

# Inverted actors, demoted goals, and abstract inherent case in Georgian

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## 1 Introduction

A central question in syntactic theory is what principles constrain abstract argument structure and the surface morphology it is mapped onto. A set of facts in Georgian leads to the following conclusion about this mapping relation. Spell-out rules that realize morphological case must be able to reference which specifier an argument externally merged with, in addition to features from functional categories c-commanding that argument. This underscores the theoretical importance of abstract inherent case assignment (Chomsky 1986, Woolford 2006), and supports a model of Agree in which probes can interact with multiple goals in their c-command domain (Béjar and Rezac 2009, Deal 2022).

Compelling evidence for this position comes from the behavior of ditransitives. In Georgian’s so-called Series III tenses, like the pluperfect (1a), transitive subjects appear in the dative case; indirect objects appear in an oblique/postpositional form. That contrasts with the more common morphological realization of these argument types, as ergative and dative respectively (1b).

- (1) a. *k<sup>h</sup>irurg-s ek<sup>h</sup>th<sup>h</sup>an-is=t<sup>h</sup>vis avadm<sup>q</sup>’op<sup>h</sup>-i et<sup>h</sup>venebina*  
surgeon-DAT nurse-GEN=for patient-NOM show:ACT:PLUP:AGR  
‘The surgeon<sub>DAT</sub> had shown the patient to the nurse<sub>pp</sub>’
- b. *k<sup>h</sup>irurg-ma ek<sup>h</sup>th<sup>h</sup>an-s avadm<sup>q</sup>’op<sup>h</sup>-i at<sup>h</sup>vena*  
surgeon-ERG nurse-DAT patient-NOM show:ACT:APPL:AOR:AGR  
‘The surgeon<sub>ERG</sub> showed the patient to the nurse<sub>DAT</sub>’

Series III tenses have peculiar morphological behavior, overlapping with that of dative experiencer psych verbs. There are independent reasons to analyze psych verbs as having an applied-unaccusative structure (cf. Belletti & Rizzi’s 1988 *piacere*-class), so we might take Series III tenses as obligatorily nonactive also, with agents expressed as applied arguments (Marantz 1989, Bondarenko and Zompì to appear). However, there is compelling evidence against this view. The anticausative alternation diagnoses dative transitive subjects in Series III (‘inverted actors’) as bona fide external arguments, and person–case effects diagnose oblique indirect objects (‘demoted goals’) as bona fide applied arguments.

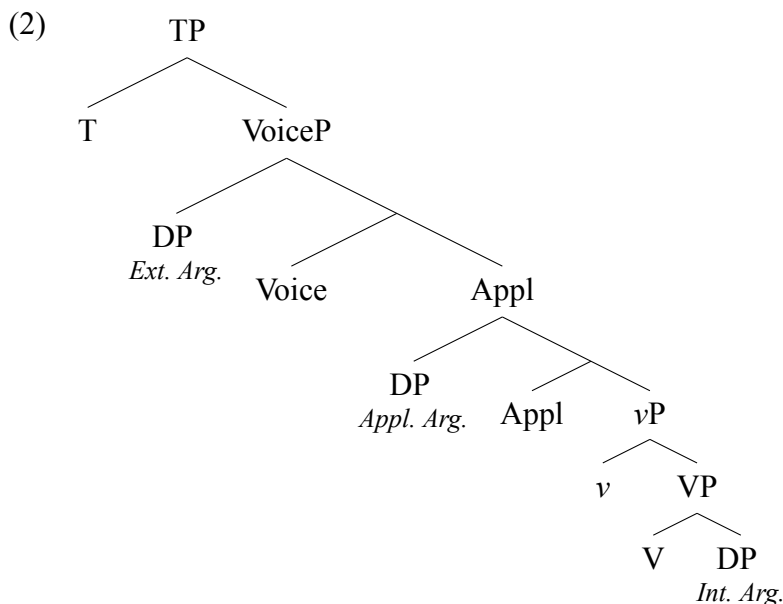
To account for the surface facts, I extend Legate’s (2008) theory of abstract case and its morphological reflex. To preview the analysis, all external arguments receive an abstract inherent ergative feature; sometimes that will be spelled out as surface ergative, and sometimes as surface dative. Likewise, surface dative and oblique ‘demotion’ morphology are both contextual exponents of abstract inherent dative case, borne by all applied arguments. The expression of inherent ergative depends on which type of T c-commands the external argument, while the expression of inherent dative depends on both tense and the presence of an external argument. To capture this generalization, I combine insights about Agree’s ability to symmetrically copy features between the probe and goal (Pesetsky and Torrego 2001), and to do so an arbitrary number of times (Deal 2015, 2022). This reduces Georgian’s complex split-ergative system to an elaboration on patterns independently observed in other ergative languages (Legate 2008, Deal 2010, Clem 2019).

This paper has the following structure. Section 2 describes key facts about Georgian morphosyntax: how different types of arguments shift in case-marking across tense categories, and how that impacts agreement patterns. Section 3 presents evidence that the various case-marking patterns do not correspond to meaningfully different argument structures. Section 4 develops the abstract case analysis previewed above. Section 5 concludes with some discussion of the theoretical ramifications of this analysis, for Georgian and beyond.

## 2 Overview of Georgian morphosyntax

Georgian has a complex grammar of case (Harris 1981, 1985, Nash 2017, 2021) and agreement (Anderson 1992, Halle and Marantz 1993, Béjar 2003, Foley 2017, Blix 2020, Bondarenko and Zompi to appear). This section gives an overview of the patterns. First I cover the split-ergative case system, which manifests as different case marking on various types of arguments across tense categories. Then I discuss verbal phi-agreement, focusing on the behavior of two types of agreement affixes as it interacts with case.

This discussion presupposes a Neo-Davidsonian theory of argument structure that severs from the verb both the external argument (introduced by Voice; Kratzer 1996), and the applied/affected argument (via Appl; Pytkänen (2008)). I consider the internal argument to be the complement of V; event/causative semantics are introduced by the functional item *v* (Harley 2014, Legate 2014, Alexiadou et al. 2015). It may be that the internal argument is also severed from the verb (Lohndal 2012), but that is not crucial for present purposes, nor is the (a)category status of roots. I assume a late-insertion model of morphology, like Distributed Morphology (Halle and Marantz 1993, Embick 2010).



## 2.1 Split ergativity

In a typical transitive clause, case marking on subjects depends on the tense–aspect–mood–evidentiality category (‘tense’). Transitive subjects are ergative in ‘Series II’ tenses like the aorist, and nominative in the ‘Series I’ tenses like the conditional. Direct objects, in turn, are either in the nominative or dative cases.

### (3) *Case marking of transitives shifts across tense Series*

- a.  $k^h$ irurg-**ma** avadm $q'$ op<sup>h</sup>-**i** gaat<sup>h</sup>era  
surgeon-**ERG** patient-**NOM** stop:ACT:AOR:AGR  
‘The surgeon<sub>ERG</sub> stopped the patient<sub>NOM</sub>’
- b.  $k^h$ irurg-**i** avadm $q'$ op<sup>h</sup>-**s** gaat<sup>h</sup>herebda  
surgeon-**NOM** patient-**DAT** stop:ACT:COND:AGR  
‘The surgeon<sub>NOM</sub> would stop the patient<sub>DAT</sub>’

There are two classes of intransitive verbs, semantically distinguished by telicity (Holisky 1981, Nash 2021). They have different case properties: subjects of telic unaccusatives are nominative in all tenses (4); subjects of atelic unergatives shift across tenses just like in transitive subjects (5). Together, transitive and unergative verbs are considered ‘active’; besides their shifting case patterns, they have characteristic inflectional properties which I take to diagnose an external argument. Unaccusatives and other classes of verbs are ‘nonactive’; they lack an external argument.

### (4) *Case marking of unaccusative subjects does not shift*

- a. avadm $q'$ op<sup>h</sup>-**i** gayda  
patient-**NOM** grow<sub>thin</sub>:NACT:AOR:AGR  
‘The patient<sub>NOM</sub> grew thin’

- b. avadmq'op<sup>h</sup>-i gaydeboda  
 patient-**NOM** grow\_thin:NACT:COND:AGR  
 'The patient<sub>NOM</sub> would grow thin'

(5) *Case marking of unergative subjects does shift*

- a. k<sup>h</sup>irurg-**ma** imkera  
 surgeon-**ERG** sing:ACT:AOR:AGR  
 'The surgeon<sub>ERG</sub> sang'
- b. k<sup>h</sup>irurg-i imkerebda  
 surgeon-**NOM** sing:ACT:COND:AGR  
 'The surgeon<sub>NOM</sub> would sing'

Semantically, tense series are rather heterogeneous (Aronson 1990, Hewitt 1995). Series II tenses include the aorist (perfective past and imperative) and optative (nonpast irrealis); Series I tenses include the present (imperfective nonpast), future (perfective nonpast), imperfect (imperfective past), conditional (perfective, with various temporal/modal uses), and two nonpast subjunctives (perfective and imperfective). This heterogeneity distinguishes Georgian's split ergativity from patterns found in, say, Mayan languages (Coon 2013), where case patterns correlate directly with some tense–aspect feature. However, there is a clear morphological distinction between the tenses: Series I verbs are formed with a thematic suffix, which Series II tenses lack. The default thematic suffix is /-eb/ "THM", but there are other lexically and structurally conditioned forms like /-ob/ and /-av/. I analyze thematic suffixes as exponents of *v* (cf. Nash 2017); Series II tenses systematically condition null allomorphs.

## 2.2 Indirect objects

Indirect objects in Georgian include goals of lexical ditransitives, and affectees introduced via applicativization (Lomashvili 2011). Both transitives and unaccusatives productively participate in the applicative alternation. (Unergatives' compatibility with applied objects is limited; Nash 2021.) The applicative alternation can be marked in a few ways, but it is most often signalled by the prefix /u-/ "APPL". Indirect objects are always dative in Series I and II tenses, whatever their thematic role or the shape of the applicative morpheme that licenses them.

