Double Passivization in Turkish: A Structure Removal Approach

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This paper deals with 'double passivization' 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, 2015a,b), who assumes that passivization involves merging and subsequently removing the external argument from the structure. The analysis of double passivization assumes 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 double passives, i.e. 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 the operation *Remove* proposed by Müller (2014, 2015a,b), which removes arguments from the structure. Accordingly, two Voice projections in double passives entails that two instances of argument reduction must take place. This analysis will capture two main properties of double passives identified by Postal (1986). In Section 2, I will present the data pertaining to passives and double passives in Turkish. Section 3 will discuss various approaches to argument reduction and to what extend they can be applied to double passives. Section 4 presents an analysis of double passives based on the operation *Remove*. 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. Double passivization involves two instances of a passive suffix that are 'stacked' on top of each other. 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 & 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. Double 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 'double 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 & 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 double passives by Postal (1986) and can summarized as follows:

(6) *Characteristics of double 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.[1] Evidence for (6a,b) comes from the fact that double 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
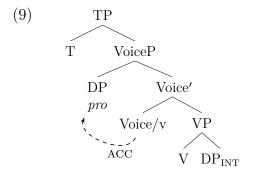   *Int.*'In this ocean, there is sinking.'   (Unaccusative)

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[1]Furthermore, it seems to be more of a strong tendency than an inviolable property of the construction (Göksel & 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 disambiguate cases where the passive marker -n is syncretic with the reflexive marker.

3.   *Previous approaches to argument reduction*

A central characteristic of passive clauses is that they often involve argument reduction. Every theory of personal passives has to explain argument reduction and thus, an analysis should be applicable to instances of dual argument reduction. Ideally, one should simply be able to apply a passizization 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.[2]

3.1.   *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:

(9)

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 double passives under this view would simply consist of ensuring that two *pro* argument be merged in place of the internal and external argument. Thus, the link here seems somewhat arbitrary. 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

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[2]For reasons of space, I do not discuss one major class of approaches that locate argument reduction in the lexicon (e.g. Chomsky 1981; Bresnan 1982; Jackendoff 1987; Booij 1992; Wunderlich 1993). In these approaches, there is never a syntactic external argument since the lexical entry of a transitive verb is changed into an intransitive verb before argument selection takes place. I consider this problematic in the light of the evidence for a syntactic external argument in Section 3.2. Another option is to have a lexical passivization rule apply twice in succession, see S. Müller (2016) for a discussion of this approach and associated problems.
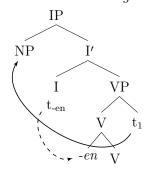
Spec-TP. In (9), the silent external argument is higher and thus Minimality considerations should block movement of the internal argument (10).[3]

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).

3.2.   *Passive morphemes as arguments (Baker, Johnson & Roberts 1989)*

Following Jaeggli (1986), Baker, Johnson & Roberts (1989) (henceforth: BJR) propose approach to the passives in the framework of Government & Binding, where the passive morpheme (*-en* in English) has argument status. Under their approach, the passive morpheme is present in syntax and behaves like an NP argument in that it can be assigned θ-roles and case. The passive morpheme is base-generated in I and then assigned accusative case and the external argument θ-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:

(10)   *Passivization in English (Baker, Johnson & Roberts 1989)*:

Baker, Johnson & Roberts (1989:232f.) also discuss double passives such as those discussed here in Turkish and those in Lithuanian. They claim that the passive morpheme in languages such as Lithuanian and Turkish, which allow double 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 double passives is given in (11):

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[3] 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.

(11)   *Derivation of double passives* (BJR 1989:233):

a. $[_{\text{IP}}$ -PASS $[_{\text{I}'}$ I $[_{\text{VP}}$ V -PASS $]]]$

b. $[_{\text{IP}}$ t_{pass} $[_{\text{I}'}$ I+PASS $[_{\text{VP}}$ V -PASS $]]]$ *(Incorporation)*

c. $[_{\text{IP}}$ -PASS $[_{\text{I}'}$ I+PASS $[_{\text{VP}}$ V t $]]]$ *(NP-movement)*

d. $[_{\text{IP}}$ t_{pass} $[_{\text{I}'}$ I+PASS+PASS $[_{\text{VP}}$ V t_{pass} $]]]$ *(Incorporation)*

e. $[_{\text{IP}}$ t_{pass} $[_{\text{I}'}$ $t_{\text{I+PASS+PASS}}$ $[_{\text{VP}}$ V+I+PASS+PASS t_{pass} $]]]$ *(Cliticization)*

Both argument positions are occupied by a passive morpheme (11a). The first step is that the passive morpheme in subject position lowers onto INFL (11b). Next, the passive morpheme in object position moves to the subject position (11c). 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 (11d). In a final step, the entire complex cliticizes to the verb (11e).

