

## CHAPTER 20

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# AGREEMENT IN LANGUAGES OF THE CAUCASUS

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STEVEN FOLEY

### 20.1 INTRODUCTION

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AGREEMENT is a prominent morphosyntactic phenomenon in the languages of the Caucasus, manifesting in diverse and complex ways. Defined pretheoretically, agreement is the covariation between the formal features of one grammatical element (the agreement *target*) and the formal or semantic features of another (the agreement *controller*) (Corbett, 2006, p. 4). The following examples from Hinuq illustrate this. In each, the absolutive subject controls an agreement that targets the verb (both are in bold); a prefix on the verb covaries with the subject's grammatical gender, glossed with Roman numerals.

(1) Hinuq

- |    |                        |               |                   |
|----|------------------------|---------------|-------------------|
| a. | <b><i>uži</i></b>      | <i>q'idir</i> | <i>Ø-ił'i-yo.</i> |
|    | boy(I).ABS             | down          | I-go-PRS          |
|    | 'The boy falls down.'  |               |                   |
| b. | <b><i>ked</i></b>      | <i>q'idir</i> | <i>γ-ił'i-yo.</i> |
|    | girl(II).ABS           | down          | II-go-PRS         |
|    | 'The girl falls down.' |               |                   |
| c. | <b><i>k'et'u</i></b>   | <i>q'idir</i> | <i>b-ił'i-yo.</i> |
|    | cat(III).ABS           | down          | III-go-PRS        |
|    | 'The cat falls down.'  |               |                   |
| d. | <b><i>t'ek</i></b>     | <i>q'idir</i> | <i>γ-ił'i-yo.</i> |
|    | book(IV).ABS           | down          | IV-go-PRS         |
|    | 'The book falls down.' |               |                   |

- e. *t'oq*                      *q'idir*    *r-iʃ'i-yo*.  
 knife(v).ABS    down    v-go-PRS  
 'The knife falls down.' (Forker, 2013b, p. 466)

More complex agreement relationships involve targets with more than one controller, or controllers with more than one target. Both situations occur in (2), a noun phrase containing a relative clause from Archi. Within the relative clause, the absolutive object  $\chi^{\text{f}}o\dot{s}on$  'dress' controls gender agreement prefixes both on the lexical verb and the auxiliary. The auxiliary also shows suffixal agreement with the gender of the head noun, *buwa* 'mother'. Agreement relations controlled by these two nouns are formatted differently (being either **bold** vs. boxed), a notational convention used throughout this chapter.<sup>1</sup>

- (2) Archi  
 $\chi^{\text{f}}o\dot{s}on$                       *b-arši*                      *b-i-t:u-r*                      *buwa*  
**dress(III).ABS**    **III-make.CVB**    **III-be.PRS-ATTR-II**    mother(II).ABS  
 'mother who is making a dress'                      (Chumakina & Bond, 2016, p. 108)

When one dives deeper into Caucasian languages, it becomes clear that agreement dependencies like those in (1) and (2) are just the tip of the iceberg. Indeed, each of the three language families indigenous to the region represents a typologically distinct agreement system—from absolutive-controlled gender agreement in the Nakh-Dagestanian family, to ergative-aligned polysynthetic agreement in Northwest Caucasian, to the complex interactions between features and between agreement controllers in Kartvelian—and internal to each family there is considerable microvariation. Together, these languages exemplify many agreement phenomena of great typological and theoretical interest. Some of these, each attested in at least one Caucasian language, are summarized in (3).

- (3) Notable agreement phenomena in the languages of the Caucasus
- Ergativity*: Agreement morphemes display an ergative-absolutive alignment pattern.
  - Multiple exponence*: Features of a single agreement controller appear multiple times within a single target, or across multiple targets within a single syntactic domain.
  - Long-distance agreement*: An agreement relationship holds between a target and controller which are not both in the normal locality domain (e.g., the clause).
  - Morpheme blocking*: On their own, controller X triggers morpheme  $\alpha$ , and Y triggers  $\beta$ . But when both X and Y co-occur, only  $\alpha$  appears; in other words,  $\alpha$  blocks  $\beta$ .
  - Omnivorous agreement*: The same morpheme that expresses feature [F] is triggered by heterogeneous controllers (e.g., both subject and objects) bearing [F].
  - Wh-agreement*: Special agreement morphology triggered by arguments that have undergone  $\bar{A}$ -movement (e.g., *wh*-movement or relativization).