(6) *Case marking of ditransitive goals*

- a. k<sup>h</sup>irurg-**ma** ek<sup>h</sup>t<sup>h</sup>an-**s** avadmq'op<sup>h</sup>-i at<sup>h</sup>vena  
 surgeon-**ERG** nurse-**DAT** patient-**NOM** show:ACT:APPL:AOR:AGR  
 'The surgeon showed the patient to the nurse<sub>DAT</sub>'
- b. k<sup>h</sup>irurg-i ek<sup>h</sup>t<sup>h</sup>an-**s** avadmq'op<sup>h</sup>-s at<sup>h</sup>venebda  
 surgeon-**NOM** nurse-**DAT** patient-**DAT** show:ACT:APPL:COND:AGR  
 'The surgeon would show the patient to the nurse<sub>DAT</sub>'

(7) *Case marking of applied-transitive affectees*

- a. k<sup>h</sup>irurg-ma ek<sup>h</sup>t<sup>h</sup>an-s avadm<sup>q</sup>’op<sup>h</sup>-i gaut<sup>ʃ</sup>hera  
surgeon-ERG nurse-DAT patient-NOM stop:ACT:APPL:AOR:AGR  
‘The surgeon stopped the patient for/on the nurse<sub>DAT</sub>’
- b. k<sup>h</sup>irurg-i ek<sup>h</sup>t<sup>h</sup>an-s avadm<sup>q</sup>’op<sup>h</sup>-s gaut<sup>ʃ</sup>herebda  
surgeon-ERG nurse-DAT patient-DAT show:ACT:APPL:COND:AGR  
‘The surgeon would stop the patient for/on the nurse<sub>DAT</sub>’

(8) *Case marking of applied-unaccusative affectees*

- a. avadm<sup>q</sup>’op<sup>h</sup>-i ek<sup>h</sup>t<sup>h</sup>an-s gauχda  
patient-NOM nurse-DAT grow\_thin:NACT:APPL:AOR:AGR  
‘The patient grew thin for/on the nurse<sub>DAT</sub>’
- b. avadm<sup>q</sup>’op<sup>h</sup>-i ek<sup>h</sup>t<sup>h</sup>an-s gauχdeboda  
patient-NOM nurse-DAT fall:NACT:APPL:COND:AGR  
‘The patient would grow thin for/on the nurse<sub>DAT</sub>’

Some transitive verbs take quirky dative objects, whose morphosyntactic behavior is identical to goal/affectee indirect objects. Since normal direct objects are also dative in Series I, this is most evident in Series II. I take quirky objects to also be applied arguments.

(9) *Case marking of quirky dative objects*

- a. k<sup>h</sup>irurg-ma ek<sup>h</sup>t<sup>h</sup>an-s uq’ura  
patient-NOM nurse-DAT watch:ACT:AOR:AGR  
‘The surgeon watched the nurse<sub>DAT</sub>’
- b. k<sup>h</sup>irurg-ma ek<sup>h</sup>t<sup>h</sup>an-s ak’ots<sup>h</sup>a  
surgeon-ERG nurse-DAT kiss:ACT:AOR:AGR  
‘The surgeon kissed the nurse<sub>DAT</sub>’

## 2.3 Inversion

There is a third important case pattern in Georgian, known in the literature as inversion (Harris 1981). The inverse pattern pattern obtains for all verbs in Series III tenses: the perfect (which has past evidential uses) and the pluperfect (which has past irrealis uses). There, external arguments are in the dative case, while internal arguments are nominative. I refer to the dative subjects of unergatives and regular transitives in these tenses as *inverted actors*.

(10) *Case marking in Series III tenses*

- a. k<sup>h</sup>irurg-s emkera  
surgeon-DAT sing:ACT:PLUP:AGR  
‘The surgeon<sub>DAT</sub> had sung’

- b. k<sup>h</sup>irurg-s      avadm<sup>q</sup>'op<sup>h</sup>-i    gaet<sup>h</sup>erebina  
surgeon-DAT patient-NOM stop:ACT:PLUP:AGR  
'The surgeon<sub>DAT</sub> had stopped the patient<sub>NOM</sub>'
- c. avadm<sup>q</sup>'op<sup>h</sup>-i    gamχdariq'o  
patient-NOM grow thin:NACT:PLUP:AGR  
'The patient<sub>NOM</sub> had grown thin'

The case-marking of indirect objects in Series III is different for active and nonactive clauses. In active clauses, whose external arguments are dative, indirect objects appear as non-agreeing PPs headed by the enclitic postposition /=<sup>h</sup>vis/ "for" (11). I refer to these indirect objects *demoted goals*, whatever their theta role. They contrast with the indirect objects of nonactive verbs, which remain dative (12).

(11) *Indirect objects in active Series III clauses are 'demoted'*

- a. k<sup>h</sup>irurg-s      ek<sup>h</sup>t<sup>h</sup>an-is=<sup>h</sup>vis    avadm<sup>q</sup>'op<sup>h</sup>-i    et<sup>h</sup>venebina  
surgeon-DAT nurse-GEN=**for** patient-NOM show:ACT:PLUP:AGR  
'The surgeon had shown the patient to the nurse<sub>PP</sub>'
- b. k<sup>h</sup>irurg-s      ek<sup>h</sup>t<sup>h</sup>an-is=<sup>h</sup>vis    avadm<sup>q</sup>'op<sup>h</sup>-i    gaet<sup>h</sup>erebina  
surgeon-DAT nurse-GEN=**for** patient-NOM stop:ACT:PLUP:AGR  
'The surgeon had stopped the patient for/on the nurse<sub>PP</sub>'
- c. k<sup>h</sup>irurg-s      ek<sup>h</sup>t<sup>h</sup>an-is=<sup>h</sup>vis    eq'urebina  
surgeon-DAT nurse-GEN=**for** watch:ACT:PLUP:AGR  
'The surgeon had watched the nurse<sub>PP</sub>'

(12) *In nonactive Series III clauses, subjects do not 'invert' and IOs do not 'demote'*

- a. avadm<sup>q</sup>'op<sup>h</sup>-i    ek<sup>h</sup>t<sup>h</sup>an-s    st<sup>h</sup>veneboda  
patient-NOM nurse-DAT show:NACT:APPL:PLUP:AGR  
'The patient had been shown to the nurse<sub>DAT</sub>'
- b. avadm<sup>q</sup>'op<sup>h</sup>-i    ek<sup>h</sup>t<sup>h</sup>an-s    gayχdomoda  
patient-NOM nurse-DAT fall:NACT:APPL:PLUP:AGR  
'The patient had grown thin for/on the nurse<sub>DAT</sub>'

Note that dative subjects are also found in psych verbs, in all tenses. Their experiencer subjects pattern like the indirect object of a nonactive verb, insofar as it is never demoted to a PP; many psych verbs also have unambiguously nonactive inflection. The 'applied unaccusative' analysis is thus appropriate for Georgian psych verbs (Belletti and Rizzi 1988; cf. Harris 1981).

(13) *Psych verbs always show a dative–nominative case pattern*

- a. ek<sup>h</sup>t<sup>h</sup>an-s      avadm<sup>q</sup>'op<sup>h</sup>-i    feuq'varda  
nurse-DAT patient-NOM fall\_in\_love:NACT:APPL:AOR:AGR  
'The nurse<sub>DAT</sub> fell in love with the patient<sub>NOM</sub>'

- b. ek<sup>h</sup>th<sup>an</sup>-s avadm<sup>q</sup>'op<sup>h</sup>-i jeu<sup>q</sup>'vardeboda  
 nurse-DAT patient-NOM fall\_in\_love:NACT:APPL:COND:AGR  
 'The nurse<sub>DAT</sub> would fall in love with the patient<sub>NOM</sub>'
- c. ek<sup>h</sup>th<sup>an</sup>-s avadm<sup>q</sup>'op<sup>h</sup>-i feh<sup>q</sup>'vareboda  
 nurse-DAT patient-NOM fall\_in\_love:NACT:APPL:PLUP:AGR  
 'The nurse<sub>DAT</sub> had fallen in love with the patient<sub>NOM</sub>'

## 2.4 Agreement morphology

Georgian agreement is complex, but here it suffices to note the behavior of two classes of agreement morphemes — the so-called V-set and M-set affixes (Aronson 1990). The V-set includes the tense-invariant prefix /v-/ “1ST.VSET”, and tense-variant suffixes like /-e ~ -i/ “PST.1OR2” and /-a/ “PST.3SG”.<sup>1</sup> The M-set morphemes are the tense-invariant prefixes /m-/ “1SG.MSET”, /gv-/ “1PL.MSET”, and /g-/ “2ND.MSET”. I consider the plural suffix /-t<sup>h</sup>/ “PL” to count as either V- or M-set, depending on its controller (it agrees ‘omnivorously’; Nevins 2011).

Usually, the V- and M-sets correspond to subject- and object-agreement, respectively. The following examples illustrate, using formally third-person arguments that refer to first-person plural discourse entities — equivalents of “we surgeons”, etc.; see Nash (2020). (This is the most concise way to show case and agreement behavior simultaneously, since third-person agreement is often null, and first- and second-person pronouns are syncretic for nominative, ergative, and dative case.)<sup>2</sup>

(14) *Given a non-dative subject, V-set agreement tracks the subject*

- a. k<sup>h</sup>irurgeb-**ma** {v}imker{et<sup>h</sup>}  
 surgeons-ERG {1PL.VSET}sing:ACT:AOR:AGR  
 'We<sub>{v-...-et<sup>h</sup>}</sub> surgeons<sub>ERG</sub> sang'
- b. k<sup>h</sup>irurgeb-**ma** avadm<sup>q</sup>'op<sup>h</sup>-i ga{v}at<sup>h</sup>er{et<sup>h</sup>}  
 surgeons-ERG patient-NOM {1PL.VSET}stop:ACT:AOR:AGR  
 'We<sub>{v-...-et<sup>h</sup>}</sub> surgeons<sub>ERG</sub> stopped the patient'
- c. avadm<sup>q</sup>'op<sup>h</sup>eb-**i** ga{v}χd{it<sup>h</sup>}  
 patients-NOM {1PL.VSET}grow\_thin:NACT:AOR:AGR  
 'We<sub>{v-...-it<sup>h</sup>}</sub> patients<sub>NOM</sub> grew thin'
- d. k<sup>h</sup>irurgeb-**i** {v}imkerebd{it<sup>h</sup>}  
 surgeons-NOM {1PL.VSET}sing:ACT:COND:AGR  
 'We<sub>{v-...-it<sup>h</sup>}</sub> surgeons<sub>NOM</sub> would sing'

<sup>1</sup> A default 3SG of tense-sensitive V-set suffixes form is always phonologically overt, for instance in weather verbs: /ts'vim-s/ “It's raining [rain-ACT.NPST.3SG]”.

