Information Structure Conditions on the Agreement Controller in Dargwa

Oleg Belyaev
Lomonosov Moscow State University

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Abstract

Much of the current debate on the syntax of Dargwa is centered around the problem of gender agreement on auxiliaries. This type of agreement is exceptional in that it is not exclusively controlled by the absolutive argument, but can be alternatively controlled by either subject or object in transitive clauses (like person agreement). In this paper, I investigate discourse conditions on the choice of agreement controller in Kubachi Dargwa, and provide some new data from Ashti Dargwa that clarify the status of the agreement controller. I show that while the hypothesis that the controller of gender agreement is topical is generally correct in the case of agent agreement, it does not apply to patient agreement, where the topicality of both core arguments is roughly equal. On the syntactic side, agreement with the patient seems to promote it to syntactic pivot status. This suggests an analysis along the lines of Falk (2006), treating Dargwa as a language where core arguments can receive pivot status independently of their grammatical function.

1 Dargwa: General information

Dargwa[1] is a group of East Caucasian languages that are characterized by a complex agreement system. In addition to gender agreement, which, typically for East Caucasian languages, at clause level is mostly controlled by the absolutive argument, Dargwa also has person agreement, whose resolution is determined by complex rules that refer to both grammatical functions and the relative position of arguments on the person hierarchy.

Much of the current debate on the syntax of Dargwa is centered around the problem of gender agreement on auxiliaries. This type of agreement is exceptional in that it is not exclusively controlled by the absolutive argument, but can be alternatively controlled by either subject or object in transitive clauses (like person agreement). This involves two main issues:

- factors determining the choice of subject or object as agreement controller;
- the syntactic nature of the agreement alternation.

As to the former question, the majority of authors (van den Berg 2001; Sumbatova 2014) agree that control of gender agreement is somehow connected to topicality, although the exact type of topic thus coded is seldom made explicit. Elements of this approach can even be traced back to some traditional grammars, in particular Magometov (1963), who likens subject agreeement to active voice and object agreement to passive voice. The only exception is an upcoming paper Ganenkov (forthcoming), where it is shown that the agreement controller at least cannot be sentence topic, and the discourse topic interpretation is also put into doubt.

In syntax, the most elaborate analysis is that of Sumbatova and Lander (2014), who propose treating gender agreement as a result of a kind of Backward Control

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construction, where the auxiliary heads its own clause with a zero subject which, in turn, is coreferential with either subject or object of the lower clause headed by the lexical verb. In Belyaev (2016) and Belyaev (2017), I have argued against this interpretation, at least in the case of Ashti Dargwa, in favour of a simpler solution, where the alternation between two types of 3rd person arguments (topical vs. non-topical) is integrated into the person hierarchy as a kind of obviation. Thus the hierarchy for Ashti is changed from the standard $1, 2 \succ 3$ to the Algonquian-style $1, 2 \succ 3 \succ 3'$, where 3 is the "proximate" and $3'$ is the "obviate". Finally, Ganenkov (forthcoming) has argued for a hybrid solution, where absolutive control is syntactically neutral and monoclausal, while ergative control involves a biclausal structure much along the lines of Sumbatova and Lander (2014).

While both pieces of the puzzle are far from being resolved, the main purpose of this paper is to test the topicality hypothesis on the data of Kubachi Dargwa.[2] Using Givón's (1983) diagnostics, I demonstrate that subject agreement seems to correlate with topic status of the subject, while object agreement considerably less so. This suggests that the topicality hypothesis is on the right track, even though the correlation is not deterministic, especially in the case of direct objects. At the same time, I invoke some new data of Ashti that show that gender agreement is in some contexts independent from person agreement, and its controller does have a privileged syntactic status in certain contexts. Therefore, the analysis of Belyaev (2016) should be revised. I propose a tentative analysis in terms of Falk's (2006) notion of the PIVOT (PIV).

2 Gender agreement of the auxiliary

A general desription of the rules of gender and person agreement, including the patterns observed in Kubachi and Ashti, can be found in Belyaev (2013). Overall, person agreement is based on the person hierarchy, while gender agreement at clause level is always controlled by the absolutive ($\mathcal{S}/\mathcal{P}$) argument.

There is, however, one key exception to the gender agreement pattern: auxiliaries in periphrastic verb forms. In many varieties, including Standard Dargwa (van den Berg 2001), Tanti (Sumbatova 2014; Sumbatova and Lander 2014) and Kubachi (Magometov 1963), some 3rd person auxiliaries can agree alternatively with the absolutive or the ergative:[3]

(1) murad-li t'ant'i-b qali b-irq'.u.le=sa-**j**
M.-ERG in.T.-N house N-building=COP-M

(2) murad-li t'ant'i-b qali b-irq'.u-le=sa-**b**
=COP-N

2. Both Kubachi and Ashti are dialects of the same Dargwa language, of which Kubachi is the larger and central variety; according to local traditions, Ashti speakers migrated from the Kubachi area some 500 years ago. The study is based on Kubachi due to more texts available, and more forms displaying the phenomenon in question.