This analysis can capture the observation in (6) that double passives are only possible with transitive verbs under the assumption that each passive morpheme is an argument of the verb. There are, however, a number of problems with this approach. As it stands, the theory 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 (11) derives the incorrect order *V+I+PASS+PASS since the complex I+PASS+PASS (11d) is first formed and then this entire complex cliticizes onto I (11e). No matter how it is linearized (*V+[I+PASS+PASS] (12) or *[I+PASS+PASS]+V), it is not possible to derive the correct order without further assumptions.[4]

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):[5]

(12)   a.   They$_{\text{i}}$ decreased the price [PRO$_{\text{i}}$ to the help poor].

b.   The price was decreased [PRO$_{\text{i}}$ to the help poor].

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[4]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).

[5] An anonymous reviewer correctly points out that this diagnostic may not be completely unproblematic since it has been noted (e.g. by Landau 2010) that implicit arguments can also control PRO:

(i)   It is impossible [PRO to visit me together].

Of course, it could be the case that implicit arguments are actually first syntactically removed as with passive external arguments. I will leave this issue to future research, however.

Furthermore, it is possible for so-called 'subject-oriented adverbs' to occur in passives. In (13b), the passivized variant of (13a), 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.

(13)   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
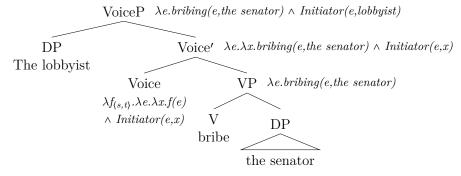   'The cocktails were served naked.'   (Sternefeld 1995)

Baker, Johnson & 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.

3.3.   *Argument reduction by existential closure (Bruening 2013)*

A different approach is proposed by Bruening (2013), who claims that argument reduction is carried out by existential binding of the external argument slot. His assumption is that the Voice head (=vP) introduces the external argument. He proposes a denotation for Voice (v) in active clauses that is very similar to that of Kratzer (1996) as in (14):
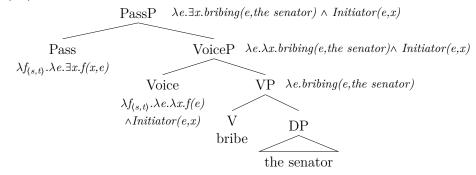
(14)   The lobbyist bribed the senator.

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.[6] This Pass head therefore introduces existential closure ($\exists$) of the unsaturated variable corresponding to the external argument (x in this case):
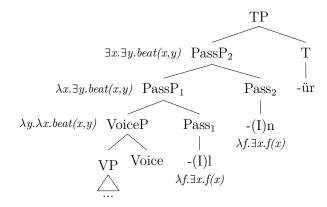
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[6]I will not go into the details of his selection mechanism here. Furthermore, I will omit his discussion of *by*-phrases and concentrate on the relevant issue of reduction of the external argument.

(15)   The senator was bribed.

PassP $\lambda e.\exists x.bribing(e,the\ senator) \wedge Initiator(e,x)$

Pass
$\lambda f_{\langle s,t\rangle}.\lambda e.\exists x.f(x,e)$

VoiceP $\lambda e.\lambda x.bribing(e,the\ senator)\wedge Initiator(e,x)$

Voice
$\lambda f_{\langle s,t\rangle}.\lambda e.\lambda x.f(e)$
$\wedge Initiator(e,x)$

VP $\lambda e.bribing(e,the\ senator)$

V
bribe

DP
the senator

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 double passives with two instances of argument reduction, we could assume that there are two Pass heads each introducing existential closure of an argument as in (16):

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

TP

$\exists x.\exists y.beat(x,y)$ PassP$_2$

T
|
-ür

$\lambda x.\exists y.beat(x,y)$ PassP$_1$

Pass$_2$

$\lambda y.\lambda x.beat(x,y)$ VoiceP

Pass$_1$

-(I)n
$\lambda f.\exists x.f(x)$

VP   Voice

-(I)l
$\lambda f.\exists x.f(x)$

...