<sup>2</sup> Note the nonstandard glossing convention here of grouping together in curly braces multiple segmentable affixes, potentially discontinuous, which pattern alike morphosyntactically. This is not meant to convey a morphological analysis involving infixes or circumfixes. Georgian morphology is highly agglutinative, but it is also highly morphomic; glossing exhaustive morphological decompositions often results in strings of highly opaque notation.

- e. k<sup>h</sup>irurgeb-i avadm q'op<sup>h</sup>-s ga{v}at<sup>h</sup>erebd{it<sup>h</sup>}  
surgeons-NOM patient-DAT {1PL.VSET}stop:ACT:COND:AGR  
'We<sub>{v-...-it<sup>h</sup>}</sub> surgeons<sub>NOM</sub> would stop the patient'
- f. avadm q'op<sup>h</sup>eb-i ga{v}χdebd{it<sup>h</sup>}  
patients-NOM {1PL.VSET}grow\_thin:NACT:COND:AGR  
'We<sub>{v-...-it<sup>h</sup>}</sub> patients<sub>NOM</sub> would grow thin'

(15) *Given a non-dative subject, M-set agreement tracks objects*

- a. k<sup>h</sup>irurg-ma avadm q'op<sup>h</sup>eb-i ga{gv}at<sup>h</sup>era  
surgeon-ERG patients-NOM {1PL.MSET}stop:ACT:AOR:AGR  
'The surgeon stopped us<sub>{gv-...}</sub> patients<sub>NOM</sub>'
- b. k<sup>h</sup>irurg-ma ek<sup>h</sup>thaneb-s avadm q'op<sup>h</sup>-i ga{gv}it<sup>h</sup>era  
surgeon-ERG nurses-DAT patient-NOM {1PL.MSET}stop:ACT:APPL:AOR:AGR  
'The surgeon stopped the patient for/on us<sub>{gv-...}</sub> nurses<sub>DAT</sub>'
- c. avadm q'op<sup>h</sup>-i ek<sup>h</sup>thaneb-s ga{gv}iχda  
patient-NOM nurses-DAT {1PL.MSET}stop:NACT:APPL:FUT:AGR  
'The patient grew thin for/on us<sub>{gv-...}</sub> nurses<sub>DAT</sub>'
- d. k<sup>h</sup>irurg-i avadm q'op<sup>h</sup>eb-s ga{gv}at<sup>h</sup>erebda  
surgeon-NOM patients-DAT {1PL.MSET}stop:ACT:COND:AGR  
'The surgeon would stop us<sub>{gv-...}</sub> patients<sub>NOM</sub>'
- e. k<sup>h</sup>irurg-i ek<sup>h</sup>thaneb-s avadm q'op<sup>h</sup>-s ga{gv}it<sup>h</sup>erebda  
surgeon-NOM nurses-DAT patient-DAT {1PL.MSET}stop:ACT:APPL:COND:AGR  
'The surgeon would stop the patient for/on us<sub>{gv-...}</sub> nurses<sub>DAT</sub>'
- f. avadm q'op<sup>h</sup>-i ek<sup>h</sup>thaneb-s ga{gv}iχdeboda  
patient-NOM nurses-DAT stop:ACT:APPL:COND:AGR{1PL.MSET}  
'The patient would grow thin for/on us<sub>{gv-...}</sub> nurses<sub>DAT</sub>'

However, in inverse contexts — that is, in Series III tenses or given a psych verb — agreement patterns are different. M-set tracks any dative argument, be it an inverted actor (16a), the indirect object of a nonactive verb (16b), or an experiencer subject (16c); V-set agreement tracks any nominative argument: direct object (17a), unaccusative subject (17b,c), or psych-verb theme (17d). Demoted goals control no agreement (18).

(16) *In inverse contexts, M-set agreement tracks dative arguments*

- a. k<sup>h</sup>irurgeb-s avadm q'op<sup>h</sup>-i ga{gv}et<sup>h</sup>erebina  
surgeons-DAT patient-NOM {1PL.MSET}stop:ACT:PLUP:AGR  
'We<sub>{gv-...}</sub> surgeons<sub>DAT</sub> had stopped the patient'
- b. avadm q'op<sup>h</sup>-i ek<sup>h</sup>thaneb-s ga{gv}χdomoda  
patient-NOM nurses-DAT {1PL.MSET}grow\_thin:NACT:APPL:PLUP:AGR  
'The patient had grown thin for/on us<sub>{gv-...}</sub> nurses<sub>DAT</sub>'



- c. ek<sup>h</sup>thaneb-s avadm<sup>q</sup>op<sup>h</sup>-i je{gv}iq'vardeboda  
 nurses-DAT patient-NOM {1PL.MSET}fall\_in\_love:NACT:APPL:COND:AGR  
 'We<sub>{gv-...}</sub> nurses<sub>DAT</sub> would fall in love with the patient'

(17) *In inverse contexts, V-set agreement tracks nominative arguments*

- a. k<sup>h</sup>irurg-s avadm<sup>q</sup>op<sup>h</sup>eb-i ga{v}et<sup>h</sup>herebin{et<sup>h</sup>}  
 surgeon-DAT patients-NOM {1PL.VSET}stop:ACT:PLUP:AGR  
 'The surgeon had stopped us<sub>{v-...-et<sup>h</sup>}</sub> patients<sub>NOM</sub>'
- b. avadm<sup>q</sup>op<sup>h</sup>eb-i ga{v}myxdariq'av{it<sup>h</sup>}  
 patients-NOM {1PL.VSET}grow\_thin:NACT:PLUP:AGR  
 'We<sub>{v-...-it<sup>h</sup>}</sub> patients<sub>NOM</sub> had grown thin'
- c. avadm<sup>q</sup>op<sup>h</sup>eb-i ek<sup>h</sup>tan-s ga{v}xdomod{it<sup>h</sup>}  
 patients-NOM nurse-DAT {1PL.VSET}grow\_thin:NACT:APPL:PLUP:AGR  
 'We<sub>{v-...-it<sup>h</sup>}</sub> patients<sub>NOM</sub> had grown thin for/on the nurse'
- d. ek<sup>h</sup>tan-s avadm<sup>q</sup>op<sup>h</sup>eb-i je{v}uq'vardebod{it<sup>h</sup>}  
 nurse-DAT patients-NOM {1PL.VSET}fall\_in\_love:NACT:APPL:COND:AGR  
 'The nurse would fall in love with us<sub>{v-...-it<sup>h</sup>}</sub> patients<sub>NOM</sub>'

(18) *Demoted goals do not control agreement*

- a. k<sup>h</sup>irurg-s ek<sup>h</sup>tan-is=t<sup>h</sup>vis avadm<sup>q</sup>op<sup>h</sup>-i et<sup>h</sup>venebina  
 surgeon-DAT nurse-GEN=for patient-NOM show:ACT:PLUP:AGR  
 'The surgeon had shown the patient to the nurse (PP<sub>for</sub>, no agr.)'
- b. k<sup>h</sup>irurg-s t<sup>h</sup>ven=t<sup>h</sup>vis avadm<sup>q</sup>op<sup>h</sup>-i et<sup>h</sup>venebina  
 surgeon-DAT 1PL.GEN=for patient-NOM show:ACT:PLUP:AGR  
 'The surgeon had shown the patient to us (PP<sub>for</sub>, no agr.)'

## 2.5 Summary

Case marking in Georgian is determined by a finite verb's argument structure and tense. The subjects of active verbs — unergatives and regular transitives — appear in different cases across three 'Series' of tenses: nominative (Series I; e.g., the conditional tense), ergative (Series II; the aorist), or dative (Series III; the pluperfect). Direct objects are nominative, except when coargument to a nominative subject (i.e., in active Series I clauses), in which case they are dative. Indirect objects are dative, except when coargument to an 'inverted' dative subject (i.e., in active Series III clauses), in which case they are 'demoted' to non-agreeing PPs. Psych verbs have quirky dative subjects in all tenses.

As for verbal agreement, it comes in two types — the V-set and M-set affixes — which have different morphosyntactic behavior. The V-set morphemes include tense-variant suffixes, and they are controlled by the highest non-dative argument; some V-set inflection is always present in a finite verb. The M-set morphemes are all tense-invariant prefixes that register arguments other than nominative and ergative subjects.

	Active clauses			Nonactive clauses		
	Tr./Unerg. Subject (Ext. Arg.)	Indirect Object (Appl. Arg.)	Direct Object (Int. Arg.)	Subject or Ψ-Theme (Int. Arg.)	Ind. Obj. or Ψ-Exper. (Appl. Arg.)	
	Series I (COND...)	NOM	DAT	DAT	NOM	DAT
	Series II (AOR...)	ERG		NOM		
Series III (PLUP...)	DAT	PP <sub>for</sub>				

**Table 1.** Summary of case marking across tense Series and argument types.

	Active clauses			Nonactive clauses	
	Tr./Unerg. Subject (Ext. Arg.)	Indirect Object (Appl. Arg.)	Direct Object (Int. Arg.)	Subject or Ψ-Theme (Int. Arg.)	Ind. Obj. or Ψ-Exper. (Appl. Arg.)
Series I (COND...)	V-set	M-set		V-set	M-set
Series II (AOR...)					
Series III (PLUP...)	M-set	—	V-set		

**Table 2.** Summary of agreement across tense Series and argument types. V-set affixes include /v-...-it<sup>h</sup>/ “PST.1PL.VSET”, M-set affixes include /gv-/ “1PL.MSET”

### 3 Inverted transitives are normal transitives

This section argues that the structure of transitive clauses is uniform across tenses. Actors (transitive and unergative subjects) are all external arguments, even when they ‘invert’. Indirect objects (goals, affectees, and quirky dative objects) are all applied arguments, even when they ‘demote’ to apparent PP status. Evidence comes from the anticausative alternation, patterns of voice-sensitive allomorphy, and person–case effects. Together, these syntactic diagnostics show Series III transitives to have ordinary transitive argument structure, distinct from that of psych predicates — even though both types of verbs are associated with ‘inverse’ morphosyntax.