3. Glossing follows the Leipzig rules (`https://www.eva.mpg.de/lingua/resources/glossing-rules.php`), with the following additions: ATTR — attributive; COP — copula; EL — elative; IN — inessive; LAT — lative; MSD — masdar (verbal noun); NPL — neuter plural; PCVB — participle-converb; PRET — preterite.

'**Murad** is building **a house** in Tanti.'

In Sumbatova (2014), this pattern in Tanti Dargwa has been given an elaborate syntactic explanation. According to Sumbatova's analysis, the auxiliary heads its own clausal layer, with a zero absolutive subject. This subject is coreferent to either subject or DO of the core clause. Thus, every finite predication involves a relation of Backward Control (Polinsky and Potsdam 2002). Thus (2) represents the structure of (1),[4], while (2) stands for (2).

(1′) [$\Delta_{i(ABS)}$ [**murad-li**$_i$ t'ant'i-b qali b-irq'-u-le] =sa-**j**]

(2′) [$\Delta_{i(ABS)}$ [murad-li t'ant'i-b **qali**$_i$ b-irq'-u-le] =sa-**b**]

In (2), the zero absolutive in the upper tier is coreferential with the ergative subject of the lower tier: hence, the auxiliary has the agreement features of the agent, while actually agreeing with the upper absolutive. In contrast, in (2), the zero absolutive is coreferential with the object; hence, the auxiliary ahs the gender and number features of the patient.

In Belyaev (2016), I have shown that there are problems for this analysis in Ashti. In addition to various implementational difficulties, as well as the irrelevance of some diagnostica, such as adverb agreement, the main issue is that in Ashti, whenever a clause has both person and gender agreement on the auxiliary, the latter has to follow the former. This seems to suggest that they are essentially two aspects of the same phenomenon. Since there is no strong evidence in favour of a split in clause structure, I proposed a different analysis involving a split between 3rd person participants based on prominence, essentially a kind of obviation. Gender features on the auxiliary reflect the features of the hierarchical ("person") agreement controller, and accordingly, the only required modification to the analysis of Ashti is the extension of the person hierarchy to $1, 2 \succ 3 \succ 3'$, where 3 is the proximate ("topical") 3rd person, while $3'$ is the obviate ("non-topical") 3rd person.

But while the similarity with proximate-obviative systems seems clear enough, what still remains mysterious is the nature of the distinction between subject and object controllers. Native speaker judgements suggest that in Ashti, like in Tanti, it has something to do with topicality, but such anecdotal evidence is hardly acceptable. Research in the area of information structure and discourse has provided us with some robust diagnostics and statistical techniques that allow a more rigorous evaluation of this hypothesis.

3 Motivation for agreement: Earlier studies

There have been several proposals in the literature on how exactly the controllers are selected. Perhaps the earliest is found in Magometov's (1963) grammar of Kubachi, where agent agreement is likened to "active voice" and patient agreement, to "passive voice". Since passive voice generally correlates with topicality of the patient, this description may be viewed as a distant precursor of the more recent accounts, although there is no explicit discourse or information structure-based explanation.

4. The use of Δ for the zero argument, as well as other notation decisions, are from Sumbatova (2014).

The first author to explicitly connect gender agreement with topicality was van den Berg (2001) in her sketch of Standard Dargwa, where she claimed that agreement with $\mathcal{A}$ was the default option, while agreement with $\mathcal{P}$ could only occur if P has topic status. It is not mentioned whether the term *topic* here is understood as discourse or sentence topic.

Sumbatova and Lander (2014) further developed the topicality hypothesis, proposing a symmetrical version of the account: subject agreement occurs when the subject is "more topical than the direct object", while object agreement occurs when the object is "more topical than the subject". Unlike van den Berg (2001), these authors explicitly discuss different senses of the term *topic* and conclude that the controller in Dargwa cannot be a sentence topic, but must be a discourse topic.

In his upcoming paper, Ganenkov (forthcoming) attempst to demonstrate that the topicality hypothesis cannot be true in any sense of the term. First, he shows that in Standard Dargwa texts, gender agreement on the axuiliary is often controlled by NPs which cannot ever be understood as sentence topics, such as quantified NPs like 'more than two persons' and lexical components of complex predicates. He also finds little evidence for the status of discourse topic, and his eventual conclusion is, in a sense, opposite to van den Berg's approach. He concludes that:

- $\mathcal{P}$ agreement is a syntactically and pragmatically neutral, "default" structure.
- $\mathcal{A}$ agreement is a two-level structure reminiscent of the analysis of Sumbatova (2014). However, Ganenkov shows that a raising structure is more appropriate than a control structure here.

