1–68.
- Booij, Geert (1992): Morphology, semantics and argument structure. In: I. Roca, ed., *Thematic Structure: Its Role in Grammar*. Mouton de Gruyter, Berlin, pp. 47–64.
- Borer, Hagit (1998): Deriving passive without theta roles. In: P. Farrell and S. Lapointe, eds, *Morphological Interfaces*. CSLI Publications.
- Bresnan, Joan (1982): The Passive in Lexical Theory. In: J. Bresnan, ed., *The Mental Representation of Grammatical Relations*. MIT Press, Cambridge, Mass.
- Bruening, Benjamin (2013): 'By-phrases in passives and nominals', *Syntax* 16(1), 1–41.
- Carlson, Gregory (1977): References to Kinds in English. PhD thesis, University of Massachusetts, Amherst.
- Chomsky, Noam (1981): *Lectures on Government and Binding*. Foris, Dordrecht.
- Chomsky, Noam (1995): *The Minimalist Program*. MIT Press, Cambridge, Massachusetts.
- Chomsky, Noam (2000): Minimalist Inquiries: The Framework. In: R. Martin, D. Michaels and J. Uriagereka, eds, *Step by Step: Essays on Minimalist Syntax in Honour of Howard Lasnik*. MIT Press, Cambridge, Mass, pp. 89–155.
- Chomsky, Noam (2001): Derivation by Phase. In: M. Kenstowicz, ed., *Ken Hale: A Life in Language*. MIT Press, Cambridge, Mass, pp. 1–52.
- Collins, Chris (2005): 'A smuggling approach to the passive in English', *Syntax* 8(2), 81–120.
- Şahan Güney, Fatma (2006): 'Function of the So-called Passive Morpheme -(I) in Kazakh', *bilig* 36, 125–137.
- Diesing, Molly (1992): *Indefinites*. MIT Press, Cambridge, Mass.
- Göksel, Asli and Celia Kerslake (2005): *Turkish: A comprehensive grammar*. Routledge, New York.
- Harley, Heidi (2013): 'External arguments and the Mirror Principle: On the distinctness of Voice and v', *Lingua* 125, 34–57.
- Heck, Fabian and Gereon Müller (2007): Extremely Local Optimization. In: E. Brainbridge and B. Agbayani, eds, *Proceedings of WECOL 2006*. California State University, Fresno, pp. 170–183.

- Heim, Irene and Angelika Kratzer (1998): *Semantics in generative grammar*. Blackwell Oxford.
- Jackendoff, Ray (1987): 'The Status of Thematic Relations in Linguistic Theory', *Linguistic Inquiry* 18, 369–411.
- Jaeggli, Osvaldo (1986): 'Passive', *Linguistic Inquiry* 17, 587–622.
- Keenan, E and A. Timberlake (1985): Predicate formation rules in universal grammar. In: *Proceedings of the West Coast Conference on Formal Linguistics*. Number 4, pp. 123–138.
- Kibrik, Andrei (1996): Transitivity in lexicon and grammar. In: A. E. Kibrik, ed., *Godoberi*. Lingcom Europa, Munich, pp. 108–145.
- Kiparsky, Paul (1973): Abstractness, Opacity and Global Rules. In: A. Koutsoudas, ed., *Three Dimensions in Linguistic Theory*. Mouton de Gruyter, The Hague, pp. 41–54.
- Kiparsky, Paul (2013): 'Towards a null theory of the passive', *Lingua* 125, 7–33.
- Kornfilt, Jaklin (2010): *Turkish*. Routledge, London.
- Kratzer, Angelika (1996): Severing the external argument from its verb. In: *Phrase structure and the lexicon*. Springer, pp. 109–137.
- Manzini, Rita (1983): 'On control and control theory', *Linguistic Inquiry* 14, 412–446.
- McCreight, Katherine (1988): Multiple case assignments. PhD thesis, MIT, Cambridge, Mass.
- Merchant, Jason (2006): Polyvalent case, geometric hierarchies and split ergativity. In: J. Bunting, S. Desai, R. Peachey, C. Straughn and Z. Tomkova, eds, *Proceedings of the 42nd annual meeting of the Chicago Linguistics Society*. Chicago Linguistics Society, Chicago, pp. 47–67.
- Merchant, Jason (2013): 'Voice and ellipsis', *Linguistic Inquiry* 44(1), 77–108.
- Müller, Gereon (2009): Ergativity, Accusativity, and the Order of Merge and Agree. In: K. K. Grohmann, ed., *Explorations of Phase Theory. Features and Arguments*. Mouton de Gruyter, Berlin, pp. 269–308.
- Müller, Gereon (2011): *Constraints on Displacement: A Phase-Based Approach*. Vol. 7 of *Language Faculty and Beyond*, John Benjamins, Amsterdam.
- Müller, Gereon (2014): On The Short Life Cycle of External Arguments in Passive Derivations. Unpublished Ms., University of Leipzig.
- Müller, Stefan (2013): *Grammatiktheorie*. Stauffenberg, Tübingen.
- Müller, Stefan (to appear): *Grammatical theory: from transformational grammar to constraint-based approaches*. LangSci Press.
- Nerbonne, John A. (1982): Some Passives Not Characterized by Universal Rules: Subjectless Impersonal. In: B. Joseph, ed., *Grammatical Relations and Relational Grammar, Working Papers in Linguistics*. Vol. 28, Ohio State University, Columbus, Ohio.
- Nuñez, Jairo (2004): *Linearization of Chains and Sideward Movement*. MIT Press, Cambridge.