#### 3.1 The anticausative alternation

The strongest evidence that inverted actors in Series III active clauses are true external arguments comes from the anticausative alternation. Regular transitive verbs productively alternate with theme-only nonactive intransitives; this voice alternation is indicated by a few morphological patterns (Gérardin 2016).

(19) *Transitive–anticausative pairs the aorist (Series II)*

- a. ga=a-tʃ<sup>h</sup>er-es                      ga=tʃ<sup>h</sup>er-d-nen  
PVB=TR-stop-PST.ACT.3PL    ~    PVB=stop-INCH-PST.NACT.3PL  
‘They<sub>ERG</sub> stopped 3RD<sub>NOM</sub>’    ‘They<sub>NOM</sub> stopped’
- b. ga=a-t<sup>h</sup>b-es                      ga=t<sup>h</sup>b-nen  
PVB=TR-warm-PST.ACT.3PL    ~    PVB=warm-PST.NACT.3PL  
‘They<sub>ERG</sub> warmed 3RD<sub>NOM</sub> up’    ‘They<sub>NOM</sub> warmed up’

- c. da=k'arg-es                      da=i-k'arg-nen  
PVB=lose-PST.ACT.3PL ~ PVB=REFL-lose-NPST.ACT.3PL  
'They<sub>ERG</sub> lost 3RD<sub>NOM</sub>'      'They<sub>NOM</sub> got/were lost'

In Series III tenses, where actors invert, the anticausative alternation persists (20). Note that transitive Series III verbs are morphologically distinct from applied versions of their anticausative counterparts (21).

(20) *Transitive–anticausative pairs the pluperfect (Series III)*

- a. ga=e-tʰer-eb-in-a-tʰ                      ga=tʰer-eb-ul-iq'vnen  
PVB=PRV-stop-THM-PERF-PST.3-PL ~ PVB=stop-THM-PPTC-PLUP.NACT.3PL  
'They<sub>DAT</sub> had stopped 3RD<sub>NOM</sub>'      'They<sub>NOM</sub> had stopped'
- b. ga=e-tʰb-o-tʰ                      ga=m-tʰb-ar-iq'vnen  
PVB=PRV-warm-PST.3-PL ~ PVB=PPTC-warm-PPTC-PLUP.NACT.3PL  
'They<sub>DAT</sub> had warmed 3RD<sub>NOM</sub> up'      'They<sub>NOM</sub> had warmed up'
- c. da=e-k'arg-a-tʰ                      da=k'arg-ul-iq'vnen  
PVB=PRV-lose-PST.3-PL ~ PVB=lose-PPTC-PLUP.NACT.3PL  
'They<sub>DAT</sub> had lost 3RD<sub>NOM</sub>'      'They<sub>NOM</sub> had gotten lost'

(21) *Applied anticausative verbs in the aorist (Series II) and pluperfect (Series III)*

- a. ga=u-tʰer-d-nen                      ga=s-tʰer-eb-od-nen  
PVB=APPL-stop-INCH-PST.NACT.3PL ~ PVB=APPL-stop-THM-PLUP-PST.NACT.3PL  
'They<sub>NOM</sub> stopped for/on 3RD<sub>DAT</sub>'      'They<sub>NOM</sub> had stopped for/on 3RD<sub>DAT</sub>'
- b. ga=u-tʰb-nen                      ga=s-tʰb-ob-od-nen  
PVB=APPL-warm-PST.NACT.3PL ~ PVB=APPL-warm-THM-PLUP-PST.NACT.3PL  
'They<sub>NOM</sub> had warmed up for/on 3RD<sub>DAT</sub>'      'They<sub>NOM</sub> had warmed up for/on 3RD<sub>DAT</sub>'
- c. da=e-k'arg-nen                      da=h-k'arg-v-od-nen  
PVB=APPL-lose-PST.NACT.3PL ~ PVB=APPL-lose-THM-PLUP-PST.NACT.3PL  
'They<sub>NOM</sub> got lost for/on 3RD<sub>DAT</sub>'      'They<sub>NOM</sub> had gotten lost for/on 3RD<sub>DAT</sub>'

In contrast, theme-only anticausative forms of psych verbs seem to be ungrammatical.<sup>3</sup>

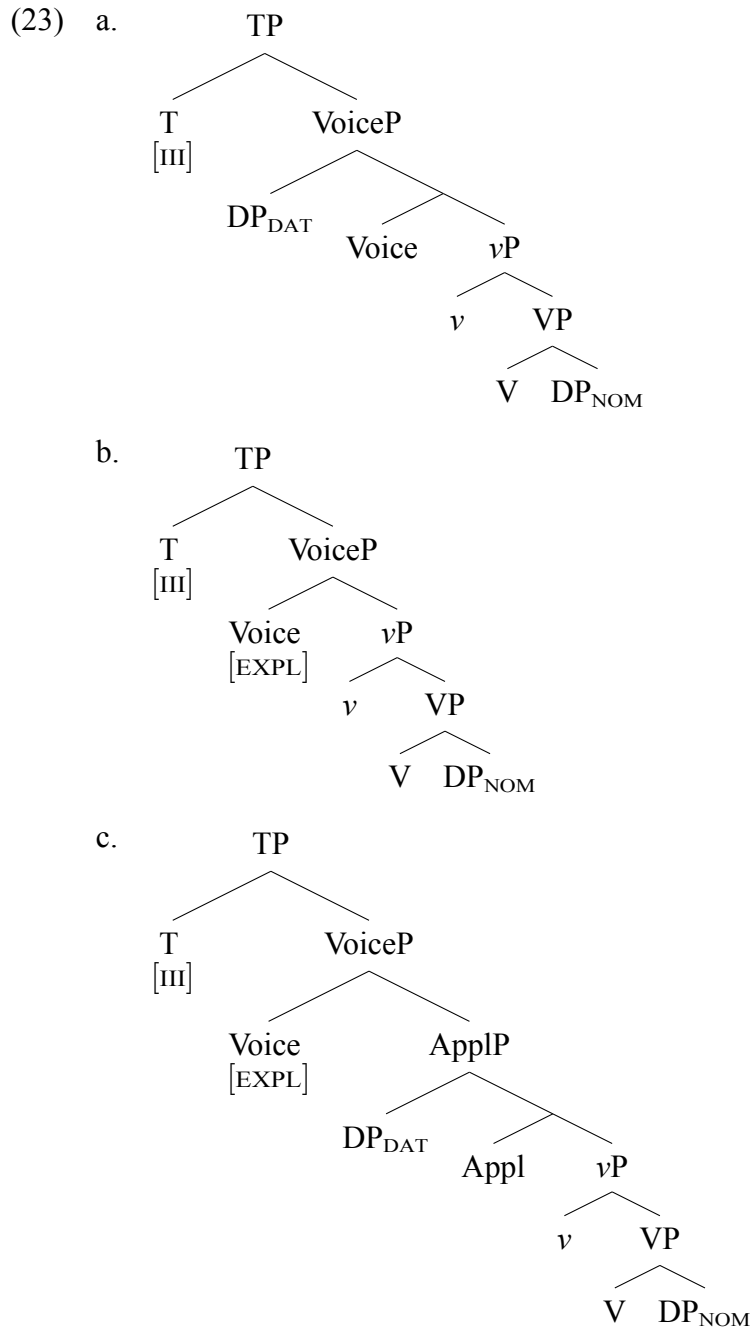
(22) *Psych verbs strongly resist anticausativization*

- a. e-tʰven-eb-a                      \*?i-tʰven-eb-a  
APPL-love-PL ~ REFL-love-THM-NPST.NACT.3PL  
'They<sub>DAT</sub> love 3RD<sub>NOM</sub>'      Attempted: 'They<sub>NOM</sub> are loved'

<sup>3</sup>Léa Nash (p.c.) suggests that forms like /iq'vareba = [love:NACT:PRES:3SG]/ are possible as anticausative versions of active verbs built on psych-roots, like /jeaq'varebs [love:ACT:FUT:3SG]/ “will make sb like sb/sth” or /feiq'varebs [love:ACT:REFL:FUT:3SG]/ “will grow fond of sb, fall in love with sb/sth”. Note also that synthetic anticausative forms are rather marked in general. Speakers often prefer (i) the periphrastic passive, comprising a participle form of the lexical verb inflected nominative and a finite form of auxiliary *be* (Harris’s 1981 ‘passive’), or (ii) transitives with generic/nonreferential third plural subjects.

- b.    je=u-q'var-d-a-t<sup>h</sup>                      \*?je=q'var-d-nen  
      PVB=APPL-love-INCH-PST.3-PL     ~   REFL-love-THM-NPST.NACT.3PL  
      ‘They<sub>DAT</sub> fell in love with 3RD<sub>NOM</sub>’   Att.: ‘They<sub>NOM</sub> were fallen in love with’

Given Georgian's systematic morphological voice distinctions, I take anticausatives to be built with an expletive VoiceP (paralleling Greek: Alexiadou et al. 2015). If dative-case inverted actors are external arguments, it is no surprise that transitive and anticausatives are morphologically distinct in Series III tenses (20), nor is it a surprise that those inverted transitives are also distinct from applied anticausatives (21).



The fact that psych verbs resist anticausativization — that is, experiencer-suppression — is further evidence that experiencer subjects are syntactically distinct from inverted actors. (Just why experiencers qua applied arguments cannot be suppressed is another question, though; cf. Landau 2002.)

### 3.2 Voice-sensitive allomorphy

Additional evidence that Series III transitives have external arguments comes from voice-sensitive allomorphy. As is clear from previous data points (e.g., 19), the V-set suffixes that expresses tense features exhibit voice-sensitive allomorphy: there is one paradigm for active verbs with an external argument, and another paradigm for nonactive verbs with expletive VoiceP. The following vocabulary entries capture this fact; they presuppose that T copies phi-features from the V-set controller (i.e., the highest non-dative argument) via Agree, though this will be revised in Section 4.3.

- (24) a.  $\begin{matrix} T \\ [AOR, 3PL] \end{matrix} \leftrightarrow -es / \text{Voice} ] \text{ —}$
- b.  $\begin{matrix} T \\ [AOR, 3PL] \end{matrix} \leftrightarrow -nen / \begin{matrix} \text{Voice} \\ [EXPL] \end{matrix} ] \text{ —}$

Note the behavior of a few verbs, including /gathboba/ “warm\_up:NMLZ”, whose active and non-active forms have distinct past-tense suffixes for all persons in the aorist. For verbs of this inflection class, the pluperfect transitive form is identical to its aorist form, except that the preradical vowel /e-/ “PRV” replaces /a-/ “TR”. Crucially, the V-set tense suffixes in the pluperfect forms (now controlled by the nominative object; see Table 2) appear in their active, not nonactive, allomorphs.