<sup>1</sup> In the presentation below,  $x > y$  means subject ( $x$ ) acting on object ( $y$ ), and  $x > y > z$  denotes subject ( $x$ ) acting on indirect object ( $y$ ) and direct object ( $z$ ).

- g. *Inverse agreement*: Controller X normally triggers morpheme  $\alpha$ , and Y normally triggers  $\beta$ . In special environments (generally dative-subject constructions), the agreement pattern seems to “invert”—X triggers  $\beta$ , and Y triggers  $\alpha$ .

The goal of this chapter is to provide a reference useful to areal scholars and specialists on agreement alike. Empirical generalizations will be prioritized, but relevant theoretical treatments will also be discussed. Agreement among predicates and their arguments will be the focus; agreement between a noun and its modifiers, or nominal concord, also exists in these languages, but for space I do not discuss it. Additionally, I will not attempt to diagnose whether a particular agreement morpheme constitutes “agreement proper” or is a pronominal clitic. This distinction can be a very subtle one, requiring sophisticated syntactic evidence to justify (e.g., Kramer, 2014; Preminger, 2009; Yuan, to appear). So, while I use the term “agreement” throughout, it should not be taken as a theoretical claim about the formal syntactic properties of any particular morphological object.

The chapter has the following structure. Sections 20.2, 20.3, and 20.4 discuss Nakh-Dagestanian, Northwest Caucasian, and Kartvelian, respectively. Section 20.5 concludes with some open questions for future research. For reference, an appendix gives full agreement paradigms from select languages.

## 20.2 NAKH-DAGESTANIAN

The Nakh-Dagestanian family is dominated by ergative-aligned agreement in gender (or noun class). These languages typically have between two and eight gender categories: male human and female human usually constitute distinct genders; nonhuman nouns are divided up arbitrarily (chapter 3).<sup>2</sup> Nouns themselves are not marked for gender morphologically. Instead, the primary means of expressing gender is through agreement on verbs and other categories.

The calculus of agreement is, broadly speaking, straightforward: the controller is always and only the absolutive argument of the clause. Nevertheless, Nakh-Dagestanian languages exhibit a number of typologically unusual agreement phenomena. The first involves agreement targets. Verbs (lexical and auxiliary, finite and nonfinite) are the most common loci. But one may also encounter adverbs, particles, postpositions, and even personal pronouns which—at least in a purely descriptive sense—seem to agree with the gender features of the absolutive argument of their clause. Yet within any lexical category which might potentially be an agreement target, only a subset of lexical items actually can express agreement morphologically—just a slim majority of verbs, or a handful of adverbs. But while agreeing types might be in the minority, agreeing tokens are very frequent (e.g., Gagliardi & Lidz, 2014; Nichols, 2011, p. 141), suggesting that the acquisition of gender categories and gender agreement is a less formidable task than it might seem at first.

<sup>2</sup> Nakh-Dagestanian gender categories are glossed differently by different authors: typically with roman numerals (I, II, III...) or animacy/sex-based designations (masculine, human plural, etc.).

Certain syntactic constructions in Nakh-Dagestanian languages involve special agreement phenomena. These include cases where an agreement controller and its target are in different clauses (long-distance agreement), or ones where an apparent single clause has more than one potential or actual controller (“biabsolutives”). Such constructions are well attested in the family and display interesting microvariation.

Finally, a few Nakh-Dagestanian languages have dedicated person agreement, either alongside or instead of gender agreement. Here we see omnivorous patterns (3e)—sometimes governed by a feature hierarchy, and sometimes by the relative structural position of potential controllers—and also highly eccentric distributional patterns of person agreement morphemes.

