

# Ergative gender agreement in Dargwa: “Backward Control” or feature sharing?

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**Overview.** Dargwa languages (East Caucasian) are characterized by an intricate system of agreement. Apart from gender agreement typical for East Caucasian languages, the verbs also mark person. Gender agreement is mostly controlled by the absolutive (S/P) argument of the clause, while person agreement is controlled by either the ergative (A) or S/P argument depending on several factors, most notably the relative positions of the arguments on the person hierarchy.

For example, in Ashti, if one of the core arguments is a speech act participant (SAP) while the other is 3rd person, it is always the SAP that controls person agreement (1a)–(1b). When both core arguments are SAPs, agreement is with the absolutive, regardless of person (1c)–(1d). Finally, it is only when both arguments are 3rd person that 3rd person agreement is observed (1e). Therefore, the language-specific person hierarchy in Ashti is  $1, 2 > 3$ ; in case of co-ranked core arguments, agreement is determined based on the ergative pattern.

An OT-LFG analysis of Dargwa agreement has been proposed in Belyaev (2013). It makes use of the level of m-structure where the features of the controller of person agreement (ТН) are situated. The use of m-structure for person agreement is in order to provide a structural position for the agreement controller without needing to introduce additional *ad hoc* f-structure functions.

**Problem.** However, the data of some varieties of Dargwa, e.g. Tanti (Sumbatova and Lander, 2015), challenges this and other potential analyses of Dargwa agreement. Sumbatova shows that in Tanti, the copula can optionally agree with the A argument of the clause (2a), in addition to the expected absolutive agreement (2b). Moreover, adverbs which have a gender agreement slot can agree with the ergative when the adverb is situated at the edge of the clause (3).

Sumbatova’s proposal is to split the Dargwa clause into two layers, roughly corresponding to IP and VP. The IP layer is headed by the auxiliary verb (if one is present), while the VP layer is headed by the lexical verb. Crucially, all core arguments are situated in VP, while the IP layer has its own (intransitive, thus absolutive) subject position which is always occupied by a zero pronominal. This pronominal can be alternatively identified with either the A or S/P argument of the VP layer depending on information structure.<sup>1</sup>

Schematically, Sumbatova’s analysis can be represented as in (4). This analysis explains the patterns in (2a) and (3) while maintaining the principle that gender agreement is always absolutive-controlled. A key piece of evidence that confirms the backward control hypothesis is the fact that in Tanti, a peripheral adverb can agree with the “sum” of ergative/absolutive arguments of several clauses if these clauses are coordinated (5).

While the evidence seems convincing, such a complex solution is hardly welcome from a theoretical standpoint. Firstly, out of general considerations, an anaphoric relationship in every clause, finite and non-finite, appears to be too redundant. Secondly, the anaphoric relation is too restricted: it is not clear why the antecedent has to be ergative and absolutive, and why the IP-level pronoun is always zero. Thirdly, from a Glue standpoint, a pronominal binding relation must involve two separate semantic resources, each of which must be used in the semantic derivation. Since the IP-level “clause” has no semantic content as such, one would have to resort to an *ad hoc* predicate like  $\lambda x.Topic(x)$ . Fourthly, the behaviour in (??) is very problematic, as it would effectively require “looping” through each clause to select its core argument as one of the antecedents of the IP-level pronoun. There seems to be no natural way to implement such behaviour in Glue.

Therefore, the Backward Control hypothesis, if accepted, would pose a serious challenge on current LFG views on the architecture of grammar. Fortunately, there is evidence that a simpler solution is in fact available.

**Ashti data.** In this paper, I will demonstrate that Sumbatova’s complex anaphoric machinery is not, in fact, necessary in order to account for the behaviour of agreement in Dargwa. Unfortunately, since I have no access to Tanti data, I have to rely on the data of Ashti, a different variety of Dargwa, which behaves in the same way as Tanti in all relevant respects.<sup>2</sup>

<sup>1</sup>Based on native speaker judgements, it appears that the controller of auxiliary/peripheral adverb agreement is the topic, although the distribution is not so clear in the texts.

<sup>2</sup>That is, all of the basic facts motivating the analysis in Sumbatova and Lander (ibid.) also hold in Ashti. My analysis is based on additional examples which are not available for Tanti. Therefore, it is in principle possible, though unlikely, that corresponding examples in Tanti corroborate rather than contradict Sumbatova’s analysis.