(25) *Voice-sensitive allomorphy of ‘warm up’*

- a.  $\begin{matrix} ga=a-t^hb-e \\ PVB=TR-warm-PST.ACT.1OR2 \\ \text{‘You}_{ERG} \text{ warmed } 3RD_{NOM} \text{ up’} \end{matrix} \sim \begin{matrix} ga=a-t^hb-o \\ PVB=TR-warm-PST.ACT.3SG \\ \text{‘S/he}_{ERG} \text{ warmed } 3RD_{NOM} \text{ up’} \end{matrix}$
- b.  $\begin{matrix} ga=t^hb-i \\ PVB=warm-PST.NACT.1OR2 \\ \text{‘You}_{NOM} \text{ warmed up’} \end{matrix} \sim \begin{matrix} ga=t^hb-a \\ PVB=warm-PST.ACT.3SG \\ \text{‘S/he}_{NOM} \text{ warmed up’} \end{matrix}$
- c.  $\begin{matrix} ga=e-t^hb-e \\ PVB=PRV-warm-PST.NACT.1OR2 \\ \text{‘S/he}_{NOM} \text{ had warmed you}_{NOM} \text{ up’} \end{matrix} \sim \begin{matrix} ga=e-t^hb-o \\ PVB=warm-PST.ACT.3SG \\ \text{‘S/he}_{DAT} \text{ had warmed } 3RD_{NOM} \text{ up’} \end{matrix}$

This fact is straightforward to account for if active pluperfects and active aorists contain regular Voice, whereas nonactive verbs do not. Vocabulary entries like the following encode this generalization; they assume that aorist and pluperfect tense categories share the feature [PST].

- (26) a.  $\begin{matrix} T \\ [PST, 1OR2] \end{matrix} \leftrightarrow -e / \text{Root}_{\{t^hb, \dots\}} ] \text{Voice} ] \text{ —}$
- b.  $\begin{matrix} T \\ [PST, 3SG] \end{matrix} \leftrightarrow -o / \text{Root}_{\{t^hb, \dots\}} ] \text{Voice} ] \text{ —}$

- c. 
$$\begin{array}{c} T \\ [PST, AOR, 1OR2] \leftrightarrow -i / \text{Root}_{\{t^h b, \dots\}} \end{array} \begin{array}{c} \text{Voice} \\ [EXPL] \end{array} ] \text{ — }$$
- d. 
$$\begin{array}{c} T \\ [PST, AOR, 3SG] \leftrightarrow -a / \text{Root}_{\{t^h b, \dots\}} \end{array} \begin{array}{c} \text{Voice} \\ [EXPL] \end{array} ] \text{ — }$$

Consider also the root-suppletion patterns of a few verbs like “break”. These have one root exponent in active forms of all tenses, and another one for nonactive forms. If inverted actors were not external arguments, we would expect the non-active root in the Series III transitive version.

(27) *Voice-sensitive root suppletion of ‘break’*

- a. 
$$\begin{array}{ll} ga=t'e\chi-a & ga=e-t'e\chi-a \\ PVB=\mathbf{break}.ACT-PST.3SG \sim PVB=PRV-\mathbf{break}.ACT-PST.3SG & \\ 'S/he_{ERG} \text{ broke } 3RD_{NOM}' & 'S/he_{DAT} \text{ had broken } 3RD_{NOM}' \end{array}$$
- b. 
$$\begin{array}{ll} ga=t'q'd-a & ga=m-t'q'd-ar-i-q'o \\ PVB=\mathbf{break}.NACT-PST.3SG \sim PVB=PPTC-\mathbf{break}.NACT-PPTC-PERF-PLUP.NACT.3SG & \\ 'It_{NOM} \text{ broke}' & 'It_{NOM} \text{ had broken}' \end{array}$$

### 3.3 Person–case effects

For ditransitive verbs in Georgian, there are restrictions on what combinations of person features are possible for the direct and indirect object — that is, the language has a Person–Case Constraint (PCC; Perlmutter 1971, Bonet 1991). The patterns are subtle in Georgian, with different semantic and morphological classes of trivalent verbs behaving differently (Gérardin 2012).<sup>4</sup> Here it suffices to note that ditransitives whose objects are both first or second person are ungrammatical, though this combination can be repaired by the substitution of the direct object with a logophoric pronoun, which is formally third-person (Harris 1981’s *tav*-ization).

(28) *The person–case constraint and its repair*

- a. 
$$\begin{array}{llll} k^h i r u r g - m a & e k^h t^h a n - s & a v a d m q' o p^h - i & a t^h v e n a \\ \text{surgeon-ERG} & \text{nurse-DAT} & \text{patient-NOM} & \text{show:ACT.APPL.AOR.AGR} \\ \text{'The surgeon}_{ERG} \text{ showed the patient}_{NOM} \text{ to the nurse}_{DAT}' & & & \end{array}$$
- b. 
$$\begin{array}{llll} *k^h i r u r g - m a & \text{ʃen} & m e & g - / m - a t^h v e n a \\ \text{surgeon-ERG} & 2SG.DAT & 1SG.NOM & 2ND.MSET-/1ST.MSET-stop:INFL \\ \text{Attempted: 'The surgeon}_{ERG} \text{ showed you}_{NOM} \text{ to me}_{DAT}'} & & & \end{array}$$
- c. 
$$\begin{array}{llll} k^h i r u r g - m a & \text{ʃen} & [ t^h f e m - i & t^h a v - i ] & g - a t^h v e n a \\ \text{surgeon-ERG} & 2SG.DAT & 1SG.GEN-NOM & \text{self-NOM} & 1SG.MSET-show:INFL \\ \text{Literally: 'The surgeon}_{ERG} \text{ showed myself}_{NOM} \text{ to you}_{DAT}'} & & & & \end{array}$$

As Wier (2011) reports, PCC effects do not obtain in Georgian nominalizations. (Deverbal nominalization in the language cannot license any nominative, dative, or ergative arguments; they

<sup>4</sup>Thanks to Léa Nash and Milan Rezac for discussion about these issues.

also fail to agree or make voice distinctions.) There are also no PCC effects that constrain the two arguments of bivalent dative–nominative verbs: neither Series III monotransitives nor psych verbs.

(29) *No PCC effects in nominalizations, Series III monotransitives, or psych verbs*

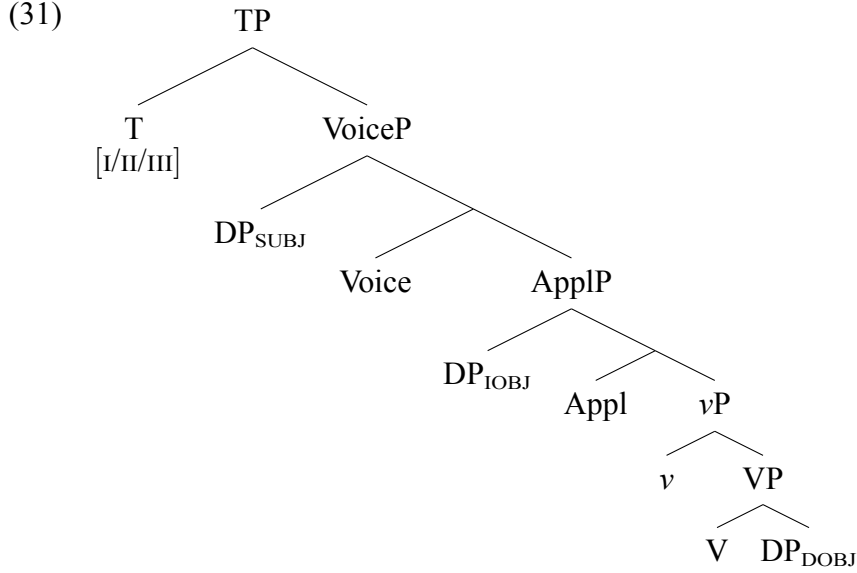
- a. kʰirurg-i [ tʃʰem-s ʃen=tʰvis tʃʰven-eb-a-s ] apʰirebs  
surgeon-NOM 1SG.GEN-DAT 2SG=for show-THM-NMLZ-DAT intend:ACT.PRES.AGR  
'The surgeon<sub>NOM</sub> intends [my<sub>GEN</sub> showing<sub>DAT</sub> to you<sub>PP</sub>]' (i.e., '...intends [to show  
me to you]')
- b. ʃen me ga=g-e-tʃʰer-eb-in-e  
2SG.DAT 1SG.NOM PVB=2ND.MSET-PRV-stop-THM-PLUP-PST.ACT.1OR2  
'You<sub>DAT</sub> had stopped me<sub>NOM</sub>
- c. ʃen me ʃe=g-i-qʰvar-d-i  
2SG.DAT 1SG.NOM PVB=2ND.MSET-APPL-love-INCH-PST.NACT.1OR2  
'You<sub>DAT</sub> fell in love with me<sub>NOM</sub>

But there are PCC effects in Series III ditransitive clauses (Wier 2011). Even given a demoted goal, the logophor repair for the direct object is still necessary in these tenses.