As for the latter structure, Ganenkov bases his analysis on a typological comparison with so-called biabsolutive constructions in other East Caucasian languages, where both arguments appear in the absolutive case, unlike the standard ergative pattern:

(3) Avar (Forker 2012, 79)

a. ergative

niže-c:a χ:er b-eg-ule-b b-ugo
we-ERG hay N-fork-PTCP-N N-be.PRS

'We are forking the hay.'

b. biabsolutive

[emen$_i$ [$\Delta_{i(ERG)}$ ču$_j$ b-ec:u-le-w] w-ugo]
father horse N-praise-PTCP-M M-be.PRS

'Father praises the horse.'

The main motivation for this comparison is that biabsolutives, like Dargwa ergative agreement constructions, also show a tendency for topicality or another kind of promotion of the agent. Dargwa languages do not have biabsolutives; hence, the Dargwa ergative gender agreement pattern can be viewed as a "backward" version of the biabsolutive pattern, which is also viewed by many authors as involving a kind of biclausal raising structure (Kazenin 1998).

However, I believe that this comparison, at best, represents a distant typological analogy, and there are far too many differences between the two constructions to argue for any structural similarity between them. First, the difference in discourse frequency is striking. While no exact text counts are available in the literature, it is universally accepted as a given fact that this construction is fairly minor in discourse compared to the canonical ergative pattern. This is definitely not the case for ergative gender agreement in Dargwa, which appears in the overwhelming majority of narrative clauses; it is rather the absolutive pattern, which Ganenov considers as more basic and syntactically simple, that is "marked" in this sense (see specific numbers below).

Second, the two constructions differ in their treatment of dative subjects of experiencer predicates. Biabsolutive constructions cannot generally be used with such verbs, with the known (partial) exception of Lak (Gagliardi et al. 2014). In contrast, in all Dargwa varieties I am aware of, control of gender agreement is available for dative subjects to the same extent as for ergative subjects.

Finally, the biabsolutive construction generally shows a number of strict syntactic restrictions on extraction, formation of non-finite forms, and topic/focus marking. There are no known strict constraints of this kind (or any other syntactic constraints, for that matter) that apply to $\mathcal{A}$ agreement but not to $\mathcal{P}$ agreement.

To sum up, $\mathcal{A}$ vs. $\mathcal{P}$ agreement seem to be much less structurally opposed than ergative vs. biabsolutive. It seems that the main motivation for the biclausal analysis still remains the desire to preserve a universal rule of gender agreement tied to the absolutive argument. In my view, such a line of argumentation is misguided and logically incoherent. If taking absolutive control of gender as dogma leads us to implausibly complex structures like the ones proposed by Sumbatova (2014), this dogma should rather be abandoned.

At the same time, an adequate syntactic account of the facts cannot be provided unless we come to an understanding of the motivation for the choice of agreement controller. Since the dominant hypotheses connect it to topicality, it seems worthwhile to test this hypothesis based on natural texts.

3.1 The study of Kubachi

3.1.1 Corpus

For a pilot study, I have analyzed a published collection of stories about Mullah Nasruddin in Kubachi (Šamov 1994). This corpus is rater balanced in that the texts are quite homogeneous in genre and follow a similar narrative structure. Thus, to the extent that narratives are concerned, these texts can be viewed as a rather typical examples of their genre.

I have analyzed a total of 484 finite sentences. The actual number of clauses is much higher, because Kubachi, like other Dargwa languages, makes heavy use of converbs in narratives. I have chose to only consider finite clauses for the purpose of simplicity, as the agreement alternation under consideration can only occur in finite contexts in Kubachi. There are a number of additional requirements that significantly narrow the total sample of sentences. The verb in the clause must:

- be transitive (intransitive verbs can show no competition between controllers);
- stand in a periphrastic form with gender agreement (which in most cases means 3rd person forms, with the exception of so-called *existential* periphrastic forms, very rare in texts);
- have two arguments of different gender/number (so that the controller can be clearly identified).

Applying these three constraints to our sample leads to only 44 relevant sentences. This might seem like a very low number, but it is actually not that low for a language where the distinction in question is rather peripheral. For example, Gildea (1994), in his study of inverse-like markers in Carib of Surinam, operates with a sample of 53 clauses in total. In spite of the small sample, the picture that emerges from the numbers is rather consistent picture.

The total frequencies of $\mathcal{A}$ ("direct") vs. $\mathcal{P}$ ("inverse") agreement in the sample are provided in Table 1.

