**Projection  and  position**
Evidence from Georgian


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The rich morphology of Georgian provides evidence for the different heads projecting, or merging with, different classes of arguments. The evidence suggests that a dative argument in Georgian is always merged with the same head, but may be an indirect object, external argument, or derived subject. The binding and raising properties of different argument types motivates a theory linking A-movement strong crossover effects with equidistance.


*1.    Introduction*

A dative argument in Georgian is always merged (or projected) in the same position, as specifier of the same head, which assigns it inherent case. However, I will argue that this specifier can be merged as either an internal or an external argument. The internal/external distinction underlies a number of binding and movement phenomena. I will assume that this distinction is not represented configurationally, though it may be encoded by a difference in the method of assigning theta-roles, as suggested by Marantz (1989).

The term 'subject' will be used here to mean the EPP position, here the specifier of TP (Chomsky 1995).[1] The closest c-commanded argument moves to this position, expletive insertion aside. It will be assumed that the case of the direct object is checked by a functional projection (OP) below the base position of the subject (Koizumi 1995, Bobaljik 1995). This projection is available only if an external argument is present. It will not be assumed that the same structural case is always checked in the specifier of the same head; rather, I will assume a theory of dependent case (Marantz 1991).

Movement will be assumed to be attraction by a target of the closest element bearing the appropriate syntactic feature (cf. Chomsky 1995). Thus, I will speak of two arguments as equidistant from a target, rather than two targets as equidistant from a single argument. I will adopt the proposal of Ura (1993) that equidistant arguments are multiple specifiers of a single head.

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[1]    Rajesh Bhatt (p.c.) has suggested that Georgian may have no EPP. If so, the relevant notion of subject may be highest argument, rather than specifier of TP (Marantz 1989). I leave the possibility aside for the purposes of this paper.

## 2.    *Merger*

I propose the structure below for the transitive clause in (1).  The subject is merged as the specifier of a light verb (Chomsky 1995), and raises to the specifier of TP to check the EPP feature on T.  The object originates as the complement of V, and moves into the specifier of OP to check structural accusative case.[2]

(1)    gela         axal sarval-s       ker-av-s.
       Gela.NOM    new trousers-ACC sew-TS-PRES
       'Gela is sewing new trousers.'
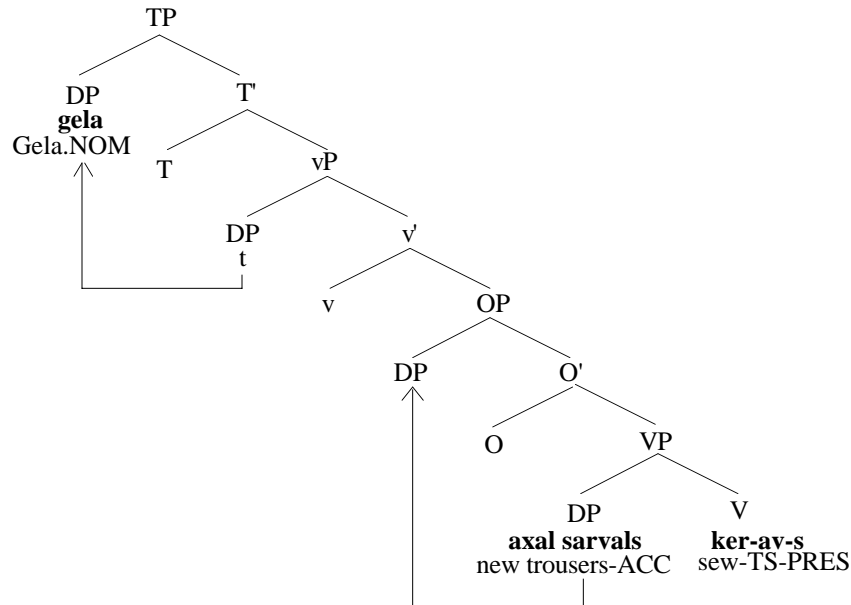


        The structure for the applicative transitive in (2) is the same as that in (1), except that an indirect object is merged as the specifier of the head R.  This head is spelled out as the morpheme traditionally known as the relative prefix (Aronson 1990).  Following Marantz (1989), Ura (1996), I will assume that the indirect object (IO) is merged structurally higher than the direct object (DO) in Georgian.