This section focuses first on clause-bound gender agreement (section 20.2.1), discussing some of the notable morphological phenomena associated with it. Then we turn to a few of the syntactic constructions with special agreement properties (section 20.2.2). The section is rounded out by a description of a few of the person agreement systems in Nakh-Dagestanian languages (section 20.2.3).

### 20.2.1 Gender Agreement

In Nakh-Dagestanian languages with gender agreement, the controller is always the clause’s absolutive argument. As the following Ingush data show, this obtains no matter the absolutive’s syntactic or semantic role.

(4) Gender agreement with absolutive arguments, p. Ingush

- a. *jett*                      *aara-b-ealar*.  
 cow(NH).ABS    out-NH-go.PST.WIT  
 ‘The cow went out.’ (Nichols, 2011, p. 432)
- b. *aaz*            *jett*                      *aara-b-oala-b-yr*.  
 1SG.ERG    cow(NH).ABS    out-NH-go-NH-CAUS.PST.WIT  
 ‘I led the cow out.’ (Nichols, 2011, p. 432)
- c. *Muusaa*            *cwan*    *hamagh*    *v-aashazh*    *v-aac*.  
 Musa(M).ABS    any    thing.LAT    M-like.CVB    M-NEG  
 ‘Musa is not impressed by anything.’ (Nichols, 2011, p. 433)
- d. *yshtta*    *v-eizar*                      *suona*    *Ibrehawam*.  
 thus    M-know.PST.WIT    1SG.DAT    Ibrahim(M).ABS  
 ‘That’s how I got to know Ibrahim.’ (Nichols, 2011, p. 466)

Agreement is typically prefixal, but it may also be expressed with suffixes, infixes, or stem ablaut (van den Berg, 2005b, p. 157). It’s very common to encounter multiple exponence, or the expression of a single agreement target’s features with more than one agreement morpheme (Caballero & Harris, 2012; Harris, 2017). For example, consider Batsbi, where no fewer than three agreement affixes can occur on a single verb (Harris, 2009; cf. Harris & Samuel, 2011).

(5) Multiple exponence within a target: Batsbi

- a. *a d-ic'-d-aq-o-d-ö is bader...*  
 NEG V-forget-V-raise-PRS-V-PRS this child(V).ABS  
 'Don't make this child supercilious!' (Harris, 2009, p. 276)
- b. *y-ox-y-o-y-anö k'ab.*  
 III-rip-III-PRS-III-EVID dress(III).ABS  
 'Evidently she is ripping the dress.' (Harris, 2017, p. 2)

Multiple exponence can also occur across targets within a single agreement domain, as in the following Akhvakh example. Not only do all the lexical and auxiliary verbs of the matrix clause agree with their (null) absolutive subject, this argument also controls suffixal agreement on the verb of the subordinate adverbial clause.

(6) Multiple exponence across targets: Akhvakh

- [ *Mola Rasadi w-ul'-i* ] Ø *š'ela-La*  
 Molla Rasadi(M).ABS M-die-ADV.H.PL pro(H.PL).ABS graveyard-LOC  
*m-āne b-ak'-i goli.*  
 H.PL-go.PROG H.PL-be-ADV.H.PL AUX.H.PL  
 'Molla Rasadi having died, they were going to the graveyard.' (Creissels, 2012, p. 140)

So far, we have seen that Nakh-Dagestanian languages allow verbs of all stripes to agree—lexical and auxiliary, finite and nonfinite. But agreement is not limited to verbs. A remarkable property of Nakh-Dagestanian agreement is its “promiscuity”: a wide range of lexical categories can participate in gender agreement, all controlled by an absolutive clause-mate. Archi in particular has attracted attention for its agreement (Bond, Corbett, Chumakina, & Brown, 2016; Chumakhina & Corbett, 2008; Corbett, 2013, 2015; Polinsky, 2016a; Polinsky, Radkevich, & Chumakina, 2017), but the phenomenon is observed across the family, as examples in (7) show.