Pattern	**Frequency**
$\mathcal{A}$	29(66%)
$\mathcal{P}$	15(34%)
Total	44(100%)

Table 1: Total frequency of agreement patterns in Kubachi

The predominance of $\mathcal{A}$ agreement suggests that we are indeed dealing with some feature that is more typical of subjects by default, which may well be topicality. I support the motivation of Sumbatova and Lander (2014) and Ganenkov (forthcoming) in their negative evaluation of the possibility that the controller may be sentence topic. All of their counterarguments apply in Kubachi. In particular, nominal components of complex predicates, obviously not referencing any entity,[5] sometimes trigger gender agreement:

(4) " hej, aχmaχ:-e " uk'-ul žuwab b-aq:-ib=sa-**b** malla-dil
hey fool-PL [M]say.IPFV-CVB answer N-bring.PFV-PTCP=3-N mullah-ERG
'Hey, you fools — gave **the answer** the Mullah.'

(5) q'ut' d-a:q'-ib=sa-**d** juldaš:-a-dil uc:a
knock NPL-do.PFV-PTCP=3-NPL friend-PL-ERG door
'The friends knocked (lit. did **a knock**) on the door.'

5. It might be possible that topicalization of nominal components of complex predicates is related to some sort of prediate topicalization or scene-setting, see Mohanan (1994). However, while this could be the case in (4), it is less plausible for (6), which is the first mention of ablution in the text, and definitely not plausible for (5), where knocking is never mentioned before, never mentioned later, and is in general a minor event in the overall narative.

(6) qˁa̱mil tʼu̱j-la **dacala** d-aːqʼ-ib-žu-**d** a-sa-**d**
left leg-GEN ablution NPL-do.PFV-PTCP-ATTR-NPL NEG-3-NPL
'I have not done **the ablution** of my left leg.'

In the examples (4–6), the copula has neuter singular agreement features. In all of the examples, the ergative subject is masculine or human plural; hence, neuter agreement suggests that the controller is the absolutive component of the compound verb. Gender assignment in Dargwa is semantic overall and based on the semantic features of the referent of the NP: if human, masculine or feminine are selected based on biological gender; if nonhuman, neuter is always selected.[6] Accordingly, nouns referring to abstract notions such as 'answer' or 'ablution' are always neuter. Furthermore, the verbal prefix in all examples agrees in neuter singular, which unambiguously identifies the object as having neuter singular agreement features.

Discourse topic, however, is a much more fluid concept based more on text frequency than any strict constraints on individual sentences. Therefore, the possibility that we are dealing with discourse topics still remains. To test for this, I have used two classic diagnostics from Givón (1983): **Referential Distance (RD)** and **Topic Persistence (TP)**. The former (RD) denotes the distance in clauses to the previous mention of the same referent, and typically has three values, which I will also use: 1 (mentioned in previous clause), $2/3$ (mentioned 2 or 3 clauses before), > 3 (mentioned more than three clauses before, or first mention). The latter (TP) represents the other side of topicality: the availability of the referent for further reference. It stands for the number of times the referent is mentioned in the next 10 clauses. Again, the convention is to collapse the whole range to two values: 0–2 vs. 3+.

Apart from absolute values, relative values are also used for RD, thus yielding three values: $\mathcal{A} > \mathcal{P}$ (RD of agent higher than that of patient), $\mathcal{A} > \mathcal{P}$ (RD of agent and patient equal) $\mathcal{A} < \mathcal{P}$ (RD of agent lower than that of patient).

3.1.2 Referential Distance

The data for RD calculations are provided in Table 2. This and the subsequent table should be read as follows. The two groups of columns represent clauses where gender agreement is with $\mathcal{A}$ ("direct" pattern) and with $\mathcal{P}$ ("inverse" pattern). Each of these is then subdivided into columns where the number of clauses with the given RD for $\mathcal{A}$ and $\mathcal{P}$ is displayed. Thus, in Table 2, there are 19 $\mathcal{A}$-agreeing clauses where $\mathcal{P}$ has the RD value of > 3, 4 $\mathcal{P}$-agreeing clauses where $\mathcal{A}$ has the RD value of 1, etc.

6. Mass nouns always trigger neuter plural agreement instead of neuter singular, without having any plural morphology. The distinction between mass and count nouns is to some extent lexical; this is the only part of the Dargwa gender system where agreement cannot be predicted based on the meaning alone.