(2)    gela        **sen**        axal sarval-s        g-**i**-ker-av-s.
       Gela.NOM    **you.DAT**    new trousers-ACC 2-**R**-sew-TS-PRES
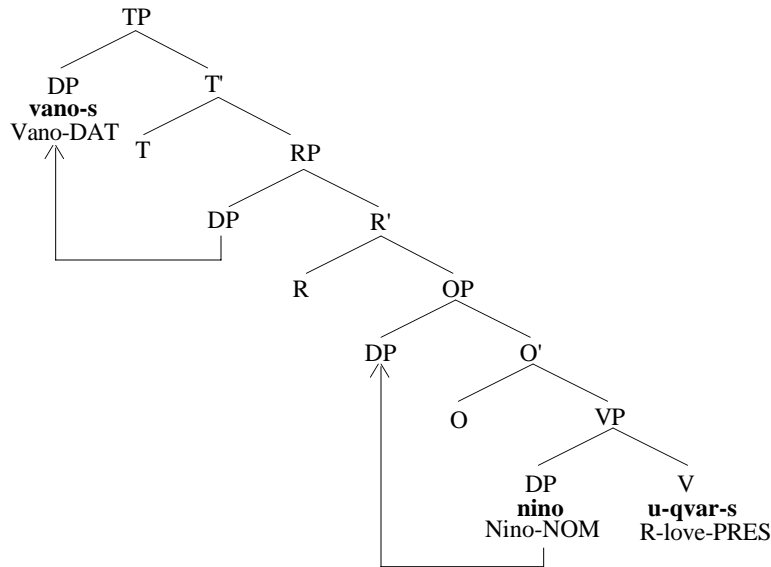       'Gela is sewing new trousers for you.'

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[2]    Note that structural accusative case marking and inherent dative case marking on arguments are morphologically identical.  Dative case is assumed to be associated with the relative marker R, and possibly with a homogeneous class of thematic relations (goal/benefactive/experiencer).

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                    TP
              ┌──────┴──────┐
            DP               T'
          gela          ┌────┴────┐
        Gela.NOM         T         vP
             ↑      ┌────────┐
             │      T     ┌──┴──────┐
             │           DP          v'
             │            t      ┌───┴────┐
             │                   v         RP
             │                       ┌─────┴─────┐
             │                      DP            R'
             │                     sen        ┌───┴────┐
             │                   you.DAT       R        OP
             │                            ┌────────┐
             │                                   DP      O'
             │                                    ↑   ┌──┴──────┐
             │                                    │   O          VP
             │                                    │        ┌──────┴──────┐
             │                                    │       DP              V
             │                                    │   axal sarval-s   g-i-ker-av-s
             │                                    │  new trousers-ACC  2-R-sew-TS-PRES
             │                                    └──────┘
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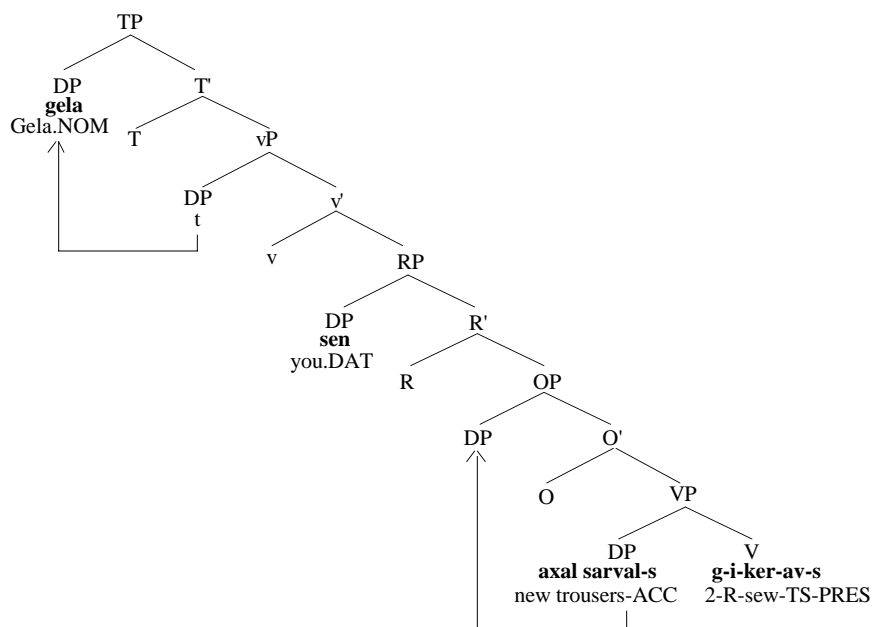
Dative subjects in Georgian arise in two contexts: in the perfect tense/aspect and with stative verbs. In what follows I will focus on statives; however, Nash (1994) argues that perfects are participial, with a stative tensed verb 'have.' Following this argument, the analysis given here can easily be extended to perfects.

The structure of a Georgian transitive clause with a dative subject is given in (3). The dative argument is merged as usual in the specifier of R, visible on the verb as the relative prefix. This argument moves to the EPP position. Since the dative subject is an external argument, OP is present. The object checks nominative structural case in the specifier of OP.

(3) vano-s       nino       **u-**qvar-s.
    Vano-DAT   Nino-NOM   **R-**love-PRES
    'Vano loves Nino.'

```
                          TP
                    ┌──────┴──────┐
                   DP             T'
                  vano-s    ┌──────┴──────┐
                 Vano-DAT   T             RP
                    ↑  ┌────────────┴────────────┐
                    │ DP                         R'
                    │                      ┌──────┴──────┐
                    │                      R            OP
                    └──────────────┐  ┌─────────┴─────────┐
                                   DP                     O'
                                    ↑             ┌───────┴───────┐
                                    │             O              VP
                                    │                       ┌─────┴─────┐
                                    │                      DP           V
                                    │                     nino       u-qvar-s
                                    │                   Nino-NOM    R-love-PRES
                                    └───────────────────┘
```

Dative arguments are always merged or projected in the specifier of the head R. If an external argument is present—regardless of its case—it raises to to the specifier of TP to satisfy the EPP.