The problem with this approach is that the lower Pass head (Pass$_1$) 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 double 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.
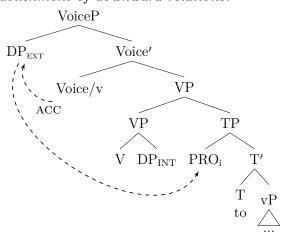
In this section, we encountered various approaches to argument reduction and how they could be applied to instances of double passivization. Recall the problematic observation that we seem to have evidence both for and against the existence of an external argument in passive constructions. Thus, it seems 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, 2015*a,b*) 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.
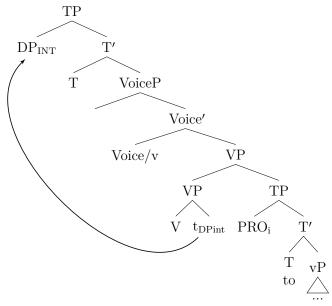
4.   The analysis

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, 2015*a,b*) 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 (17), 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 (18):

(17)   *Establishment of downward relations*:

(18)   *No intervention after removal of DP$_{\text{EXT}}$:*

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. Remove

In this section, I will present a syntactic operation recently discussed in Müller's (2014; 2015*a*; 2015*b*) 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 Müller (2014, 2015*a*,*b*) dubs *Remove* can actually take already-merged elements out of the tree. Note that this is similar to Sideward Movement (Nunes 2004), which is an operation that moves elements between workspaces. An important difference between *Remove* and Sideward Movement is that *Remove* occurs in a very strict structural configuration; in a Spec-Head configuration with a head bearing a [–F–] feature. As such it is very much the reverse operation of Merge (Merge = workspace → tree, Slice = tree → workspace).[7] We can view this structure removal therefore as movement back into the workspace. Müller (2014, 2015*a*) assumes that, like Merge, this operation only applies at the root node and therefore does not violate the Extension Condition (Chomsky 1995).[8] I assume two types of structure building features:

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[7]The triggers for Sideward Movement are somewhat unclear and thus it remains less-restricted than Slice, although see Nunes (2012) for recent discussion of this point.

[8] Note that Müller (2015*b*) assumes a less stringent approach to *Remove* with regard to its target (i.e. it can apply both to phrases and to heads), as well its mode of application (i.e. internal vs. external *viz.* Merge). Since the following analysis does not require any of these additional assumptions, I will simply

'bullet' features triggering (External or Internal) Merge [●F●], and 'star' features triggering Agree operations [∗F∗]. Assuming that *Remove* is also feature-driven, we can then add a corresponding *Remove* feature to our list of structure building features:

(19)   *Structure-building features*:
    a.   *Merge* features: [●F●]
    b.   *Probe* features: [∗F∗]
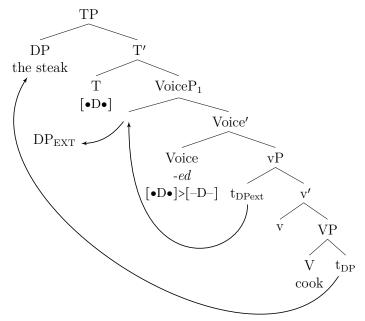   c.   *Remove* features: [–F–]

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

4.2.   A Remove approach to standard passives

Now, let us see how *Remove* can be applied to standard passives. I follow Merchant (2013), Harley (2013), Legate (2014) 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 vP and that it bears a Merge-triggering feature [●D●] and a *Remove*-feature [–D–]. These are featured are ordered with regard to one another so that [●D●] precedes [–D–]. The derivation will precede as follows: The [●D●] feature first triggers internal merge of the closest DP (since the numeration is empty); in (20), the external argument. This DP is then moved back into the workspace in order to check the *Remove* 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:

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assume that the [–D–] applies only to phrases and in a Spec-Head configuration. See Müller (2015*b*) for application of *Remove* to a number of other constructions.

(20)   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 double passives will derive this result.
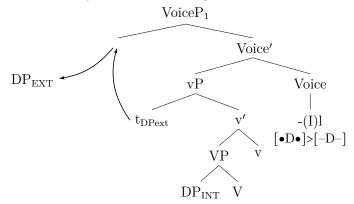
4.3.   Deriving double passives

Recall the following example of double 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$_1$ (*-ül*) bears both a Merge feature and a Remove 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 Remove feature. This feature removes a DP from the specifier and moves it 'sidewards' back into the workspace:

(21)   *Reduction of the External Argument*:

```
                        VoiceP₁
                       /      \
                            Voice′
                           /      \
              DP_EXT     vP          Voice
                       /    \          |
                t_DPext      v′      -(I)l
                           /    \   [•D•]>[–D–]
                         VP      v
                        /  \
                   DP_INT    V
```