However, crucially, while variation in the choice of gender agreement controller is possible in the 3rd person, it is never the case in the 1st or 2nd persons: gender agreement is always controlled by the same argument as the one which controls person agreement. When one of the arguments is a SAP and another is 3rd person, the auxiliary must agree in gender with the SAP argument, just like in person (6).<sup>3</sup> Similarly, when both arguments are SAPs, agreement can only be with the absolutive, again in parallel to person (7). This contradicts the predictions of the Backward Control analysis, as person agreement (determined hierarchically) and gender agreement (mediated anaphorically through the zero pronoun) should be formally independent from each other.

As for adverb agreement, while sentences corresponding to (3) are also grammatical in Ashti, there seems to be no correlation between the agreement controllers of the converb and the auxiliary. In Ashti, it is grammatical for a peripheral adverb to agree with the ergative argument even if the auxiliary agrees in gender with the absolutive (8). In the Backward Control analysis, this should be ungrammatical: while absolutive agreement of adverbs is always a possibility, ergative agreement should only be available if the auxiliary agrees with the ergative as well (i.e., in this analysis, if the null pronoun is identified with the A argument).

Moreover, most native speakers insist on adding the suffix *-mutil* ‘when’ to the adverb when it agrees with the ergative, e.g. *wac’a-ci-w-mutil* in (8). This marker is typically used on verbs to derive temporal converbs. This strongly suggests that peripheral adverbial phrases are, in fact, secondary predications (‘when in the forest’). This observation agrees rather well with the fact that in Ashti, peripheral converb phrases are syntactically distinct from embedded converb phrases, in particular having no restrictions on same-/different-subjecthood. However, this hypothesis has to be checked using more data. At present, it is at least clear that peripheral adverb agreement is irrelevant for the analysis of auxiliary agreement.

Thus, in Ashti, gender agreement of the auxiliary and person agreement are based on exactly the same rules. This entails that the simplest analysis would be to use no anaphoric mechanisms and instead describe the gender and person markers on the auxiliary as reflecting the features of one and the same controller. Thus the standard Dargwa hierarchical system of “person” agreement is retained. Two modifications are required. First, the Ashti version of the person hierarchy must be changed from  $1,2 > 3$  to  $1,2 > 3_{TOP} > 3$ , to create competition between 3rd person topics and non-topics.

Second, the view that hierarchical agreement in Dargwa must necessarily be associated only with person features must be rejected. This is largely an issue of terminology: instead of gender and person agreement, we are left with “internal”, absolutive-oriented agreement, and “external”, hierarchical agreement, with separate resolution rules. It is true that the former mostly reflects gender and number (except for 1/2pl absolutives where it marks person), while the latter mostly reflects person and number, but this fact is purely morphological. If the auxiliary or other person-agreeing element has a gender slot, the gender of the agreement controller will also be reflected. Agreement in Dargwa is thus not strictly tied to particular features; “gender agreement” and “person agreement” are nothing more than convenient labels.

**Analysis.** My proposal is to preserve Sumbatova’s two-layered clause structure while doing away with an IP-level subject position. Instead, in LFG terms, the VP-level *f*-structure is embedded in the IP-level *f*-structure as a COMP (9).<sup>4</sup> The IP-level *f*-structure has no subject position. Instead, I adopt Haug and Nikitina’s (2015) feature-sharing analysis of agreement. Both *f*-structures have their own AGR features, which corresponds to two patterns of agreement found in Dargwa. The lower-level AGR is always associated with the absolutive argument, i.e. PIV. The top-level AGR is instead associated with either A or S/P of the embedded clause:

$$\begin{array}{ll}
 b-i:q-ul & V \quad (\uparrow \text{PRED}) = \text{'do}\langle \widehat{\text{GF}} \text{ PIV} \rangle \\
 & (\uparrow \text{AGR}) = (\uparrow \text{PIV AGR}) \\
 & (\uparrow \text{AGR GEND}) = {}_c n \\
 & (\uparrow \text{AGR NUM}) = {}_c sg \\
 \\ 
 le-w=da & I \quad (\uparrow \text{PRED}) = \text{'be}\langle \text{COMP} \rangle \\
 & \{ (\uparrow \text{AGR}) = (\uparrow \text{COMP } \widehat{\text{GF}} \text{ AGR}) \mid \\
 & \quad (\uparrow \text{AGR}) = (\uparrow \text{COMP PIV AGR}) \} \\
 & (\uparrow \text{AGR PERS}) = {}_c 1 \\
 & (\uparrow \text{AGR GEND}) = {}_c m \\
 & (\uparrow \text{AGR NUM}) = {}_c sg
 \end{array}$$

<sup>3</sup>In Ashti, I will use examples where the auxiliary is an existential verb instead of the copula/person clitic, as in the Tanti data cited above. This is due to the fact that the copula in Ashti is normally not used in the 3rd person. This also provides the advantage of having a gender marker present in all persons. Note that it is demonstrated in Sumbatova and Lander (2015) that the copula and the existential verb behave largely in the same way when used as auxiliaries in Tanti.