### 3.    Subjecthood

There are a number of tests to show that dative subjects occupy the same position as nominative subjects.   Nash (1995a) makes similar arguments for ergative subjects. Evidence from binding and focus structure points to a unified position for subjects, regardless of case-marking.

The classic binding data are given below.   Subjects cannot be bound by objects, whether the subject is nominative (4a) or dative (4b).   However, a subject can bind the object whether it is accusative (5a) or nominative (5b).

(4)   a. \***tav-is tav-i**      vano-s       xat-av-s.
           self-GEN self-NOM    vano-ACC     draw-TS-PRES
           '**Himself** draws Vano.'
       b. \***tav-is tav-s**   vano          u-qvar-s.
           self-GEN self-DAT vano.NOM      R-love-PRES
           '**Himself** loves Vano.'
(5)   a. vano          **tav-is  tav-s**      xat-av-s.
           vano-NOM     self-GEN self-ACC      draw-TS-PRES
           'Vano draws **himself**.'
       b. vano-s        **tav-is  tav-i**      u-qvar-s.
           vano.DAT     self-GEN self-NOM      R-love-PRES
           'Vano loves **himself**.'

Another subject/non-subject asymmetry arises with respect to occupation of the focus position. Elements immediately to the left of the verb typically receive presentational focus (Nash 1995b). For example, immediately preverbal objects bear focus (italicized), whether they are accusative (6a) or nominative (6b). Adverbs in this position likewise bear focus. Subjects are an exception to the generalization; immediately preverbal subjects need not bear focus, regardless of whether they are nominative (7a) or, for example, dative (7b).

(6) a. (is) **vano-s** xat-av-s.
  (she.NOM) vano-ACC draw-TS-PRES
  'She is drawing *Vano*.'
 b. (mas) **vano** da-u-rCmunebi-a.
  (she.DAT) vano-NOM PreV-R-convince-PERF
  'She has convinced *Vano*.'
(7) a. **nino** u-mGeri-s vano-s.
  nino.NOM R-sing-PRES vano-ACC
  '**Nino** is singing to Vano.'
 b. **nino-s** u-qvar-s vano.
  nino-DAT R-love-PRES vano-NOM
  '**Nino** loves Vano.'

Nash (1995b) argues for the presence of a Focus position outside VP. I suggest that a subject may, but need not, move through this position on its way to the EPP position, which must be occupied by a nominative, dative or ergative subject. On the other hand, an object ordered linearly between the subject and verb must occupy the focus position.

Reconstruction effects give rise to a third asymmetry. Georgian has an anaphoric possessor, *tavis* 'self's' (lit. 'head's') which is embedded within a DP. The anaphoric possessor of an object to the left of the subject may be bound by the subject, whether the object is accusative (8a) or nominative (8b). On the other hand, the anaphoric possessor of a subject to the left of an object cannot be bound by the object, whether the subject is nominative (9a) or dative (9b).

(8) a. **tav-is deda-s** nino akeb-s.
  self-GEN mother-ACC nino.NOM praise-PRES
  'Nino$_i$ praises **her$_i$ mother** .'
 b. **tav-isi deda** vano-s u-qvar-s.
  self-GEN mother.NOM vano-DAT R-love-PRES
  'Vano$_i$ loves **his$_i$ mother** .'
(9) a. ??**tav-isi deda** nino-s akeb-s.
  self-GEN mother.NOM nino-ACC praise-PRES
  '**Her$_i$ mother** praises Nino$_i$.'
 b. ??**tavis deda-s** vano da-u-rCmunebi-a.
  self-GEN mother-DAT vano.NOM PreV-R-convince-PERF
  '**His$_i$ mother** has convinced Vano$_i$.'

Note in (9) that no reconstruction effect arises for a subject c-commanding an object; thus we conclude that the subject must occupy an A-position that c-commands the object. In (8), however, the object occupies an A-bar position above the subject, so its interpretation allows a reconstruction effect.

In (10), on the other hand, the object occupies an A-position, from which it binds the subject. Thus the anaphoric possessor of the subject can, in fact, be bound. The object can occupy either an A-bar position or an A-position c-commanding a subject to its immediate right, but the subject must occupy an A-position c-commanding an object to its immediate right.

(10) a. nino-s     **tav-isi deda**     akeb-s.
        nino-ACC   self-GEN mother.NOM praise-PRES
        '**Her<sub>i</sub> mother** praises Nino<sub>i</sub>.'

  b. vano       **tav-is deda-s**     da-u-rCmunebi-a.
        vano.NOM   self-GEN mother-DAT  PreV-R-convince-PERF
        '**His<sub>i</sub> mother** has convinced Vano<sub>i</sub>.'