	$\mathcal{A}$ agreement		$\mathcal{P}$ agreement	
	$\mathcal{A}$	$\mathcal{P}$	$\mathcal{A}$	$\mathcal{P}$
> 3	9 (31%)	19 (66%)	6 (40%)	4 (27%)
2/3	7 (24%)	4 (14%)	5 (33%)	5 (33%)
1	13 (45%)	6 (20%)	4 (27%)	6 (40%)
	29 (100%)	29 (100%)	15 (100%)	15 (100%)

Table 2: Absolute RD values

From this table we can see that the "direct" ($\mathcal{A}$-agreeing) pattern does show a preference for more topical $\mathcal{A}$s. The majority of $\mathcal{A}$s have the RD of 1, while for $\mathcal{P}$ it is the other way around, with the majority having RD of > 3.

In contrast, the "inverse" numbers do not show a higher topicality of either argument. The number of topical $\mathcal{P}$s is marginally higher than topical $\mathcal{A}$s, but the difference is probably not statistically significant, and certainly not to the extent that is found in other direct-inverse systems found in the literature, e.g. Kutenai (Dryer 1994).

Analyzing comparative RD gives similar results (Table 3). The "direct" pattern shows a clear preference for topical $\mathcal{A}$s, while in the "inverse" pattern, the status of both arguments is roughly equal, with a small preference for topical $\mathcal{P}$.

	$\mathcal{A}$ agreement	$\mathcal{P}$ agreement
$\mathcal{A} > \mathcal{P}$	3 (10%)	5 (33%)
$\mathcal{A} = \mathcal{P}$	13 (45%)	8 (54%)
$\mathcal{P} > \mathcal{A}$	13 (45%)	2 (13%)
	29 (100%)	15 (100%)

Table 3: Comparative RD

To conclude, RD shows that while the "direct" pattern is associated with topical $\mathcal{A}$, this is not the case for the "inverse" pattern, which does not show a clear preference for any argument. However, on average, "inverse" constructions will be more frequently used when $\mathcal{P}$ is topicalized. This may be what gives one the impression that $\mathcal{P}$ controlling agreement is topical.

3.1.3 Topic Persistence

The counts for Topic Persistence give a similar picture to Referential Distance.

	$\mathcal{A}$ agreement		$\mathcal{P}$ agreement	
	$\mathcal{A}$	$\mathcal{P}$	$\mathcal{A}$	$\mathcal{P}$
$0-2$	16 (55%)	26 (90%)	14 (93%)	11 (73%)
$3+$	13 (45%)	3 (10%)	1 (7%)	4 (27%)
	29 (100%)	29 (100%)	15 (100%)	15 (100%)

Table 4: TP values

"Direct" clauses clearly favour persistence of $\mathcal{A}$. In the "inverse", $\mathcal{A}$ is significantly less persistent while P is slightly more persistent.

3.1.4 Referential Distance and Topic Persistence: Conclusions

The evidence from spoken texts shows that there is a difference between "direct" and "inverse" patterns in terms of relative discourse topicality of the arguments. In the "direct" pattern, the agent is significantly more topical than the patient. In contrast, the "inverse" pattern does not display any preference for topical patient. It does seem to slightly disprefer topical $\mathcal{A}$s, especially as seen from Topic Persistence, but still not to the extent of a full syntactic demotion.

Therefore, paradoxically, the statistics seems to support Ganenkov's conclusion that the patient agreement pattern is less marked, rather than van den Berg's "default $\mathcal{A}$" hypothesis, even though the "direct" pattern is more frequent in the texts. However, this pragmatic asymmetry cannot by itself serve as evidence for a syntactic asymmetry.

4 Syntax of inverse in Ashti

It is generally agreed upon that the person agreement controller does not have special syntactic status in Dargwa. This suggest an analysis that does not tie person agreement to a particular grammatical function, but either relegates it to a separate level of structure (Belyaev 2013) or, in a simpler way, describes it through the sharing of AGR (Belyaev 2016).

The status of the copular controller is less clear. In previous work (Belyaev 2016), I assumed that it behaved like a person controller due to the fact that when the auxiliary expresses both 1/2 person and gender agreement, the two have to match. However, direct evidence on the syntactic status of auxiliary gender agreement is difficult to obtain due to the fact that Dargwa languages have very few true syntactically constrained long-distance dependencies. At the very least, it is clear that the change in gender agreement does not involve any syntactic demotion of the agent and detransitivization of the clause. This is readily seen by contrast with the antipassive (7), where gender agreement does shift from patient to the agent, but where this change is accompanied by a change in case marking, and the verb is truly detransitivized.

(7) a. bec'.li-dil [q'$^{w\varsigma}$i̲l-i] **d**-uk-ini
wolf-ERG cow-PL NPL-eat.IPFV-PRET.3

b. [bec'] (q'$^{w\varsigma}$i̲l-a-d) **b**-uk-ini
wolf cow-PL-ERG N-eat.IPFV-PRET.3
'The wolf ate cows.'