<sup>4</sup>I use Falk’s (2006) analysis of ergativity, so that PIV always refers to the absolutive argument while  $\widehat{\text{GF}}$  is A/S.

*wac'a-ci-w* N (↑ PRED) = 'forest'  
 (↑ AGR GEND) = *c n*  
 (↑ AGR NUM) = *c sg*

As in Belyaev (2013), we can then model the choice of top-level agreement controller through a set of OT constraints. Two modifications are required. First, an additional constraint preferring the 3rd person topical argument, AGR-3<sub>TOP</sub>, must be introduced in order to capture the competition between 3rd person controllers. Second, the division of the clause into two layers with separate AGR features can allow us to dispose with m-structure altogether: instead of referring to PIV, the relevant constraints refer to top-level AGR. With that said, the set of constraints will have the following definitions (applied to all finite IP-level f-structures):<sup>5</sup>

**AGR-2** (↑ AGR PERS) = *c 2*

**AGR-1** (↑ AGR PERS) = *c 1*

**AGR-3<sub>TOP</sub>** (↑ AGR PERS) = *c 3*  
 ((AGR(↑ AGR))<sub>σ</sub> DF) = *c TOPIC*

**AGR-ĜF** (ĜF AGR(↑ AGR))

**AGR-PIV** (PIV AGR(↑ AGR))

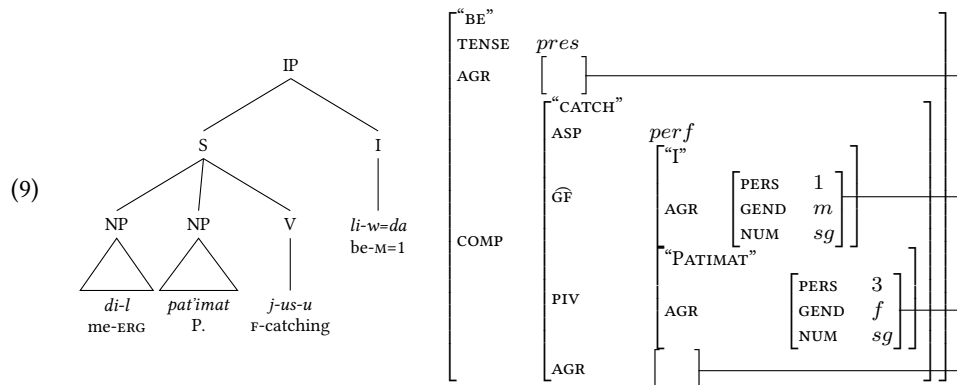
The language-specific hierarchy for Ashti will be AGR-1 ∨ AGR-2 > AGR-3<sub>TOP</sub> > AGR-PIV > AGR-ĜF (on constraint disjunction see Crowhurst and Hewitt, 1997). Sample tableaux illustrating how these constraints work are given in (10).

**Conclusions.** The analysis of Dargwa agreement in Sumbatova and Lander (2015) is challenging from the theoretical perspective and presents the agreement system as being very exotic, if not unique, among the world's languages. In this paper, I will attempt to demonstrate that this exoticity may have been overestimated. The analysis proposed herein, apart from being formally simpler, also situates Dargwa in the wider context of languages with hierarchical agreement system. Topicality splits in the 3rd person seem to be relatively common, if not very frequent, in person-oriented agreement systems. For example, the Ashti system finds an almost complete counterpart in the system of Plains Cree, where the person hierarchy largely determines agreement, but in the 3rd person, the choice of direct/inverse marking depends on topicality (Dahlstrom, 1986). Therefore, far from being exotic, the “ergative agreement” of the auxiliary in the 3rd person is perfectly in line with what we know of hierarchical systems in general.

<sup>5</sup>I omit the technical issue of how “finite IP-level f-structure” can be distinguished from other f-structures. The simplest solution is to use a feature such as FIN = +.