Binding of anaphors and anaphoric possessors, as well as focus structure, demonstrate a number of subject/non-subject asymmetries. These asymmetries suggests the existence of a unique subject position, the EPP specifier, which is occupied by a subject regardless of its case.

### 4.	*External and Internal Dative Subjects*

We have established that dative subjects are merged with R, like indirect objects, but that they move to the EPP position. So far, we have only looked at dative subjects in active clauses, but there are also dative subjects in passives.

Some ditransitive clauses allow either the direct or the indirect object to move to the EPP position. For example, (11) shows a nominative subject triggering third-person plural nominative agreement, *-nen*, on the verb.

(11)   **deideb-i**   paTa-s      da-e-Karg-**nen**.
        aunts-NOM    Pata-DAT    PreV-R-lost-N.pl
        'The aunts got lost to Pata.'

On the other hand, the verb in (12a) shows agreement with the third-person plural dative subject.[3] The same agreement is triggered by the dative subject of an active clause (12b). However, an indirect object is not enough to trigger this agreement, as (12c) demonstrates.
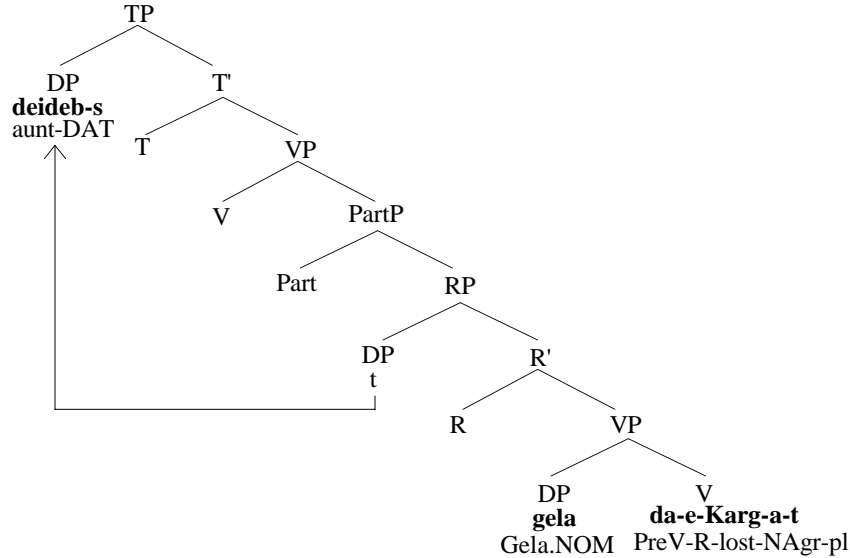
(12) a. **deideb-s**   gela      da  paTa       da-e-Karg-a-**t**.
        aunts-DAT   Gela.NOM   and Pata.NOM   PreV-R-lost-NAgr-pl
        '**The aunts** had Gela lost on them.'

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[3]   The verb does bear regular nominative agreement with the object, but not the nominative plural agreement */-(n)en/* which occurs with subjects only. Note that it is slightly inaccurate to refer to this agreement as nominative, since ergative arguments trigger the same agreement.

b. **deideb-s**   gela       u-qvar-**t**.
   aunts-DAT   Gela.NOM   R-love.PRES-pl
   '**The aunts** love Gela.'

c. **deideb-s**   gela       e-cxubeb-a-**(\*t)**.
   aunts-DAT   Gela.NOM   R-fight.FUT-NAgr-(\*pl)
   'Gela will fight with his aunts.'

How does the structure of a passive with a dative subject compare with that of an active with a dative subject? As a first approximation, we might suppose that the two structures are minimally different. Unlike the active, the passive has a participial form (Marantz 1989) and lacks an external argument, as shown in (13). An immediate problem arises with this account. Since the clause structure shown in (13) lacks an external argument, it also lacks OP, so the structural case on the object cannot be checked.

(13)

```
                TP
              /    \
           DP       T'
        deideb-s   /  \
        aunt-DAT  T    VP
                     /    \
                    V      PartP
                          /    \
                       Part     RP
                              /    \
                            DP      R'
                             t     /  \
                                  R    VP
                                      /    \
                                    DP      V
                                   gela   da-e-Karg-a-t
                               Gela.NOM  PreV-R-lost-NAgr-pl
```

Even if this objection could be put aside, the structure in (13) makes the wrong predictions for binding and movement in passives. As we saw before, a dative subject can bind a nominative object within the same active clause (14a). In passive clauses with a dative subject, on the other hand, the subject cannot bind a nominative object (14b). Of course, the opposite is also true: the object cannot bind the subject.

(14) a. deideb-s    **taviant-i**   **tav-i**     u-qvar-t.
     aunts-DAT   selves-GEN   self-NOM   R-love.PRES-pl
     'The aunts love themselves.'

    b. \*deideb-s   **taviant-i**   **tav-i**     da-e-mal-a-t.
     aunt-DAT   selves-GEN   self-NOM   PreV-R-hidden-NAgr-pl
     'The aunts had **themselves** hidden on them.'