The antipassive in Ashti (and Dargwa in general) is possible for all verbs in the imperfective aspect. It has no special morphological marking. In the antipassive construction, the agent (ergative in canonical transitive predications) stands in the absolutive and accordingly triggers all verbal agreement; the verb itself becomes intransitive. The patient may be expressed by the ergative, but this ergative has no core argument status; among other things, it cannot trigger person agreement.[7] Thus, while there is no overt marking of detransitivization on the verb, case marking unambiguously encodes the change in grammatical function. No such change happens under agreement alternation.

However, luckily, it seems that Ashti does have a syntactic construction which is sensitive to the syntactic prominence of clausal arguments: same-subject converbs.

4.0.1 Same-subject converbs and agreement

Like other East Caucasian languages, Dargwa languages have perfective and imperfective so-called *simple converbs* which perform a wide range of functions, both marking manner/temporal subordination and serving as a kind of substitute for coordination in discourse. Dargwa has no conjunction-based coordination strategy for clauses.

Converbs are generally varying-subject (Nedjalkov 1995), i.e. can have either the same subject as the main clause or a different subject, as in (8).

(8) [$\varnothing_{i/j}$ a:s **d-ič:-ib**], ʔa̲li$_i$ uniwersitet-li ke:χ^w-i
money NPL-give.PFV-PCVB A. university-IN[LAT] enter.PFV-PRET.3
'After (s/he$_{i/j}$) **gave** money, Ali entered the university.'

In most Dargwa varieties, converbal clauses can be center-embedded, with some interpretational restrictions. However, Ashti is special in that center embedding also enforces the same-subject constraint on the converbal clause. In normal circumstances, i.e. with a finite synthetic main verb with no gender agreement slot, the subject ($\mathcal{A}/\mathcal{S}$ argument) of the converbal clause has to be the same as the subject of the main clause:

(9) ʔa̲li$_i$, [$\varnothing_{i/*j}$ a:s **d-ič:-ib**], uniwersitet-li ke:χ^w-i
A. money NPL-give.PFV-PCVB university-IN[LAT] enter.PFV-PRET.3
'Ali, **having given** money, entered the university.'

If the main clause contains a periphrastic form and the auxiliary has a gender slot, the same pattern is observed when the auxiliary agrees with $\mathcal{A}$ (which is the

7. Since the antipassive has no morphological marking of its own, this process could be viewed as a kind of verbal lability. See Sumbatova and Lander (2014) for convincing arguments against such an analysis.

unmarked and most frequent case). However, if auxiliary in the main clause agrees with $\mathcal{P}$ (hence the "inverse" pattern is observed), the subject reference in the converbal clause switches to $\mathcal{P}$:

(10) a. rasul.li-j, [qili-j w-id.až-ib.ži.la], pat'imat j-ulħ-unni
R.-DAT house.IN-EL M-go.away.PFV-since P. F-see.PFV-PRF
a-sa-**w** / * a-sa-**j**
NEG-3-M NEG-COP-F
'Since **he** left home, **Rasul** has not seen Patimat.'

b. rasul.li-j, [qili-j j-id.až-ib.ži.la], pat'imat j-ulħ-unni
R.-DAT house.IN-EL F-go.away.PFV-since P. F-see.PFV-PRF
a-sa-**j** / * a-sa-**w**
NEG-3-F NEG-COP-M
'Since **she** left home, Rasul has not seen **Patimat**.'

Given that the same-subject restriction on embedded converbs is generally very strong in Ashti, these data are significant. They demonstrate that when $\mathcal{P}$ triggers gender agreement on the auxiliary, it does get promoted to a higher syntactic status, although this cannot be the canonical subject as case marking is left unchanged.

It is important to observe that this behaviour is not observed for person agreement, i.e. the subject of center-embedded converbal clauses has to be coreferent with $\mathcal{A}$ even if the verb agrees with $\mathcal{P}$ according to the person hierarchy:

(11) pat'imat.li-j, [qil sąq'-ų̈n-mu:til], du ų̈lħ-unni
P.-DAT house.IN[LAT] come.PFV-PCVB-when I [M]see.PFV-PRF
a-da
NEG-1SG
'Patimat did not see **me** when (she) came home.'

Hence, person agreement and gender agreement of the auxiliary are not part of the same system after all, and the analysis in Belyaev (2016) has to be revised. While person agreement is hierarchical, gender agreement of the auxiliary is a special alternation which only occurs in 3rd person predications and which seems to promote the agreement controller to the status of syntactic pivot.

Thus, although discourse data suggest that $\mathcal{P}$ agreement is the pragmatically unmarked case, syntactically it is the other way around: clauses with $\mathcal{A}$ agreement pattern in the same way as synthetic clauses or clauses with 1/2 person agreement, while in clauses with $\mathcal{P}$ agreement the patient is promoted to subject-like status.