(7) Non-verbal agreement targets in Nakh-Dagestanian<sup>3</sup>

- a. Adverbs: Hinuq  
*haytoy y-oʒo t'ek t'ot'er-ho goʔ.*  
 he.ERG IV-fast book(IV).ABS read-CVB AUX  
 'He is reading the book fast.' (Forker, 2013b, p. 525)

<sup>3</sup> Agreement relationships within the noun phrase (a.k.a. nominal concord) exhibit similar promiscuity: head nouns may control agreement in gender, number, and/or case with adjectives, demonstratives, numerals, the case affixes of possessors, and the participial verbs of relative clauses (van den Berg, 2005b, sections 3.1, 3.4).

While promiscuous agreement may be typologically unusual in the clausal domain (though not unique to Nakh-Dagestanian, see Polinsky, 2016a, p. 208), agreement in the nominal domain (a.k.a. nominal concord) is often promiscuous. Norris (2014, section 5.2.2.1), for whom noun-modifier concord and argument-predicate agreement are theoretically distinct, notes this asymmetry, and suggests that Nakh-Dagestanian data like (7) might instantiate ‘clausal concord’.

## b. Particles: Archi

*gubčit:i*      *kʔʌn=ij·b·u*      *b-ez.*  
 basket(III).ABS    want=EMPH<III>    III-1SG.DAT  
 ‘I only WANT a basket.’ (Bond & Chumakina, 2016, p. 74)

c. Postpositions: Khwarshi<sup>4</sup>

*obu-tʼi*      *qʰwʼanač*      *buλu-lo*      *l-ololʔ*      *kertʼi*  
 father-ERG    two      shed(III)-GEN    IV-between    fence(IV).ABS  
*l-i-yi.*  
 IV-do-PST.WIT  
 ‘The father made a fence between two sheds.’ (Khalilova, 2009, p. 138)

## d. Pronouns: Archi

*nenab·u*      *ja-b*      *tilivizor*      *b-ez*      *mu*      *a·b·u.*  
 IINCL.ERG<III>    this-III    television(III).ABS    III-1SG.DAT    be.good    <III>do.PFV  
 ‘We fixed this TV set for me.’ (Polinsky, Radkevich, & Chumakina, 2017, p. 57)

The theoretical import of agreement promiscuity in Nakh-Dagestanian should be emphasized. Data like (7a) and (7d) are *prima facie* problematic for a theory which models agreement as a syntactic relationship initiated by syntactic heads (Chomsky, 2000, 2001, et seq.), since pronouns and adverbs are at least plausibly syntactic phrases (i.e., maximal projections). Focusing on Archi’s “agreeing” pronouns, Polinsky, Radkevich, & Chumakina (2017) conclude that the problem is only superficial. They argue that the pronoun does not agree directly with its absolutive clause-mate in these cases; rather, the agreement holds between the pronoun and a series of functional heads, some of them phonologically null. This analysis requires no syntactic operations which are outside the toolbox of a standard Minimalist theory. As for agreeing adverbs, Polinsky (2016a) sketches a few possible analyses of the data which are compatible with Minimalist assumptions about agreement, noting that future research will be necessary to adjudicate between them.

## 20.2.2 Agreement in Special Syntactic Constructions

We have seen that Nakh-Dagestanian agreement calculus is generally quite simple: whatever the target, it reflects the gender of its absolutive clause-mate. However, there are several syntactic constructions which complicate this picture. Descriptively, these include constructions which either widen the normal agreement domain to include a normally inaccessible controller (long-distance agreement), or which license more than one absolutive noun within a single domain (biabsolutive constructions). There is considerable microvariation in both these constructions, a testament to the fact that superficially similar constructions, even across very closely related languages, can have very different syntactic properties.

<sup>4</sup> Compare Khwarshi to Ingush, where some postpositions agree with their own DP complement, rather than with the absolutive argument of the clause (Nichols, 2011, p. 434).