Moreover, in active clauses with a dative subject, only the dative argument can raise to the EPP position. Note that the active (stative) verb *u-qvar* (15a) cannot bear plural nominative subject agreement. On the other hand, a passive with a dative subject also permits a nominative subject, as indicated by the plural nominative agreement in (15b).

(15) a. \***deideb-i**    paTa-s         u-qvar-**an**.
        aunts-NOM    Pata-DAT     R-love-PRES.N.pl
        'Pata loves the aunts.'
   b. **deideb-i**    paTa-s         da-e-Karg-**nen**.
        aunts-NOM    Pata-DAT     PreV-R-lost-N.pl
        'The aunts are lost to Pata.'

    If active and passive clauses with dative subjects have the same basic clause structure, the different binding and raising possibilities of these two clause types are not predicted. The structure previously proposed for active clauses predicts their binding and movement chracteristics (16). The dative argument orginates and lands in positions c-commanding the nominative object. Thus, the dative argument is the only candidate for movement to the EPP position. Moreover, it is unambiguously able to bind the object it c-commands.
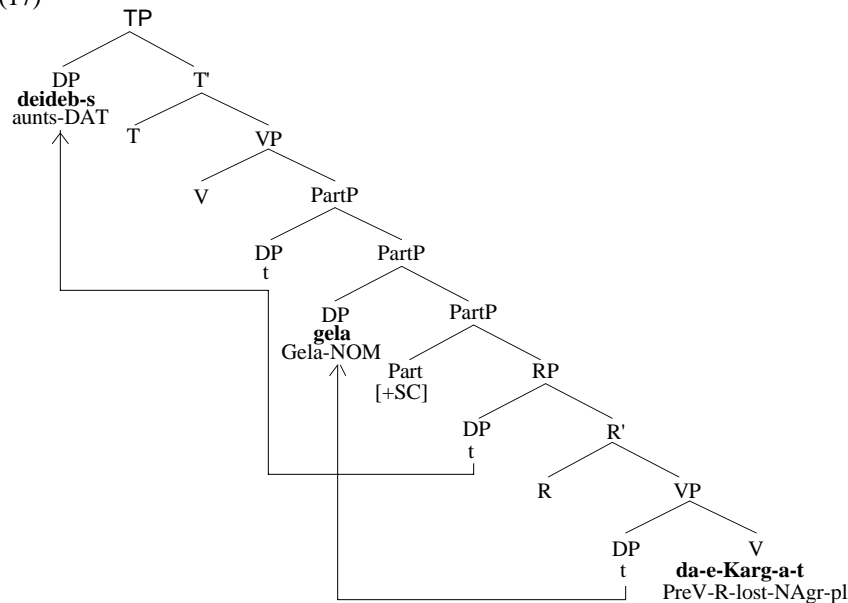
(16)
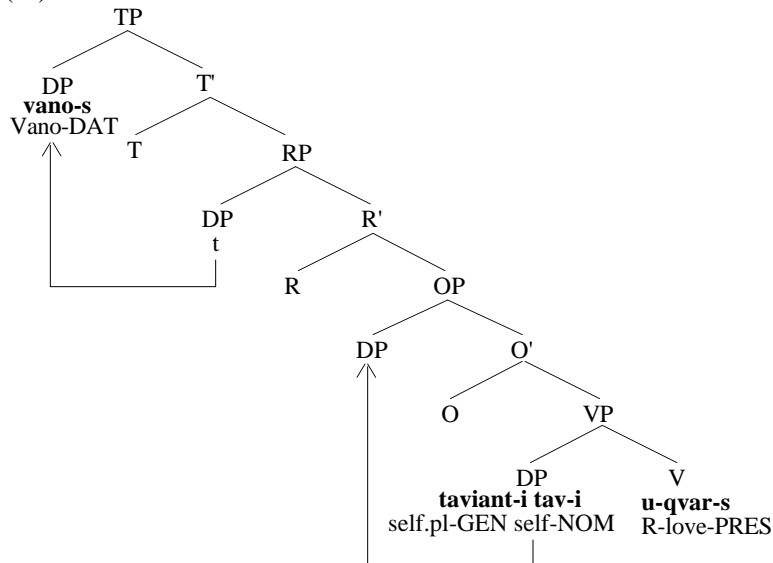


    We might consider a different structure, such as that in (17), for a passive clause with a dative subject. Since the form of the verb is participial, we can assume the presence of a participle head above the VP, with a light matrix raising verb bearing finite tense and taking PartP as its complement. As before,

we will assume that RP dominates the projection of the verb taking the direct object as its complement. Let us suppose further that the participle head in Georgian has a feature [+SC] which attracts a structurally case-marked DP. A DP bearing inherent case will be 'invisible' for attraction to this head.