5 Sketch analysis

5.1 Gender controller as pivot

As data from only one construction cannot be used to argue in favour of a full-fledged analysis, in this section I will only provide a brief sketch of how I believe this situation

can be handled in LFG. Even though auxiliary gender agreement does seem to involve a kind of promotion, I see no need to go back to the biclausal analysis of Sumbatova (2014) or the more moderate version of Ganenkov (forthcoming). For describing the Ashti "inverse", the approach of Falk (2006) can be used which distinguishes between the traditional subject (renamed by Falk to $\widehat{\text{GF}}$, i.e. "most prominent argument"), object (OBJ), and a special grammatical function pivot (PIV). The pivot is structure shared with one of the core arguments in the following way:

- in syntactically accusative languages, $\widehat{\text{GF}}$ = PIV;
- in syntactically ergative languages, $\widehat{\text{GF}}$ = PIV in transitive clauses, OBJ = PIV in intransitive clauses.

Dargwa languages do not display any major features of syntactic accusativity. Most grammatical features are either tied to the traditional subject ($\mathcal{A}/\mathcal{P}$), or depend on the thematic or person hierarchy rather than grammatical function. The only feature of Dargwa grammar that is unquestionably ergative is gender agreement (apart from the auxiliary), which is always with the absolutive. But this pattern can be treated as morphologically triggered by absolutive case on the controller; assigning a special status to the absolutive argument is not required.

Therefore, the grammatical function PIV in Dargwa does not have to be identified with $\mathcal{S}/\mathcal{P}$, as in syntactically ergative languages. Neither do we have to assume that Dargwa is always accusative. A possible analysis is the following: PIV defaults to $\widehat{\text{GF}}$, but can switch to OBJ in constructions with an agreeing auxiliary. Notably, Falk does provide such a possibility for "topic-prominent" languages such as Acehnese, for which he proposes the following equation defining PIV:

(12) $(\uparrow \textsc{piv}) = (\uparrow \textsc{df})$

Thus the pivot is identified with a discourse function DF, although in the case of Ashti, as discussed in this paper, the identity of this DF is far from being clear.

Under this analysis, person agreement system stays the same as described in Belyaev (2016), namely, AGR is freely assigned to $\mathcal{A}$ or $\mathcal{P}$, and the result is then evaluated using a system of OT constraints.

5.2 Formalization

The description of agreement in Dargwa can be simplified by adopting the following templates (Asudeh, Dalrymple, and Toivonen 2013):

(13)
$$\begin{aligned}
&\textsc{@pers_agr} := && \{(\uparrow \textsc{agr}) = (\uparrow \widehat{\text{GF}}\ \textsc{agr}) \mid \\
&&& \ (\uparrow \textsc{agr}) = (\uparrow \textsc{piv agr})\} \\
&\textsc{@gend_agr}(_\text{GEND}, _\text{NUM}) := && (\uparrow \underset{(\rightarrow \textsc{case}) =_c \textsc{abs}}{\text{GF}} \textsc{agr gend}) =_c _\text{GEND} \\
&&& (\uparrow \underset{(\rightarrow \textsc{case}) =_c \textsc{abs}}{\text{GF}} \textsc{agr num}) =_c _\text{NUM}
\end{aligned}$$

The job of the person template is to ensure that person agreement is limited to core arguments. The syntactic components itself does not care about the controller of

person agreement: it is disjunctively assigned to subject or object. The hierarchical aspect of agreement is modeled as in Belyaev (2013, 2016) via a set of OT constraints on the person features and grammatical function of the argument whose AGR features are shared.

The template in (13) template can be introduced at the I node to ensure that it only applies to finite clauses:

(14) $\text{IP} \rightarrow \underset{\uparrow=\downarrow}{\text{S}} \quad \underset{\uparrow=\downarrow}{\underset{@\text{PERS\_AGR}}{\text{I}}}$

The gender template is added to all clause-level elements that contain gender agreement slots, e.g.:

(15) *wac'a-c:i-w* N $(\uparrow \text{PRED}) = \text{'forest'}$
$(\uparrow \text{AGR GEND}) = \text{NEUT}$
$(\uparrow \text{AGR NUM}) = \text{SG}$
$@\text{GEND\_AGR}(\text{M}, \text{SG})$

For the agreeing auxiliaries, a separate template is required as they are not connected to the absolutive argument but rather to the pivot:

(16) $@\text{PIV\_AGR}(\text{\_GEND}, \text{\_NUM}) :=$ $(\uparrow \text{PIV AGR GEND}) =_c \text{\_GEND}$
$(\uparrow \text{PIV AGR NUM}) =_c \text{\_NUM}$