- Nuñez, Jairo (2012): Sideward Movement: Triggers, Timing, and Outputs. In: M. Uribe-Etxebarria and V. Valmala, eds, *Ways of Structure Building*. Oxford University Press, Oxford, pp. 114–142.
- Ostler, Nicholas (1979): Case-Linking: A Theory of Case and Verb Diathesis Applied to Classical Sanskrit. PhD thesis, MIT, Cambridge, Mass.
- Otsuka, Yuko (2006): Syntactic Ergativity in Tongan. In: A. Johns, D. Massam and J. Ndayiragije, eds, *Ergativity: Emerging Issues*. Springer, Dordrecht, pp. 79–107.
- Özkaragöz, İnci (1986): Monoclausal double passives in Turkish. In: D. I. Slobin and K. Zimmer, eds, *Studies in Turkish linguistics*. John Benjamins, Amsterdam, pp. 77–92.
- Perlmutter, David M. (1980): ‘Relational Grammar in Current Approaches to Syntax,’ *Syntax and Semantics Ann Arbor, Mich.* 13, 195–229.
- Perlmutter, David M. and Paul M. Postal (1983a): Towards a universal definition of the passive. In: D. Perlmutter, ed., *Studies in Relational Grammar*. Vol. I, Chicago University Press, Chicago, chapter 3–29.
- Perlmutter, David M. and Paul M. Postal (1984a): The 1-Advancement Exclusiveness Law. In: D. Perlmutter and C. Rosen, eds, *Studies in Relational Grammar*. Vol. II, Chicago University Press, pp. 81–125.
- Perlmutter, David M. and Paul M. Postal (1984b): Impersonal passives and some relational laws. In: D. Perlmutter and C. Rosen, eds, *Studies in Relational Grammar*. Vol. II, Chicago University Press, pp. 126–70.
- Perlmutter, David M. and Paul M. Postal, eds (1983b): *Studies in Relational Grammar*. Vol. 1, Chicago University Press, Chicago.
- Postal, Paul M. (1986): *Studies of passive clauses*. State University of New York Press, Albany.
- Richards, Norvin (2013): ‘Lardil “Case Stacking” and the Timing of Case Assignment,’ *Syntax* 16(1), 42–76.
- Saddock, Jerrold (2003): *A grammar of Kalaallisut (West Greenlandic Inuttut)*. Lincom Europa, Munich.
- Silverstein, Michael (1972): ‘Chinook Jargon: Language Contact and the Problem of Multi-level Generative Systems,’ *Language* 48, 596–625.
- Sternefeld, Wolfgang (1995): ‘Voice phrases and their specifiers,’ *FAS Papers in Linguistics* 3, 48–85.
- Timberlake, Alan (1982): The impersonal passive in Lithuanian. In: *Proceedings of the Annual Meeting of the Berkeley Linguistics Society*. Vol. 8, pp. 508–524.
- Wanner, Anja (2009): *Deconstructing the English Passive*. Mouton de Gruyter, Berlin.
- Wunderlich, Dieter (1993): Diathesen. In: J. Jabocs, A. von Stechow, W. Sternefeld and T. Vennemann, eds, *Syntax. Ein internationales Handbuch zeitgenössischer Forschung*. Vol. 1, Mouton de Gruyter, Berlin.

- Yoon, James H (2004): Non-nominative (major) subjects and case stacking in Korean.  
*In: P. Bhaskararao and K. Subbarao, eds, Non-nominative subjects*. Vol. 2, John Benjamins, Amsterdam, pp. 265–314.
- Zwart, Jan Wouter (2011): *The Syntax of Dutch*. Cambridge University Press, Cambridge.