(17)

```
                    TP
                   /  \
                 DP     T'
              deideb-s / \
             aunts-DAT T   VP
                          / \
                         V   PartP
                            /  \
                          DP    PartP
                          t    /  \
                             DP    PartP
                            gela  /  \
                          Gela-NOM Part  RP
                                 [+SC]  / \
                                     DP   R'
                                     t   /  \
                                        R    VP
                                            / \
                                          DP   V
                                          t  da-e-Karg-a-t
                                           PreV-R-lost-NAgr-pl
```

In (17), then, the nominative object is attracted to the specifier of PartP, where it c-commands the dative indirect object. The EPP feature, which we are assuming to be on the Tense head, attracts the closest DP, regardless of its case and agreement features. For the dative argument to raise to the EPP position, therefore, it must be able to occupy a position at least equidistant with the DO position, from the EPP position.

Let us suppose that movement is permitted freely within the 'internal' domain of the verb, the domain that would be c-commanded by the base position of an external argument if one were present. If the dative argument in (17) moves to become the second specifier of PartP, it is then equidistant from the EPP position with the nominative argument, and so can be attracted to the specifier of TP, as shown. If this configuration also rules out binding between the dative and nominative arguments, both the movement and binding facts can be captured by the structure in (17).

Thus far, it has been proposed that the difference between active and passive clauses with dative subjects can be accounted for by the structures in (16) and (17). The possibility for movement of either the nominative or the dative argument to the EPP position in passives results from the availability of equidistance for these two arguments. Moreover, the impossibility of the dative

subject binding the nominative object in a passive follows from certain assumptions about binding.

Let us make the strongest assumption, that to rule out binding between two arguments it is sufficient for them to enter some relation of equidistance during the course of the derivation. This assumption may capture the insight of Rizzi (1986), reformulated by Snyder (1992) as the Chain Formation Algorithm, by which binding violations are incurred by the formation of an improper A-chain. Here, then, an improper chain has two equidistant coindexed arguments. By a weaker formulation, we might suppose that two arguments are equidistant not only from the target of movement, but also from the nearest coindexed trace they c-command. This trace therefore has two binders, a configuration which may easily be uninterpretable at LF.

Since movement of the indirect object over the direct object is free and optional, another possible derivation of the passive has the direct object raising to the EPP position, while the indirect object remains in its base position, as in (18).
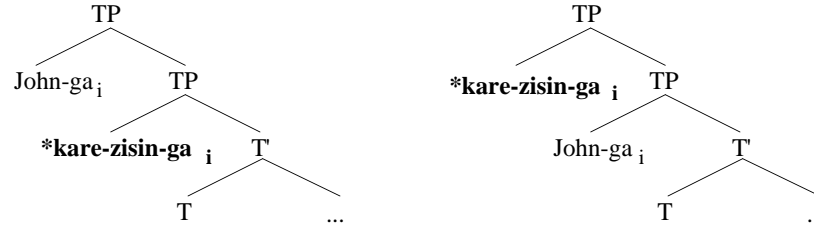
(18)
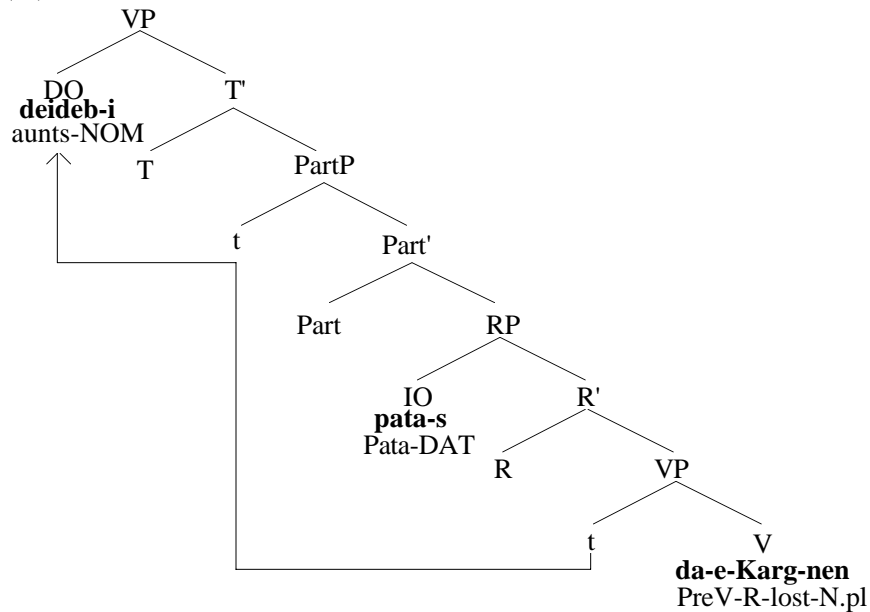


5.    *Binding and Equidistance*

Beginning with the assumptions that the dative argument is always projected by the same head above the direct object, and that the closest argument is attracted to the EPP position, we have arrived at surprising conclusions about the relation between binding and equidistance. Further support for these conclusions comes from Japanese. Ura (1994) has argued that the double-nominative construction in Japanese involves two arguments in specifier positions within TP. The

account sketched so far predicts that neither nominative-marked argument will be able to bind the other.  This prediction holds, as shown in (19).