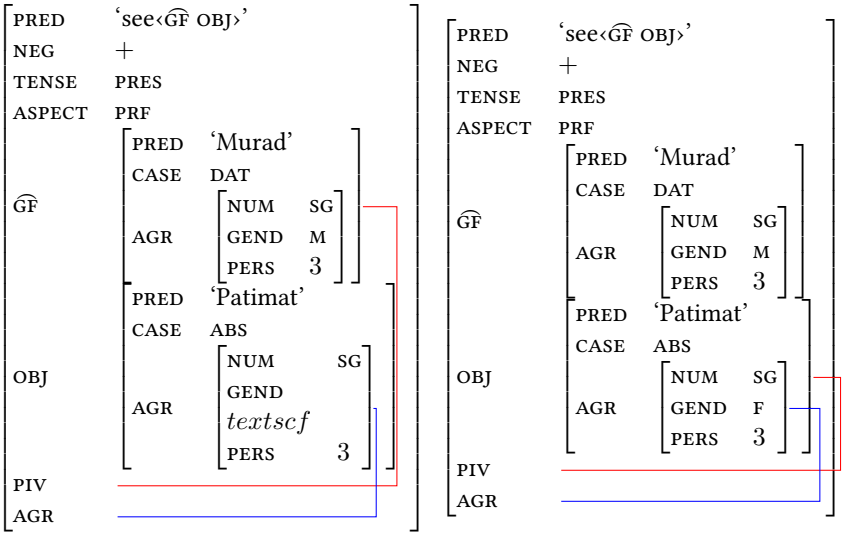
Certainly, this may be viewed as less economical than having a single rule for all gender agreement. However, stipulation of a biclausal structure is hardly better. Furthermore, separate rules are already required for NP-internal gender agreement (such as adjectives with their heads), which does not require the controller to stand in the absolutive case.

With these templates, the entries for the 2nd person marker and the 3rd person auxiliary with a gender slot will have the following form:

(17) *=di* I $(\uparrow \text{TENSE}) = \text{PRES}$
$(\uparrow \text{AGR PERS}) = 2$
$(\uparrow \text{AGR NUM}) = \text{SG}$
$(\uparrow \text{PIV}) = (\uparrow \widehat{\text{GF}})$

=sa-j I $(\uparrow \text{TENSE}) = \text{PRES}$
$(\uparrow \text{AGR PERS}) = 3$
$@\text{PIV\_AGR}(\text{F}, \text{SG})$
$\{ (\uparrow \text{PIV}) = (\uparrow \widehat{\text{GF}}) \mid$
$(\uparrow \text{PIV}) = (\uparrow \text{OBJ}) \}$

Below, side by side, are shown the examples of subject and object agreement following this analysis:



5.3 Further questions

This interpretation of the data leads to new questions. First, why is 1/2 person agreement "glued" to gender agreement when both are present on auxiliary?

(18) a. u-dil t'ut' sa.q:-ib-zi-**w=di** / *sa.q:-ib-zi-b(=di)
thou-ERG bread N-bring.PFV-PCVB-ATTR-M=2SG -N(=2SG)
'You (m.) have brought bread.'

b. dam hantaj‹b›ug-un=da [u-dil t'ut' sa.q:-ib-zi-**b**
me.DAT ‹N›forget.PFV-PRF=1 thou-ERG bread bring-PCVB-ATTR-N
b-uχ-ni]
N-be.PFV-MSD
'I have forgotten that you've brought **the bread**.'

In Belyaev (2016), this was explained by assigning person and auxiliary gender agreement to the same syntacic mechanism, but we have seen that this cannot be the case. It rather seems that the presence of 1st and 2nd person features somehow blocks the syntactic machinery involved in gender agreement.

Furthermore, there is no explanation for asymmetry between $\mathcal{A}$ and $\mathcal{P}$ agreement observed above, both in their pragmatic function and in $\mathcal{A}$ being the default pivot. A more explanatory approach would be desirable, but requires additional evidence; this preliminary treatment may be viewed as only one step towards an ultimate solution.

6 Conclusion

In this paper, I have analyzed two main questions related to the mystery of variable gender agreement on auxiliaries in Ashti and Kubachi Dargwa. First, I have provided

an evaluation of the topicality hypothesis of gender agreement based on a corpus of Kubachi texts. The texts demonstrate that while topicality does seem to determine agent agreement, it does not play a significant role in patient agreement, pointing to an asymmetry between the two types. Second, I have provided a reevaluation of the syntactic status of agreement in Ashti, showing that the controller of gender agreement is assigned syntactic pivot status. A tentative LFG analysis is provided, but many questions remain for further research.

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