### 20.2.2.1 Long-Distance Agreement

Normally, Nakh-Dagestanian agreement is constrained by locality: only syntactic categories within the same clause can participate in an agreement relationship. Under certain circumstances, though, this locality restriction is (at least apparently) relaxed, resulting in long-distance agreement (LDA).<sup>5</sup> Take Tsez, whose LDA is thoroughly investigated by Polinsky and Potsdam (2001). In this language, verbs that take clausal complements typically show agreement in the default gender, class IV (8a). An alternative, though, is for the matrix verb to agree with the absolutive argument of the *embedded* clause (8b). For Tsez, there is convincing evidence that this agreement dependency is indeed long-distance—i.e., crossing across a genuine clause boundary—since independent syntactic diagnostics show the absolutive agreement controller to be within the embedded clause.

(8) Tsez

- a. *eni-r* [ *už-ā* *magalu* *b-āc'-ru-ti* ] *r-iy-xo*.  
 mother-DAT boy-ERG bread(III).ABS III-eat-PTCP-NMLZ IV-know-PRS  
 'The mother knows the boy ate the bread.'
- b. *eni-r* [ *už-ā* *magalu* *b-āc'-ru-ti* ] *b-iy-xo*.  
 mother-DAT boy-ERG **bread(III).ABS** III-eat-PTCP-NMLZ **III-know-PRS**  
 'The mother knows the boy ate the bread.' (Polinsky & Potsdam, 2001, p. 609)

However, LDA is not a freely available option. In Tsez, only absolutives that are topics of the embedded clause can control agreement on the matrix verb. LDA is impossible with embedded nouns that are focused or semantically incompatible with topichood. Furthermore, LDA cannot cross more than one clause boundary, and is blocked in the presence of a complementizer, *wh*-word, or a second topic in the embedded clause. Polinsky and Potsdam use these facts as evidence in favor of a covert movement analysis, whereby topics move at Logical Form to a dedicated position in the periphery of the embedded clause. This makes them local enough to the matrix verb, at least at some level of grammatical representation, to participate in agreement.

Details of LDA vary across the Nakh-Dagestanian languages. For example, Hinuq, a close relative of Tsez, also exhibits the phenomenon. Like Tsez, Hinuq matrix verbs have the option to agree across a clause boundary (9). But unlike Tsez, Hinuq LDA can cross multiple clause boundaries, is not blocked by embedded *wh*-phrases, and can target absolutives which are focal or incompatible with topicality (Forker, 2013b, pp. 628–639).

(9) Hinuq

- a. *haytoy diž* [ *buže* *b-uw-a* ] *λ'ere b-ux-iš*.  
 he.ERG 1SG.DAT **house(III).ABS** III-do-INF up **III-take-PST**  
 'He promised me to build a house.' (Forker, 2013b, p. 628)

<sup>5</sup> LDA is found in other languages, including Basque, Chukchi, Hindi-Urdu, and Passamaquoddy. For an overview, see Polinsky (2003) and Bhatt & Keine (2017).

- b. *diž* *y-eq'i-yo* [ *ʔumar-i* [ *Madina* *y-aq'e-s=ʒen* ]  
 ISG.DAT II-know-PRS Umar-ERG Madina(II).ABS II-come-PST=QUOT  
*ese-s-ʔi.* ]  
 tell-RES-ABSTRACT  
 'I know that Umar said that Madina came.' (Forker, 2013b, p. 633)
- c. *Šamil-ez* *b-eq'i-yo* [ *ni* *Madina-y* *mecxer*  
 Šamil-DAT III-know-PRS where Madina-ERG money(III).ABS  
*b-uqi-š-ʔi.* ]  
 III-hide-RES-ABSTRACT  
 'Šamil knows where Madina hid the money.' (Forker, 2013b, p. 637)

Another language with apparent LDA is Godoberi, where certain embedding verbs can agree with the absolutive object of their infinitival complements. However, based on scrambling and *wh*-question facts, Haspelmath (1999) argues that examples like (10) are actually monoclausal, derived through a syntactic mechanism of clause union or restructuring. This distinguishes Godoberi from Tsez and Hinuq, where agreement can cross demonstrable clause boundaries.