(19)  a.  *John-ga      **kare-zisin-ga**    sinpai-da.
           John-NOM      he-self-NOM          worry-PRES
      b.  ***kare-zisin-ga** John-ga       sinpai-da.
           he-self-NOM          John-NOM      worry-PRES

      'John worries about **himself.**'

```
        TP                                          TP
       /  \                                        /  \
  John-ga i   TP                           *kare-zisin-ga i   TP
            /  \                                          /  \
   *kare-zisin-ga i   T'                          John-ga i    T'
                    /  \                                      /  \
                   T    ...                                  T    ...
```

    When the arguments bear different case-marking, they can be assumed to be specifiers of different heads.  In this configuration they do allow binding.  (20a) shows a nominative subject binding an accusative object, while (20b) shows a dative subject binding a nominative object, as is possible in Georgian active dative-subject constructions.
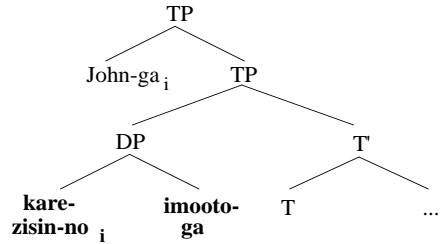
(20)  a.  John-ga       **kare-zisin-o**    sinpai-siteir-u.
           John-NOM      he-self-ACC         worry-PROG-PRES
           'John is worrying about **himself.**'
      b.  John-ni       **kare-zisin-ga**   sinpai-da.
           John-DAT      he-self-NOM         worry-PRES
           'John worries about **himself.**'

    Interestingly, while the specifiers do not c-command each other, they do c-command each other's daughters.  In (21), one nominative argument binds the possessor of the other.[4]

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[4]    Interestingly, in Japanese the opposite ordering is also possible.  The same is not true for equidistant binding in Georgian double object constructions.
      (i)  [**kare-zisin-no**$_i$      hahaoya]-ga      John-ga$_i$      sinpai-da
            he-self-GEN               mother-NOM        John-NOM         worry-PRES
           '**Himself's** mother worries about John.'

(21)    John-ga        [**kare-zisin-no** imooto]-ga    sinpai-da.
         John-NOM     he-self-GEN           sister-NOM    worry-PRES
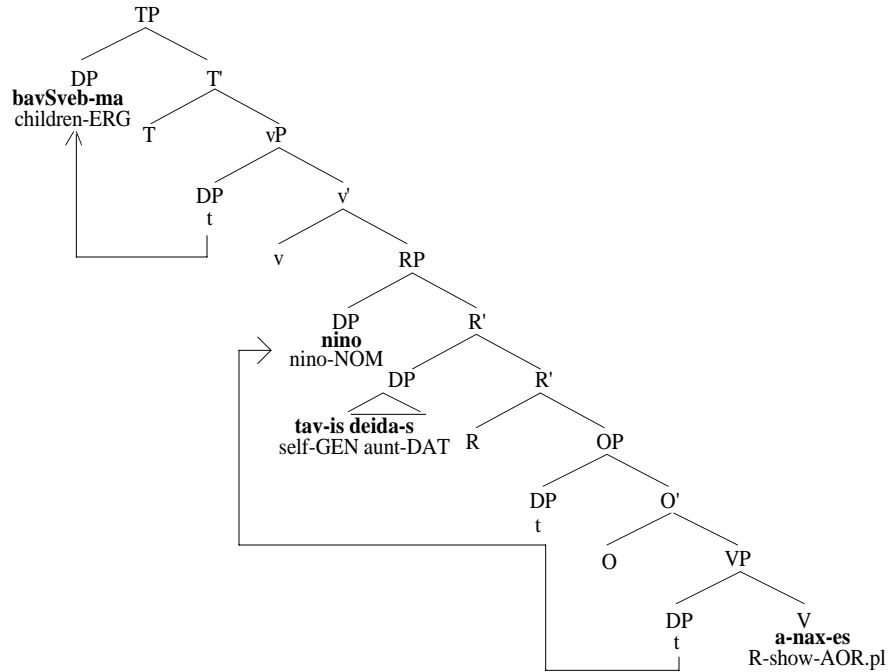         'John$_i$ worries about **his$_i$** sister.'

```
                              TP
                        ┌──────┴──────┐
                  John-ga $_i$        TP
                              ┌────────┴────────┐
                             DP                  T
                       ┌──────┴──────┐      ┌────┴────┐
                     kare-       imooto-    T        ...
                   zisin-no $_i$   ga
```

Likewise in Georgian, one specifier can bind *into* another specifier of the same head. Free movement within the internal domain of the verb predicts that the direct object can move freely over the indirect object in active ditransitive clauses as well as in passives. In (22a), the indirect object c-commands into the direct object in its base position. The anaphoric possessor must be c-commanded by its antecedent; (22b) is ill-formed because the anaphor in the subject is not c-commanded by its antecedent in the object.

(22) a.  nino-m         gela-s        **tav-is    deida**       a-nax-a          sarKeSi.
          Nino-ERG    Gela-DAT    self-GEN    aunt-NOM    R-show-AOR    mirror.in
          'Nino showed Gela$_i$ **his$_i$ aunt** in the mirror.'
     b.  ??**tav-is$_i$    deida**       nino-s        akeb-s.
          self-GEN    aunt.NOM    nino-ACC    praise-PRES
          '**Her$_i$ aunt** praises Nino$_i$.'