(30) *No PCC effects in nominalizations, Series III monotransitives, or psych verbs*

- a. \*k<sup>h</sup>irurg-s      ʃen=t<sup>h</sup>vis me      e-tʃ<sup>h</sup>ven-eb-in-a  
surgeon-DAT 2SG=for 1SG.NOM PRV-show-THM-PLUP-ACT.PST.3SG  
Attempted: ‘The surgeon<sub>DAT</sub> had shown me<sub>NOM</sub> to youpp’
- b. \*k<sup>h</sup>irurg-s      ʃen=t<sup>h</sup>vis me      v-e-tʃ<sup>h</sup>ven-eb-in-e  
surgeon-DAT 2SG=for 1SG.NOM 1ST.VSET-PRV-show-THM-PLUP-ACT.PST.1OR2  
Attempted: ‘The surgeon<sub>DAT</sub> had shown me<sub>NOM</sub> to youpp’
- c. k<sup>h</sup>irurg-s      ʃen=t<sup>h</sup>vis [ tʃem-i      tʃav-i ]      etʃ<sup>h</sup>venebina  
surgeon-DAT 2SG=for 1SG.GEN-NOM self-NOM show:ACT:PLUP:3SG  
Literally: ‘The surgeon<sub>DAT</sub> had shown myself<sub>NOM</sub> to youpp’

A detailed account of PCC effects in Georgian is beyond the scope of this paper. Whatever conspiracy of grammatical factors it is that prevents two first-or-second person objects from co-occurring in a finite ditransitive clause (cf. Anagnostopoulou 2003, Stegovec 2020, Coon and Keine 2021, Foley and Toosarvandani 2022, Deal 2022) — those argument combinations are ruled out even when the goal is ‘demoted’ to unagreeing PP status, as in Series III ditransitives. I take this as evidence that, despite its surface morphosyntax, the ditransitive indirect objects are argument-structurally identical in all tenses. So, the following structure is appropriate even for Series III ditransitives, whose actors surface ‘inverted’ and whose goals surface ‘demoted’.



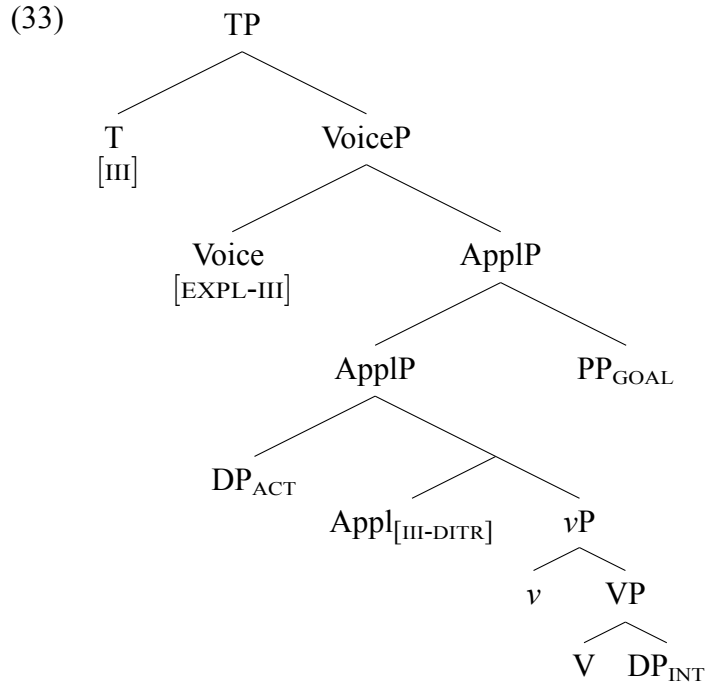
### 3.4 Against applied actors

In some previous theories of the Series III inversion pattern, these tenses are analyzed with a more complex syntactic structure, whereby the actor is in a syntactic position otherwise associated with applied arguments (Marantz 1989, Lomashvili and Harley 2011, Bondarenko and Zompì to appear). In other words, Series III transitives have more in common with psych verbs than Series I/II transitives. Call this the ‘applied actor’ analysis. I articulate two versions of it here.

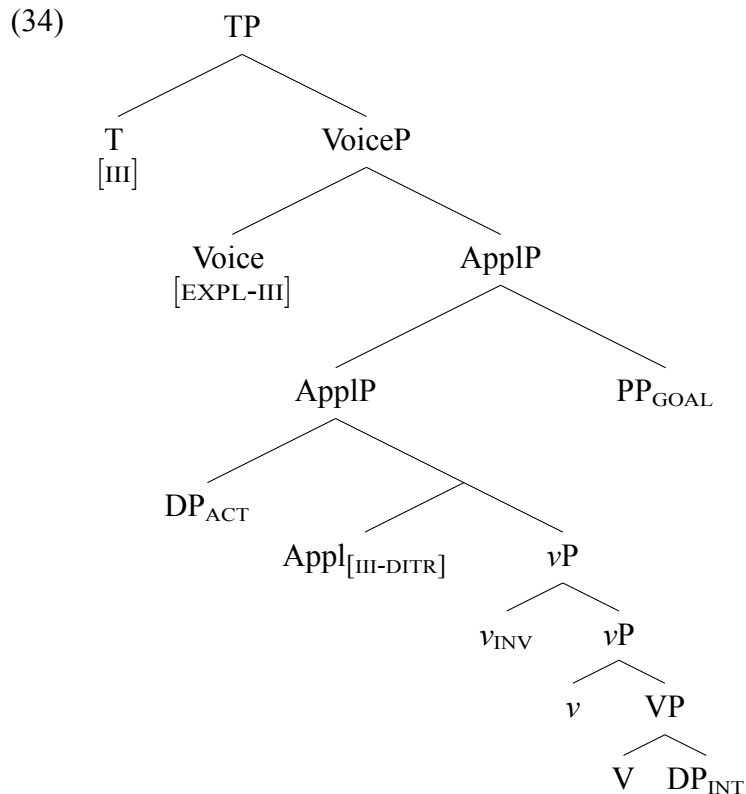
First:  $T_{[III]}$  selects for  $\text{VoiceP}_{[EXPL-III]}$ , which selects for  $vP$  (for simple unaccusatives) or  $\text{ApplP}_{[III]}$  (for any other argument structure). There are several subtypes of  $\text{Appl}_{[III]}$ . One assigns an actor theta role to its specifier; it is found in monotransitives (32a). A second instead assigns all the normal indirect-object roles; it builds applied nonactive clauses (32b). A third subtype assigns the actor theta role to its specifier, and still has an open individual argument left over for a goal, which in turn can be saturated by the PP paraphrasing the indirect object; this version of  $\text{Appl}_{[III]}$  (32c) is necessary for ditransitives and also quirky-object monotransitives (11c). Possible denotations for these argument-introducing heads follow, adapting Bruening 2012 on the semantics of passives and *by*-phrases. These could be analyzed as structurally conditioned alloemes of Appl (Wood and Marantz 2017, Bondarenko and Zompì to appear), rather than distinct lexical items whose distribution is determined by chains of selectional restrictions. In any case, it is clear that  $\text{Appl}_{[III]}$  has a dual life: doing all the things that normal Appl and normal Voice can do outside of Series III tenses.

- (32)
- a.  $\llbracket \text{Appl}_{[III-TR]} \rrbracket = \lambda f_{\langle s,t \rangle} \lambda x \lambda e.f(e) \ \& \ \text{Initiator}(e,x)$
  - b.  $\llbracket \text{Appl}_{[III-NACT]} \rrbracket = \lambda f_{\langle s,t \rangle} \lambda x \lambda e.f(e) \ \& \ \text{Affectee/Experiencer}(e,x)$
  - c.  $\llbracket \text{Appl}_{[III-DITR]} \rrbracket = \lambda f_{\langle s,t \rangle} \lambda x \lambda y \lambda e.f(e) \ \& \ \text{Initiator}(e,x) \ \& \ \text{Goal/Oblique}(e,y)$
  - d.  $\llbracket P_{for} \rrbracket = \lambda x \lambda f_{\langle e,st \rangle} \lambda e.f(e,x)$





Alternatively, Series III tenses may involve more complex event structure than normal. Rather than being direct arguments of the verb, the inverted agent and demoted goal might be arguments of a higher nonactive predicate — call it  $v_{INV}$  — which presumably contributes tense–aspect–evidentiality meaning to the perfect and pluperfect tenses.



There is some convergent morphological evidence for a complex-event analysis. Non-applied nonactive verbs build their Series III forms on the past-participle stem. V-set suffixal agreement in these contexts resembles forms of the verb *be* (35), which is independently used as an auxiliary in periphrastic passive and perfect constructions (36). One might identify the ‘incorporated copula’ as the exponent of  $v_{INV}$ ; perhaps it takes as a complement not  $vP$  directly but rather deverbal *aP*, and that intermediate adjectivizing layer is expounded as past-participle morphology (cf. Bondarenko and Zompì to appear).

(35) *Nonactive Series III verbs resemble participle+auxiliary structures*

- a. avadm<sup>q</sup>’op<sup>h</sup>-i ga=tʃ<sup>h</sup>ven-eb-**ul-a**  
 patient-NOM PVB=stop-THM-PPTC-PERF.3SG  
 ‘The patient has stopped’
- b. avadm<sup>q</sup>’op<sup>h</sup>eb-i ga=tʃ<sup>h</sup>ven-eb-**ul-an**  
 patients-NOM PVB=stop-THM-PPTC-PERF.3PL  
 ‘The patients have stopped’
- c. avadm<sup>q</sup>’op<sup>h</sup>eb-i ga=v-tʃ<sup>h</sup>ven-eb-**ul-var-t<sup>h</sup>**  
 patient-NOM PVB=1ST.VSET-stop-THM-PPTC-PERF.1-PL  
 ‘We patients have stopped’

(36) *Periphrastic participle+auxiliary passives*

- a. avadm<sup>q</sup>’op<sup>h</sup>-i ga=tʃ<sup>h</sup>ven-eb-**ul-i=a**  
 patient-NOM PVB=stop-THM-PPTC-NOM=COP.PRES.3SG  
 ‘The patient is stopped’
- b. avadm<sup>q</sup>’op<sup>h</sup>-i ga=tʃ<sup>h</sup>ven-eb-**ul-i** **aris**  
 patient-NOM PVB=stop-THM-PPTC-NOM COP:PRES:3SG  
 ‘The patient is stopped’
- c. avadm<sup>q</sup>’op<sup>h</sup>eb-i ga=tʃ<sup>h</sup>ven-eb-**ul-i** **arian**  
 patient-NOM PVB=stop-THM-PPTC-NOM COP:PRES:3PL  
 ‘The patients are stopped’
- d. avadm<sup>q</sup>’op<sup>h</sup>eb-i ga=tʃ<sup>h</sup>ven-eb-**ul-i** **vart<sup>h</sup>**  
 patient-NOM PVB=stop-THM-PPTC-NOM COP:PRES:1PL  
 ‘We patients are stopped’

A participle+auxiliary structure is clearly the diachronic origin of Series III tenses (Harris 1985), but a synchronic analysis need not recapitulate that fact. Indeed, the facts described above are good evidence that Series III tenses have been fully reanalyzed as having the ordinary argument structure of other tenses. Moreover, the complex-event analysis offers only limited explanation for the morphological peculiarities of Series III verb. For example, applied nonactives in Series III are built on the nominalization stem, rather than the past-participle stem (compare 20 and 21 above). Neither participles nor nominalizations license applied arguments in Georgian, so an analysis whereby  $v_{INV}$  selects for *nP* rather than *aP* in applied nonactives can explain a morphological generalization, but it still needs other mechanisms to account for availability of applicativization. Some degree of mismatch between the morphology and the syntactic structure is probably

inevitable for Georgian. An exhaustive morphological analysis is beyond this scope of this paper, but a theory that admits a postsyntactic operation like fission (Noyer 1997) is sufficiently powerful to derive all verb forms in the language.