Since each passive morpheme corresponds to a Voice projection, double 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 $Voice_2$ 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, 2015*a,b*). Accordingly, the internal argument moves to Spec-VoiceP₂. As before, the Remove feature now triggers the removal of this argument:

(22)   *Reduction of the Internal Argument*:

```
                              TP
                            /    \
                     VoiceP₂       T
                    /     \        |
                         Voice′    -ür
                        /      \
         DP_INT   VoiceP₁        Voice
                 /     \           |
            t_DPext   Voice′      -(I)n
                     /     \    [•D•]>[–D–]
                   vP       Voice
                  /  \        |
           t_DPext    v′     -(I)l
                    /   \
                  VP     v
                 /  \
           t_DPint   V
```

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 double 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 Remove 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 *Remove* does semantically and how we can capture the characteristic of double 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 & Kratzer 1998), we can also assume that the *Remove* operation (being essentially a form of Sideward Movement) leaves a trace/copy of the DP corresponding unbound variable in its launching site.[9] Let us assume that the trace of a moved element is interpreted as an unbound variable (e.g. x').
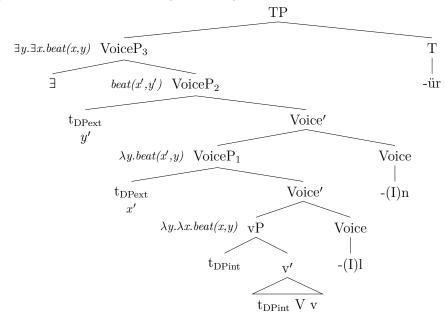
Following Heim & Kratzer (1998), there is lambda abstraction over the variable below the point at which the moved phrase is remerged. Under this approach, what happens if the moved element is not remerged into the structure? Let us assume that the variables remain unbound in such cases. Furthermore, 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 (23)b:

(23)   Sharks are visible.

    a.   [$_{IP}$ Sharks$_i$ ∃ [$_{VP}$ t$_i$ are visible]]
           'Sharks generally have the property of being visible.'
    b.   [$_{IP}$ ∃ [$_{VP}$ Sharks are visible]]
           'There are some sharks visible right now.'

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

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[9]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 & Kratzer (1998) would derive the same result. An anonymous reviewer commented that this approach seems more amenable to Trace Theory rather than the Copy Theory of Movement. The fact that traces are postulated here rather then copies is, however, not relevant to this criticism, since proponents of the Copy Theory have to posit some kind of LF operation (e.g. *Trace Conversion*) that turns all lower copies into variables anyway (see Fox 1999, 2002; Sauerland 1998, 2004).

(24)   *Existential closure of traces of Removed DPs*:

Above, we are forced to assume the domain of existential closure is actually at the VoiceP edge rather than, say, vP. Evidence supporting this idea comes from the examples in (25) from Carlson (1977):

(25)   a.   Children were dancing in the street.   (✔ existential)
         b.   Doctors are intelligent.   (*existential)

Here we see that existential closure of bare plurals only seems possible with passives. This suggests that the domain of existential closure is at VoiceP and thus higher than the subject in (25b).

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 & Timberlake 1985). 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 (27), rather than the nominative as in active clauses (26):
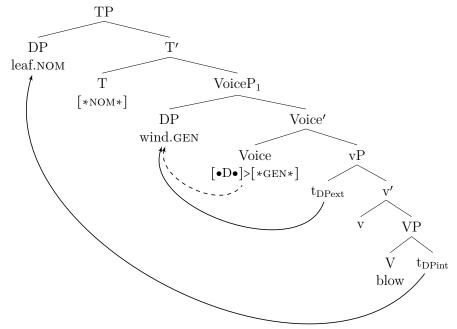
(26)   Vėjas   nupūte ta   lapeli.
         wind.NOM blow   that leaf.ACC
         'The wind blew down that leaf.'