In (23), the direct object c-commands into the indirect object in a specifier position of the same head, R. The structure for (23) is shown below the example. The object moves to the specifier of OP to check case, then moves freely over the indirect object within the internal domain of the verb. From this position it binds into the indirect object in the lower specifier of the same head.

(23)    bavSveb-ma    nino        **tav-is    deda-s**       a-nax-es.
         children-ERG    Nino.NOM    self-GEN    mother-DAT    R-show-AOR.pl
         'The children showed **her$_i$ mother** Nino$_i$.'

TP
DP **bavSveb-ma** children-ERG
T'
T vP
DP t
v'
v RP
DP **nino** nino-NOM
R'
DP **tav-is deida-s** self-GEN aunt-DAT
R'
R OP
DP t
O'
O VP
DP t
V **a-nax-es** R-show-AOR.pl

An indirect object can bind a direct object in its base position (24a). As predicted, a direct object which has moved to a position equidistant with the indirect object still cannot bind it, since the equidistance relation itself rules out binding (24b).

(24) a. nino-m a-nax-a [cven paTara gela-s] **tav-is tav-i**.
 nino.ERG R-show-AOR our little gela-DAT self-GEN self-NOM
 'Nino showed [our little Gela]$_i$ **himself**$_i$.'

 b. *nino-m a-nax-a gela **tav-is tav-s** sarKeSi.
 nino.ERG R-show-AOR gela.NOM self-GEN self-DAT mirror.in
 'Nino showed **himself**$_i$ Gela$_i$ in the mirror.'

Our examination of dative arguments in Georgian active and passive clauses leads to a number of interesting conclusions about binding and movement. The differences between active and passive clauses with dative subjects depend crucially on the presence or absence of an external argument, and the associated presence or absence of a head to assign case to the direct object. Their different properties can be explained as the result of free movement within the internal domain of the verb, yielding equidistance relations which have consequences for binding and movement.

## 6.    *Predictions*

As it stands, the analysis makes at least one prediction, which differs crucially from the predictions of Rizzi's (1986) Chain Condition and Snyder's (1992) Chain-Formation Algorithm.  According to these accounts, A-movement of one argument over a c-commanding, coindexed argument results in an ill-formed chain.  By the present account, such movement is acceptable, provided that the coindexed elements are not equidistant at any point in the derivation.

A test case arises in Georgian.  The equidistance account predicts that the nominative direct object of a passive should be able to bind a dative indirect object if the nominative argument crosses over it to check case in the specifier of PartP, then moves up to the specifier of TP to check EPP.  In this circumstance, the nominative object c-commands the dative indirect object, and no equidistance relation exists between them to rule out binding.  The prediction is correct, as shown in (25).

(25)  ?deideb-i      **taviant**      **tav-s**       da-e-mal-**en**.
        aunt-NOM     selves.GEN    self-DAT      PreV-R-hidden-N.pl
        'The aunts were hidden **from themselves**.'
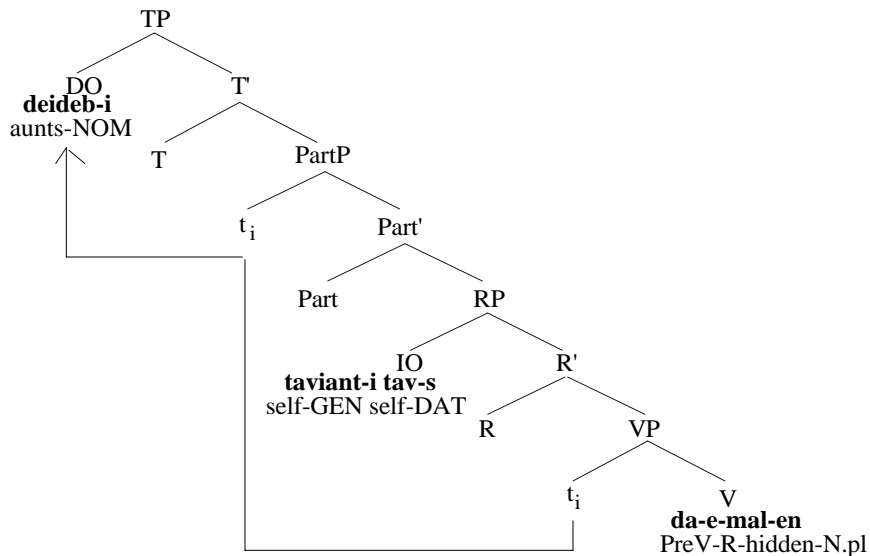


The analysis here depends crucially on a systematic account of Georgian morphology.  By attributing consistent case-assigning and projection/merger properties to the relative prefix in its various environments, we have been able to refine the conditions on A-movement and binding.  These refinements can be extended to determine the precise course of derivation in other languages.

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