Even setting the verbal morphology aside, there is an appealing property of the applied-actor analysis: it offers a unified account of dative case in Georgian — regular goals, affectees, experiencers, and inverted actors are all merged in the same position (SpecApplP), which is presumably associated with inherent dative case (Zaenen and Maling 1984, Woolford 2006). In some sense it also accounts for goal-demotion in Series III ditransitives: the goal and actor are both competing for the SpecApplP position. It is not clear, though, why the actor cannot demote instead of the goal. In passives, agents can appear as *by*-phrases (37a): why not in Series III active ditransitives (37b–c)?

(37) *Agent-demotion is possible for nonactives, but not ditransitives*

- a. avadm<sup>q</sup>op<sup>h</sup>-i ek<sup>h</sup>th<sup>an</sup>-s st<sup>f</sup>h<sup>ven</sup>eboda k<sup>h</sup>irurg-**is** m<sup>ier</sup>  
 patient-NOM nurse-DAT show:NACT:APPL:PLUP:AGR surgeon-GEN **by**  
 ‘The patient had been shown to the nurse by the surgeon’
- b. \*avadm<sup>q</sup>op<sup>h</sup>-i ek<sup>h</sup>th<sup>an</sup>-s et<sup>f</sup>h<sup>ven</sup>ebina k<sup>h</sup>irurg-**is** m<sup>ier</sup>  
 patient-NOM nurse-DAT show:ACT:APPL:PLUP:AGR surgeon-GEN **by**
- c. k<sup>h</sup>irurg-s avadm<sup>q</sup>op<sup>h</sup>-i et<sup>f</sup>h<sup>ven</sup>ebina ek<sup>h</sup>th<sup>an</sup>-**is=t<sup>h</sup>vis**  
 surgeon-DAT patient-NOM show:NACT:APPL:PLUP:AGR nurse-GEN=**for**  
 ‘The surgeon had shown the patient to the nurse’

Moreover, the applied-actor analysis does not readily account for any of the morphosyntactic facts discussed in Subsections 3.1–3.3. Transitive and unergative clauses in Series III would not have an active VoiceP, so the anticausative alternation and voice-sensitive allomorphy patterns remain mysterious. Ditransitive goals would be mere adjuncts, so there is no reason to expect PCC effects to obtain in Series III.

## 4 Abstract case

Having argued that clauses in Series III tenses (38a) have identical arguments structure to clauses in Series II tenses (38b), I now turn to the issue of their obvious case-marking differences. I build on Legate’s (2008) theory of the morphological expression of abstract case, integrating insights about ergativity as the interaction of Agree operations (Deal 2010, Clem 2019). Essentially, the Series III and Series I patterns are indirect mappings of abstract inherent case features, conditioned by tense features obtained by arguments via Agree with T.

- (38) a. k<sup>h</sup>irurg-s ek<sup>h</sup>th<sup>an</sup>-**is=t<sup>h</sup>vis** avadm<sup>q</sup>op<sup>h</sup>-i et<sup>f</sup>h<sup>ven</sup>ebina  
 surgeon-DAT nurse-GEN=**for** patient-NOM show:ACT:PLUP:AGR  
 ‘The surgeon had shown the patient to the nurse’
- b. k<sup>h</sup>irurg-ma ek<sup>h</sup>th<sup>an</sup>-s avadm<sup>q</sup>op<sup>h</sup>-i at<sup>f</sup>h<sup>vena</sup>  
 surgeon-ERG nurse-DAT patient-NOM show:ACT:APPL:AOR:AGR  
 ‘The surgeon showed the patient to the nurse’

- c. k<sup>h</sup>irurg-i      ek<sup>h</sup>t<sup>h</sup>an-s      avadmq'op<sup>h</sup>-s      at<sup>h</sup>venebda  
 surgeon-NOM nurse-DAT patient-DAT show:ACT:APPL:COND:AGR  
 'The surgeon would show the patient to the nurse'

## 4.1 The proposal

Suppose that external and applied arguments are case-licensed inherently by the heads that introduce them. Voice assigns abstract ergative (ERG; Woolford 1997, 2006, Legate 2008), and Appl assigns abstract dative (DAT; Zaenen and Maling 1984, Woolford 2006). When T merges, it Agrees with all arguments: perhaps simultaneously (Hiraiwa 2000), or perhaps cyclically (Béjar and Rezac 2009) and insatiably (Deal 2015, 2022). That operation copies all arguments' phi-features onto T, and in turn copies a set of tense features onto each argument (Pesetsky and Torrego 2001).

During postsyntactic morphologization, spell-out rules can lexicalize arbitrary combinations of features borne by an argument (Legate 2008). For example, the combination of ERG and a Series II tense features — found on an external argument in the aorist or optative — is expounded as the morphological ergative case /-ma/ 'ERG' (39a); ERG and a Series III tense feature are expounded instead as morphological dative /-s/ 'DAT' (39b). This approach reduces the case properties of inverted actors to the same factors that give rise to split ergativity: contextual exponence of an abstract Ergative category, associated with the external-argument position of a finite clause.

- (39) a. [ERG, T-II] ↔ -ma 'ERG'  
 b. [ERG, T-III] ↔ -s 'DAT'

The behavior demoted goals requires just a few more assumptions. The key generalization is that indirect objects only 'demote' (that is, appear in the /-is=t<sup>h</sup>vis/ '-GEN=for' form) in Series III clauses that have an external argument, which itself ends up inverted. Suppose that active Voice in Georgian behaves like T, Agreeing with any arguments in its c-command domain. (This may entail that Voice also Agrees with its specifier; see discussion below.) Thus, in a ditransitive, the direct and indirect objects end up with several bundles of features; they have tense features copied from T, and active Voice features from Voice. The indirect object will also have the inherent Dative feature. This means that the bundle of features in 40a picks out indirect objects of ditransitives in Series III. This spell-out rule 'demotes' those arguments only insofar as other bundles that include abstract Dative are spelled out differently, using a simpler form (40b).<sup>5</sup>

- (40) a. [DAT, Voice, T-III] ↔ -is=t<sup>h</sup>vis '-GEN=for'  
 b. [DAT, T] ↔ -s 'DAT'

The 'accusative' use of dative on Series I direct objects (38c) is not trivial to account for. Insofar as Voice assigns abstract Accusative case, it seems in active clauses that both indirect and direct objects receive it (i.e., they both receive the category feature Voice indicating Agreement

<sup>5</sup>This spell-out rule analyzes the complex string /-is=t<sup>h</sup>vis/ '-GEN=for' on par with simplex case morphemes like /-s/ '-DAT', or for that matter /-is/ '-GEN'. I remain neutral as to whether dative-case and demoted indirect objects are of the same category (be that DP, KP, or PP), or if demoted indirect objects have an extra layer of abstract syntactic structure — either interpreted by or a consequence of a postsyntactic rule like 40a.

with that element). If Accusative features only appeared on direct objects, it is not clear how the morphological mechanisms would single out the indirect objects of Series III active clauses (38a).

One analytical possibility involves chains of selection between T, Voice, and Appl — and possibly also *v* and V, depending on the analysis of low applicatives or quirky objects. Normally, Appl assigns inherent Dative, but there would be another version of Appl that instead assigns an inherent oblique case (spelled out /-is=<sup>th</sup>vis/ ‘-GEN=for’). A conspiracy of selectional restrictions ensures that this Appl<sub>[OBL]</sub> appears only in active Series III clauses. This analysis via selection generalizes what has been proposed for the core split-ergativity patterns across Series I and II in Georgian (Legate 2008). Suppose it is only T<sub>[II]</sub> that selects for the version of active Voice that assigns inherent Ergative; maybe T<sub>[III]</sub> instead selects for a Voice that assigns inherent Dative. This accounts for inverted actors without directly referring to tense features. To account for the Series I pattern, T<sub>[I]</sub> would select for another version of active Voice that assigns abstract structural Accusative case to the direct object; the only lexical entry that can spell out Accusative arguments corresponds to the morphological dative case.

The selectional approach to Georgian split ergativity, including inversion and demotion patterns in Series III, suffers from a clear look-ahead problem. All structures that merge Appl<sub>[OBL]</sub> will end up ungrammatical unless Voice<sub>[DAT]</sub> and T<sub>[III]</sub> are also merged above it. It is not just any applied argument that demotes, but only one in an active clause — and not just any active clause, but only in Series III tenses. There is a grammatical dependency between tense, the external argument, and the applied argument that chains of selection express only accidentally.

So, assuming instead that both T and Voice leave their categorial fingerprints on all the arguments they c-command, the following spell-out rule captures distribution of morphological dative case on direct objects in Series I. This is not a unitary approach to morphological dative in Georgian, insofar as three different rules can spell that category out (39b, 40b, 41). It is, though, a unitary approach to abstract Dative, since that is the inherent case assigned to any applied argument.

$$(41) \quad [\text{Voice}, T\text{-I}] \leftrightarrow \text{-s ‘DAT’}$$

As for nominative case in Georgian, I take it to be the elsewhere-expression of tense features copied via Agree onto DP. This is in line with Legate’s (2008) analysis of Georgian as an ABS=NOM language: an ergative language where the non-inherent case category (‘absolutive’) is the residue of interaction with T.<sup>6</sup> I diverge from Legate, though, in assuming that T Agrees only with surface-nominative arguments. In fact, it is crucial here that T also Agrees with external and applied arguments that end up with ergative or dative morphology.

$$(42) \quad [T] \leftrightarrow \text{-i ‘NOM’}$$

A key generalization about Georgian syntax is that only finite verbs are capable of licensing DP arguments (i.e., ones in the nominative, ergative, or dative cases). There are no infinitives capable of licensing non-subjects; deverbal nominalizations and participles do not make morphological voice distinctions, and they can only host arguments as genitive possessors or PP paraphrases (Harris 1981).