(27) Tas lapelis   vėjo   nupustas.
      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:[10]

(28) *Personal passive in Lithuanian*:

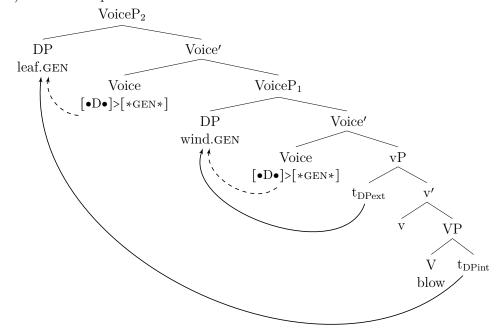In Lithuanian double passives, the internal argument is also realized with genitive case as shown in (29):

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

---

[10] An anonymous reviewer notes that the movement to Spec-TP in (28) seems to be a typical configuration for *defective intervention* (Chomsky 2000, 2008), i.e. movement of a DP crosses a deactivated goal. It is worth noting that defective intervention seems to arise as a result of ϕ-probing of T (e.g. with datives in Icelandic Holmberg & Hróardóttir 2003; Sigursson & Holmberg 2008) and concomitant movement to Spec-TP (e.g. McGinnis 1998; Hartman 2011; Keine & Poole 2015). However, the fact that defective intervention arises in Icelandic without movement could suggest that defective intervention is linked to ϕ-agreement and, since EPP-movement is parasitic on this, it often looks like a constraint on movement (see Preminger 2014 for discussion). If this is on the right track, then since the Voice head has a simple 'EPP' feature ([•D•]) but no probe, we may not expect to find defective intervention here after all.

Thus, we have two instances of argument demotion parallel to the two instances of argument reduction in double 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$_2$ where it is also assigned genitive and thus bleeding of nominative case assignment:

(30)   *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 *Remove* 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 (31), the internal argument is suppressed and the antipassive marker *-a* appears on the verb. In Chukchee (32) and West Greenlandic Inuttut (33), we see a similar process of reduction of the internal argument coupled with antipassive marking on the verb.

(31)   *Antipassive in Godoberi*:   (Kibrik 1996)

    a.   ʔali-di   q'iru b-el-ata-da.
        Ali-ERG wheat NEUT-thresh-IPF.CONV-AUX
        'Ali is threshing wheat.'

    b.   ʔali w-ol-a-da.
        Ali MASC-thresh-APASS.CONV-AUX
        'Ali is threshing.'

(32)   *Antipassive in Chukchee*:   (Bittner & Hale 1996)

    a.   yemronə-na   qərir-ərkən-in   ekək
        Yemron-ERG$_i$ search-PRES-3SG$_i$>3SG$_j$ son.NOM$_j$
        'Yemron is searching for his son.'

    b.   yemron   ine-lqərir-ərkən
        Yemron.NOM$_i$ APASS-search-PRES.3SG$_i$
        'Yemron is searching.'

(33)   *Antipassive in West Greenlandic Inuttut*:   (Saddock 2003)

    a.   Toquppaa
        toqut-Va-a
        kill-IND-3s/3s
        'He/she/it killed him/her/it.'

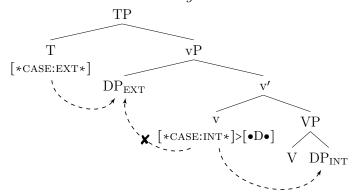   b.   Toqutsivoq
        toqut-si-Vu-q
        kill-APASS-IND-3s
        'He/she/it killed (something).'

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 σ 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 σ. 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 (34).[11] This derives a nominative-accusative alignment:
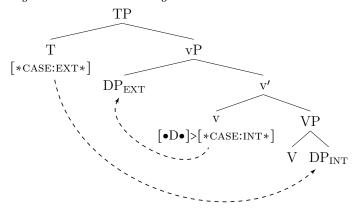
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[11] This is a case of *counterfeeding* (Kiparsky 1973) of Spec-Head Agree as if [•D•] had applied before [∗CASE:EXT∗], it would have fed this operation.

(34)   *Nominative-Accusative Alignment*:

TP

T   vP
[∗CASE:EXT∗]

        DP$_{EXT}$ v′

                    v   VP
        ✗ [∗CASE:INT∗]>[•D•]

                            V   DP$_{INT}$

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$_{EXT}$. T then assigns external case (absolutive) to the internal argument as in (35).

(35)   *Ergative-Absolutive Alignment*:

TP

T   vP
[∗CASE:EXT∗]

        DP$_{EXT}$ v′

                    v   VP
        [•D•]>[∗CASE:INT∗]

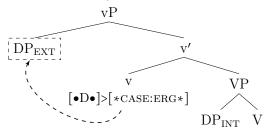   V   DP$_{INT}$

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 as still 'active' for Agree operations, whereas those already assigned case are 'deactivated' in the process. This can be summarized as follows:

(36)   *Activity Condition* (Chomsky 2000, 2001):
        A syntactic object α is a potential goal for syntactic operations iff α bears an unvalued Case feature.