- (10) Godoberi  
*ʒali-č'u* [ *gyazeta-be* *r-ax-i* ] *r-eʔuč-a.*  
 Ali-CONT paper(N)-PL.ABS nH.PL-take-INF nH.PL-forget-AOR  
 'Ali forgot the buy newspapers.' (Haspelmath, 1999, p. 131)

#### 20.2.2.2 Biabsolutive Constructions

As their name suggests, biabsolutive constructions involve notionally transitive clauses with two absolutive arguments, ergative case on the subject being suppressed.<sup>6</sup> Widely attested across the Nakh-Dagestanian family, biabsolutives typically convey progressive or imperfective actions. Many languages place additional semantic constraints on the construction: for example, the subject must be animate, agentive, or topical; the verb must be eventive; the object must precede the verb. For a detailed overview, see Forker (2012).

The biabsolutive construction has an important effect on gender agreement. To illustrate, consider the following examples from Lak and Tsez. In the versions with ergative subjects (11a), (12a), a familiar pattern obtains: the absolutive object controls agreement. But in the biabsolutive versions (11b), (12b), both arguments control agreement: the object controls agreement on the lexical verb, and the subject controls agreement on the auxiliary.

- (11) Lak  
 a. *Aʔli-l* *q:at:a* *b-ullaʒ* *b-ur.*  
 Ali(I)-ERG house(III).ABS III-do.PROG III-AUX  
 'Ali is building a house.'

<sup>6</sup> Similar constructions are found in many other ergative languages, including Basque, Burushaski, Hindi-Urdu, Iranian languages, and Mayan languages (Coon, 2013; Dixon, 1994, pp. 70–110, Forker, 2012, p. 76).



- b. *Aʕli* *q:at:a* *b*-*ullaj* *Ø-ur*.  
 Ali(I).ABS house(III).ABS III-do.PROG I-AUX  
 ‘Ali is (in the state of) building a house.’ (Gagliardi, Goncalves, Polinsky, & Radkevich, 2014, p. 144)

(12) Tsez

- a. *ʕal-ā* *ʕʕutku* *r*-*oy-s(i)*.  
 Ali(I)-ERG house(IV).ABS IV-make-PST.EVID  
 ‘Ali built a house.’
- b. *ʕali* *ʕʕutku* *r*-*oy-x(o)* *Ø-ičā-si* (*zow-s(i)*).  
 Ali(I).ABS house(IV).ABS III-make-AFFIRM I-stay-RES (be-PST.EVID)  
 ‘Ali was (in the state of) building a house.’ (Gagliardi, Goncalves, Polinsky, & Radkevich, 2014, p. 144)

What about other agreeing agreement targets? At least in Avar and Archi, either argument can control agreement on an agreeing adverb. However, the two options are not in free variation. In Avar, adverbs which follow the object register object agreement; adverbs which precede the object register subject agreement (13). In Archi, the two agreement options can have interpretative differences (14). Both of these facts suggest the structural position of an agreeing adverb determines its controller.

(13) Avar

- a. *emen* *xer* *hani-b* *b*-*ec-ule-w* *w-ukʕana*.  
 father(I).ABS hay(III).ABS here-III III-mow-PTCP-I I-be.PST  
 ‘Here father was mowing the grass.’
- b. *emen* *hani-w* *xer* *b*-*ec-ule-w* *w-ukʕana*.  
 father(I).ABS here-I hay(III).ABS III-mow-PTCP-I I-be.PST  
 ‘Here father was mowing the grass.’ (Forker, 2012, pp. 88–89)

(14) Archi

- a. *Patʕi* *dit:a* *b* *qʕwib* *b*-*orkʕin-ši* *d-i*.  
 Pati(II).ABS early-III potato(III).ABS III-dig.IPFV-CVB II-be.PRS  
 ‘Pati is digging the potatoes out early.’ (lit. ‘It’s too early for the potatoes to be ready.’)
- b. *Patʕi* *dit:a* *r* *qʕwib* *b*-*orkʕin-ši* *d-i*.  
 Pati(II).ABS early-II potato(III).ABS III-dig.IPFV-CVB II-be.PRS  
 ‘Pati is digging the potatoes out early.’ (‘Pati got up early.’)  
 (Chumakina & Bond, 2016, p. 97)