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<sup>6</sup>ABS=NOM languages contrast with ABS=DEF languages, where ‘absolutive’ is the category expounded by default.

- (43) mama-s unda [ q'vavileb-is mits<sup>h</sup>ema mzia-s=t<sup>h</sup>vis vano-s  
 father-DAT want:PRES:AGR flowers-GEN give:NMLZ:NOM Mzia-GEN=for Vano-GEN  
 mier ]  
 by  
 'Father wants Vano to give Mzia flowers' (Literally: '...wants the giving<sub>NOM</sub> of flowers<sub>GEN</sub>  
 to Mzia<sub>GEN+for</sub> by Vano<sub>GEN+by</sub>') (Harris 1981: 157)

The syntax of nonfinite clauses in Georgian deserves deeper scrutiny in future work. As Legate points out (2008, fn. 24), it is not clear why putative object-licensing properties of Series I tenses (i.e., assignment of Accusative by Voice) are unavailable in nominalizations. Underscoring the tension is the fact that nonfinite verb forms are built with the same thematic suffix that characteristically marks Series I tenses. It may be that none of the standard argument-licensing heads are available at all in nonfinite clauses. Or, perhaps nominalizations can include VoiceP and ApplP; then, when D merges, it Agrees and copies its category feature onto those arguments. In that case, additional spell-out rules could lexicalize sets of features that included D, to account for the surface marking of nonfinite 'demoted' arguments.

The analysis offered here — in 39, 40, 41, 42, repeated below (44) — directly captures the generalization that the core case categories of Georgian (nominative, ergative, dative) are only available in finite clauses. Whatever the structure of nonfinite clauses, they do not contain T. By analyzing morphological case categories as exponents of sets of features including tenses features, it follows that nonfinite arguments will be expounded in other ways.

- (44) a. [ERG, T-II] ↔ -ma 'ERG'  
 b. [ERG, T-III] ↔ -s 'DAT'  
 c. [DAT, Voice, T-III] ↔ -is=t<sup>h</sup>vis '-GEN=for'  
 d. [DAT, T] ↔ -s 'DAT'  
 e. [Voice, T-I] ↔ -s 'DAT'  
 f. [T] ↔ -i 'NOM'

## 4.2 On inherent case

Abstract ergative and dative cases are assumed here to be assigned inherently, upon first merge with a thematic licenser. In some languages, it has been argued that derived subjects can raise to positions where they are assigned structural ergative case (Rezac et al. 2014). There is no evidence of raising-to-ergative in Georgian, though. Subjects of verbs like /dats'q'eba/ "start" appear to control down into missing subject positions of nonfinite complements, rather than raising up from within them: idiom chunks resist non-literal interpretations when they act as the subject of a "start + NMLZ" clause (45b).

- (45) a. angeloz-ma t<sup>h</sup>amoiaara  
 angel-ERG travel\_down\_hither:ACT:APPL:AOR:AGR  
 Literally: 'An angel traveled down'  
 Idiomatically: 'It became quiet'

- b. angeloz-ma daits'q'o                      tʃʰamovla  
 angel-ERG   begin:ACT:AOR:AGR   travel\_down\_hither:NMLZ:NOM  
 Literally: 'An angel started travelling down'  
 # Idiomatically: 'It started to become quiet' (Léa Nash, p.c.)

I proposed above that Voice Agrees with both the direct and indirect objects of an active ditransitive. That might obtain from the insatiable probing of Voice (Béjar and Rezac 2009, Deal 2015, 2022). This cyclic model of probe–goal interactions predicts that Voice can also Agree with the external argument, after it merges as a specifier. Is this step of Agreement by Voice the same as inherent case assignment by Voice? Is it possible to derive inherent case categories from Agree relations?

Consider an analysis where spell-out rules are able to reference Voice features on external arguments obtained via Cyclic Agree, but are not able to reference an Ergative feature obtained through inherent case assignment. The crucial difference is that all arguments will also get the Voice feature from Cyclic Agree, whereas only external arguments would be inherently Ergative. (For now, assume that abstract dative is still assigned inherently.) Given this state of affairs, there could be no spell-out rules that distinguish transitive subjects and direct objects. What is necessary is an extra feature for the direct object, obtained through interaction with a functional head lower than VoiceP —  $v$ , say. The following spell-out rules make this precise; note that nominative is no longer the default case value within TP, but it is the default case fault for an internal argument within TP.

(46) *Spell-out rules without abstract inherent ergative*

- a. [T-III, Voice]  $\leftrightarrow$  -s 'DAT'
- b. [T-I, Voice]  $\leftrightarrow$  -i 'NOM'
- c. [T, Voice]  $\leftrightarrow$  -ma 'ERG'
- d. [T-I, Voice,  $v$ ]  $\leftrightarrow$  -s 'DAT'
- e. [T,  $v$ ]  $\leftrightarrow$  -i 'NOM'

What about abstract inherent dative? Can it be reformulated as a bundle of features that only applied arguments receive via Agree? If an argument-introducing head like Appl can only interact with its specifier after cyclically Agreeing with its complement, then both applied and internal arguments should receive the Appl features. Therefore every spell-out rule that targets indirect objects to the exclusion of internal arguments must come with a counterpart that has a more highly specified featural specification. This is necessary to prevent applied-argument rules to affect internal arguments.

(47) *Spell-out rules without abstract inherent ergative or inherent dative*

- a. [T-III, Voice, Appl]  $\leftrightarrow$  -is=tʰvis 'GEN=for'
- b. [T-III, Voice, Appl,  $v$ ]  $\leftrightarrow$  -i 'NOM'
- c. [T, Appl]  $\leftrightarrow$  -s 'DAT'
- d. [T, Appl,  $v$ ]  $\leftrightarrow$  -i 'NOM'

An approach without inherent case fails to capture a clear generalization. As formulated above (44), the Georgian pattern can be straightforwardly stated in just a handful of statements — and that is because they refer to inherent ergative and dative features. On the other hand, if postsyntactic spell-out mechanisms receive only sets of the functional items *m*-commanding a given goal, the analysis must be more complex (46, 47).

### 4.3 On agreement

Recall that V-set agreement affixes, including those which covary with tense features, are controlled by the highest non-dative argument (2). That might be a nominative subject, or an ergative subject coargument to a nominative object, or even the nominative object of a dative-subject verb. I analyze V-set morphemes as exponents of features fissioned off of a *phi*-probe *F*, which merges with TP. This probe must at least be higher than VoiceP, because interaction with an eligible external argument will bleed interaction with an eligible internal argument (*viz.* in ergative–nominative clauses; 14b). It is also distinct from the probe on T introduced above — the one that Agrees indiscriminately, distributing tense features to all arguments. We know this because in active clauses, the case marking of both external and applied arguments can depend on tense. T must be able to Agree past a transitive subject, and with an indirect object.

But how do we capture the fact that V-set affixes can agree ‘around’ a dative subject (17)? I have proposed that surface dative does correspond to a natural class of feature bundles (44b, d, e). One possibility is that the default version of *F* is in some sense case discriminating (Bobaljik 2008); perhaps the inherent dative case feature is not within its interaction set, but inherent ergative is (Deal 2022). This contrasts with another version of the *phi*-probe — *F*<sub>III</sub>, which selects for T<sub>III</sub> — that discriminates even further, being unable to Agree with either inherent dative or inherent ergative arguments. Under this analysis, it is an accident that these stipulations about *F* result in the surface-true generalization that V-set agreement tracks the highest non-dative argument. This is perhaps unsatisfying, but at least the selectional restriction of *F* captures the generalization that its behavior depends on elements already merged in the structure.

Conceivably, it could be the spell-out statements for case (44) apply in some sense within the narrow syntax. For example, perhaps T<sub>III</sub> rewrites the abstract case feature it finds on the external argument (assumed to be inherent ergative) as abstract dative case. If this is possible, then a simpler description of the behavior of *F* is too: it would consistently only interact with the highest argument that didn’t bare an abstract dative feature, even if that dative feature came about only partway through the derivation.

Another possibility is that agreement morphology is simply not determined within the narrow syntax (Bobaljik 2008). However, there are a number of compelling conceptual arguments against this view (Legate 2008, Preminger 2014).

## 5 Conclusion

A constellation of morphosyntactic and argument-structural facts in Georgian lead to the following conclusion: the mechanisms responsible for exposing case morphology can be sensitive to arguments’ particular specifier positions (formalized as abstract inherent case features), and to featural content of higher functional elements (copied onto arguments via Agree).



What else can case spell-out rules be sensitive to? The identity of the verb root seems to be fair game, too. Consider the following verbs in Georgian, which mark their external arguments in irregular ways: the verb /tsʰodna/ ‘know:NMLZ’ exceptionally takes an ergative subject in imperfective Series I tenses, like the present (48a); in those same tenses, /moq’vana/ ‘bring:NMLZ’ and other transitive verbs of motion quirkily assign dative case to their subjects (48b).

- (48) a. kʰirurg-ma p’asux-i itsʰis  
 surgeon-ERG answer-NOM know:PRES:AGR  
 ‘The surgeon knows the answer’
- b. kʰirurg-s avadmq’opʰ-i mohq’avs  
 surgeon-DAT patient-NOM bring:PRES:AGR  
 ‘The surgeon is bringing the patient’

Given the standard assumptions that Agree operates downwards (cf. Bjorkman and Zeijlstra 2019) and that maximal projections are not probes (cf. Clem 2023), it should not be possible to establish a direct dependency between V and the external argument. Perhaps instead the dependency is indirect: Voice Agrees with everything in its c-command domain, even copying the identity of the verb root in V; the external argument merges, and Voice Agrees with it. If Agree involves feature sharing (Frampton and Gutmann 2020, Pesetsky and Torrego 2001), perhaps the external argument ends up bearing an index of these irregular roots when Voice Agrees with it: V shares features with Voice, Voice shares features with the external argument, and thus V indirectly shares features with the external argument too. This set of assumptions allows the morphology to reconstruct quite a bit about an argument’s syntactic context — a conclusion that is evidently necessary given the range of morphological case patterns in Georgian.

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