In ergative-absolutive languages such as (31)–(33), [•D•] feeds Spec-Head assignment of internal case to the external argument in Spec-vP. In the derivation of structures in an ergative language, the external argument is assigned internal (ergative) case and is
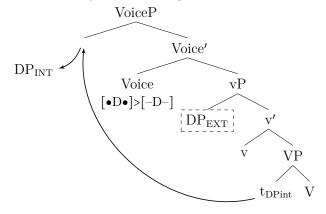
therefore deactivated for further Agree operations as indicated by the dashed box:

(37)   *Deactivation of DP$_{EXT}$*:

$$
\begin{array}{c}
\text{vP} \\
\diagup \quad \diagdown \\
\boxed{\text{DP}_{\text{EXT}}} \qquad \text{v}' \\
\qquad \diagup \quad \diagdown \\
\qquad \text{v} \qquad \text{VP} \\
[\bullet\text{D}\bullet]{>}[*\text{CASE:ERG}*] \quad \diagup \diagdown \\
\qquad\qquad \text{DP}_{\text{INT}} \quad \text{V}
\end{array}
$$

Thus, when Voice is merged above vP, DP$_{EXT}$ is not an active goal for the $[\bullet\text{D}\bullet]$ feature. Instead, it probes further and attracts the internal argument to Spec-VoiceP and subsequently removes it from the structure:
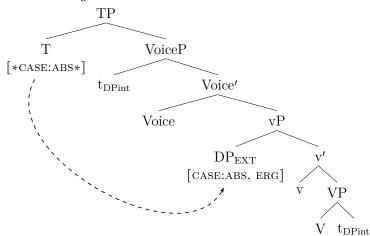
(38)   *Reduction of Internal Argument*:

$$
\begin{array}{c}
\text{VoiceP} \\
\diagup \qquad \diagdown \\
\qquad\qquad \text{Voice}' \\
\text{DP}_{\text{INT}} \quad \diagup \qquad \diagdown \\
\qquad \text{Voice} \qquad\qquad \text{vP} \\
\qquad [\bullet\text{D}\bullet]{>}[{-}\text{D}{-}] \quad \diagup \quad \diagdown \\
\qquad\qquad\qquad \boxed{\text{DP}_{\text{EXT}}} \quad \text{v}' \\
\qquad\qquad\qquad\qquad \diagup \diagdown \\
\qquad\qquad\qquad\qquad \text{v} \quad \text{VP} \\
\qquad\qquad\qquad\qquad\qquad \diagup \diagdown \\
\qquad\qquad\qquad\qquad\quad \text{t}_{\text{DPint}} \quad \text{V}
\end{array}
$$

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$_{INT}$ in (38) was bled by the *Remove* operation, T still has internal (absolutive) case to assign: $[*\text{CASE:INT}*]$. 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 (39) (where internal and external case have been replaced by the corresponding ergative and absolutive):

(39)   *Case Stacking*:

```
                          TP
                 ┌─────────┴─────────┐
                 T                  VoiceP
            [∗CASE:ABS∗]        ┌─────┴─────┐
                 ╱            t_DPint      Voice′
                ╱                      ┌─────┴─────┐
               ╱                     Voice          vP
              ╱                              ┌───────┴───────┐
             ╱                            DP_EXT            v′
            ╱                         [CASE:ABS, ERG]    ┌───┴───┐
           ╲                                ↗           v      VP
            ╲_____╱                   ┌──┴──┐
                                                            V   t_DPint
```

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 (40):

(40)   *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 (40) would be morphologically realized (i.e. absolutive).

6.   Conclusion

In this paper, I propose an analysis of double passivization constructions in Turkish, which exhibit both two instances of passive morphology and two instances of argument reduction. 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. These apparently conflicting representations can be solved by adopting the theory of the passive in Müller (2014, 2015*a,b*) and applying it, with some minor additions, to double passives in Turkish. Argument reduction is treated as introduction and subsequent removal of the external argument.

It was also shown that this analysis can adequately capture two important characteristics of double 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.

I also offered some tentative analyses of how this general approach involving the operation *Remove* can be applied to argument demotion in Lithuanian and antipassivization in general. Furthermore, Müller (2015*b*) points out a vast number of other constructions containing 'conflicting representations' that seem amenable to this kind of analysis. Therefore, exploring and developing the *Remove* operation seems like a worthwhile endeavour for future research.

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