While superficially similar, biabsolutives across Nakh-Dagestanian do not have a uniform syntax. Gagliardi, Goncalves, Polinsky, & Radkevich (2014) argue for two distinct structures. In languages like Lak (11), biabsolutives are monoclausal, involving a restructuring aspectual verb (cf. Kazenin, 1998). In languages like Tsez (12), they are biclausal, involving nominalized verb phrases embedded under a postposition. Evidence for these

distinct treatments includes the ability of the biabsolutive object to participate in certain types of  $\bar{A}$ -movement. While the object can undergo scrambling, *wh*-movement, and relativization in Lak, it cannot do any of these in Tsez (Gagliardi, Goncalves, Polinsky, & Radkevich, 2014, pp. 153–161). Restrictions on movement in Tsez follow from the proposed biclausal structure, as the lower nominalized VP constitutes an island. Paralleling the variation observed in LDA, these facts go to show that similar sets of agreement facts can have very different syntactic sources.

### 20.2.3 Person Agreement

A few Nakh-Dagestanian languages show agreement in person features (Helmbrecht, 1996). The resulting patterns are complex and vary between languages and dialects. A few patterns are simplified in the following table. ('L' stands for first or second person, a.k.a. local person;  $x > y$  stands for a structure with a subject with features  $x$  and object with features  $y$ .)

(15) Controllers of person agreement in transitive clauses across Nakh-Dagestanian

	$L > \boxed{L}$	$3 > \boxed{L}$	$L > \boxed{3}$	$3 > \boxed{3}$	Generalization
Udi, Batsbi	SUBJ	SUBJ	SUBJ	SUBJ	Subject agreement
Lak	$\boxed{ABS}$	$\boxed{ABS}$	$\boxed{ABS}$	$\boxed{ABS}$	Absolutive agreement
Dargwa	$\boxed{OBJ}$	$\boxed{OBJ}$	SUBJ	—	Agree with L-person; object pref.
Tabasaran	SUBJ(+ $\boxed{OBJ}$ )	SUBJ/ $\boxed{OBJ}$	SUBJ	SUBJ?	~Agree with L-person; subj. pref.

Take Udi (Harris, 2002; Schulze, 2011). Its agreement profile in the above table is deceptively simple. This language has a set of agreement morphemes that cliticize onto some host (16).<sup>7</sup> The controller of this morpheme is always the subject, so in that sense Udi's agreement system is indeed straightforward.

(16) Agreement markers in Udi (Harris, 2002, p. 28)

	S.ERG/ABS	S.DAT	S.GEN
1SG	= <i>z(u)</i>	= <i>za</i>	= <i>bez, =bes</i>
2SG	= <i>n(u), =ru, =lu</i>	= <i>va</i>	= <i>vi</i>
3SG <sup>8</sup>	= <i>ne, =le, =re</i>	= <i>t'u</i>	= <i>t'a</i>
1PL	= <i>yan</i>	= <i>ya</i>	= <i>beš</i>
2PL	= <i>nan, =ran, =lan</i>	= <i>va(n)</i>	= <i>ef</i>
3PL	= <i>q'un</i>	= <i>q'o</i>	= <i>q'o</i>

What's complex about the Udi agreement morphemes is determining which word they cliticize onto—or, occasionally, into. Harris (2002, pp. 115–144) identifies a hierarchy of potential hosts, which I simplify here. If the clause is in a particular TAM (e.g., FUTII), the agreement morpheme must encliticize to the verb (17a). Otherwise, it encliticizes to a

<sup>7</sup> While Udi agreement morphemes are certainly clitics in the phonological sense (Harris, 2002, pp. 94–114), I remain agnostic as to whether they are also syntactic clitics (i.e., *bona fide* pronouns).