## Examples and tableaux

- (1) a.  $\boxed{\text{di-l}}$  murad us-a-d  
 me-ERG M. [M]catch.PFV-PRET-1  
 ‘I caught Murad.’ (A = 1, P = 3 → 1)
- b. muradli  $\boxed{\text{du}}$  usa-d  
 ‘Murad caught me.’ (A = 3, P = 1 → 1)
- c. dil  $\boxed{\text{u}}$  usa-t:i  
 ‘I caught you.’ (A = 1, P = 2 → 2)
- d. u-dil  $\boxed{\text{du}}$  usa-d  
 ‘You caught me.’ (A = 2, P = 1 → 1)
- e.  $\boxed{\text{murad-li}}$   $\boxed{\text{rasul}}$  us-aj  
 ‘Murad caught Rasul.’ (A = 3, P = 3 → 3)
- (2) a. **murad-li** t’ant’i-b qali b-irq’-u-le=sa-j  
 M.-ERG T.-N[ESS] house N-do.IPFV-PRS-CVB=COP-M
- b. murad-li t’ant’i-b **qali** b-irq’-u-le=sa-b  
 ‘Murad is building a house in Tanti.’
- (3) [ ma’ha’mmad-li-š:u-w / -š:u-b [ rasul-li dig b-uk:-un-ne ] =sa-j ]  
 M.-OBL-AD-M[ESS] -AD-N[ESS] R.-ERG meat N-eat.IPFV-PRS-CVB COP-M  
 ‘At Muhammad’s place Rasul is eating meat.’ (Sumbatova, 2014)
- (4) a. [  $\Delta_{i(\text{ABS})}$  [ **murad-li**<sub>i</sub> t’ant’i-b qali b-irq’-u-le ] =sa-j ]  
 b. [  $\Delta_{i(\text{ABS})}$  [ murad-li t’ant’i-b **qali**<sub>i</sub> b-irq’-u-le ] =sa-b ]
- (5) dars-li-ja-b  $\Delta_{i+j}$  [ ja=ra musa-li, gezet:e d-uč’-un-ne ], [ ja=ra  
 lesson-OBL-SUPER-HPL[ESS] or=ADD M.-ERG newspaper:PL NPL-read.IPFV-PRS-CVB or=ADD  
 pat’imat-li, šajt’un-t-a-lla surrat:e d-irq’-u-le ] =sa-b  
 P.-ERG devil-PL-OBL-GEN image:PL NPL-do.IPFV-PRS-CVB=COP-HPL  
 ‘At the lesson either Musa reads newspapers or Patimat draws devils.’ (ibid.)
- (6) a.  $\boxed{\text{di-l}}$  pat’imat j-u:s-u li-w=da / \*li-j=da / \*li-w / \*li-j  
 me-ERG P. F-catch.IPFV-SIM be-M=1 be-F=1 be-M[3] be-F[3]  
 ‘I (m.) am catching Patimat.’ (1 > 3)
- b. pat’imat-li  $\boxed{\text{du}}$  u:s-u li-w=da / \*li-j=da / \*li-w / \*li-j  
 P.-ERG I [M]catch.IPFV-SIM be-M=1 be-F=1 be-M[3] be-F[3]  
 ‘Patimat is catching me (m).’
- (7) a. di-l  $\boxed{\text{u}}$  j-u:s-u li-j=di / \*li-w=di / \*li-w=da / \*li-j=da  
 me-ERG thou F-catch.IPFV-SIM be-F=2 be-M=2 be-M=1 be-F=1  
 ‘I (m.) am catching you (f).’
- b. u-dil  $\boxed{\text{du}}$  u:s-u li-w=da / \*li-j=da / \*li-j=di / \*li-w=di  
 thee-ERG I [M]catch.IPFV-SIM be-M=1 be-F=1 be-F=2 be-M=2  
 ‘You (f.) are catching me (m).’
- (8) wac’a-ci-w / wac’a-ci-j rasul-li  $\boxed{\text{pat’imat}}$  j-u:s-u li-j  
 forest-INTER-M[ESS] -F[ESS] R.-ERG P. F-catch.IPFV-SIM be-F  
 ‘In the forest (m./f.) Rasul is (f.) catching Patimat.’



(10) a. A = 1p m sg, P = 3p<sub>TOP</sub> f sg

di-l pat'imat j-us-u ...	AGR-1 ∨ AGR-2	AGR-3 <sub>TOP</sub>	AGR-PIV	AGR- $\widehat{GF}$
☞ li-w=da (A)		*	*	
☞ li-j (P)	*!			*

b. A = 1p m sg, P = 2p f sg

di-l u j-us-u ...	AGR-1 ∨ AGR-2	AGR-3 <sub>TOP</sub>	AGR-PIV	AGR- $\widehat{GF}$
☞ li-w=da (A)		*	*!	
☞ li-j=di (P)		*		*

c. A = 3p<sub>TOP</sub> m sg, P = 3p m sg

rasul-li pat'imat j-us-u ...	AGR-1 ∨ AGR-2	AGR-3 <sub>TOP</sub>	AGR-PIV	AGR- $\widehat{GF}$
☞ li-w (A)	*		*	
☞ li-j (P)	*	*!		*

## References

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