<sup>8</sup> In certain types of questions, the 3SG subject morpheme takes a special form: =*a* (Harris, 2002, pp. 30–31, 183–186).

negation marker, if one is present (17b). Otherwise, it encliticizes to any focused constituent (17c). Otherwise, it slots into the verb complex, right before a light verb morpheme (17d). And if it has no better choice, the morpheme “endoclititicizes” into the verb root itself, aligning to the right of the last consonant (17e). Besides providing a synchronic description of this pattern, Harris (2002, chs. 8–12) proposes a diachronic pathway for its development, rooted in the reanalysis of a cleft construction still found in other Nakh-Dagestanian languages.

(17) Udi

- a. *q'áčay-γ-on bez tānginax bašq'-al=q'un.*  
 thief-PL-ERG my money.DAT steal-FUTII=3PL  
 ‘Thieves will steal my money.’ (Harris, 2002, p. 117)
- b. *nana-n te=ne buɣa-b-e pə ačik'alšey.*  
 mother-ERG NEG=3SG find-LV-AORII two toy.ABS  
 ‘Mother did not find two toys.’ (Harris, 2002, p. 117)
- c. *q'áčay-γ-on bez tānginax=q'un bašq'-e.*  
 thief-PL-ERG my money.DAT=3PL steal-AORII  
 ‘Thieves stole MY MONEY.’ (Harris, 2002, p. 119)
- d. *nana-n buɣa-⟨ne⟩-b-e pə ačik'alšey.*  
 mother-ERG find-⟨3SG⟩-LV-AORII two toy  
 ‘Mother found two toys.’ (Harris, 2002, p. 122)
- e. *q'áčay-γ-on bez tānginax bašq'un-q'-e.*  
 thief-PL-ERG my money.DAT steal-⟨3PL⟩-AORII  
 ‘Thieves stole my money.’ (Harris 2002, p. 125)

The remaining languages in (15) have agreement morphemes whose distributions are tamer (all are verbal suffixes), but whose controllers are determined by a more complex calculus. Batsbi person agreement tracks the subject of the clause (Helmbrecht, 1996, p. 144; Holisky, 1987), but agentive and non-agentive intransitive subjects trigger different agreement morphemes (Holisky, 1987, p. 105). In Lak, person agreement tracks the absolutive argument, paralleling its gender agreement system (with a few caveats; see Helmbrecht, 1996, pp. 131–135).

In Dargwa and Tabasaran, the agreement system compares the person features of the subject and object. In clauses where one argument is local person (first or second) and the other is third person—i.e.,  $L > 3$  or  $3 > L$  environments—the verb agrees with the local person agreement. (In Tabasaran, agreement with local person objects appears to be optional.) Since the same agreement morpheme is used whether the controller is a subject or object, this is a case of “omnivorous” person agreement (Nevins, 2011; Preminger, 2014, ch. 4).

Where the languages pull apart is in clauses with two local-person arguments (i.e.,  $1 > 2$  or  $2 > 1$ ). One might imagine that both arguments trigger agreement. Indeed, this is an option in Tabasaran—but only for  $1 > 2$  verbs. Elsewhere, the subject and object compete to control agreement. In Aqusha Dargwa, the object wins across the board, blocking

subject agreement (a). In Tabasaran 2>1 verbs, the subject wins. The following examples illustrate the core patterns; paradigms are provided in the appendix.

(18) Aqusha Dargwa

- a. *nu-ni* rursi r-it-i-ra.  
 1SG-ERG girl(F).ABS F-hit-AOR-1  
 'I hit the girl.'
- b. *dudeš-li* nu r-it-i-ra.  
 father(M)-ERG 1SG(F).ABS F-hit-AOR-1  
 'Father hit me.'
- c. *nu-ni* hu r-it-i-ri.  
 1SG-ERG 2SG(F).ABS F-hit-AOR-2  
 'I hit you.'
- d. *hu-ni* nu r-it-i-ra.  
 2SG-ERG 1SG(F).ABS F-hit-AOR-1  
 'You hit me.'

(van den Berg, 1999, p. 158)

(19) Tabasaran, Djubek dialect<sup>9</sup>

- a. *izu* dumu *uvčunu-za*.  
 1SG(.ERG) 3SG.ABS beat-1SG  
 'I beat him/her.' (Kibrik & Seleznev, 1982, p. 23)
- b. *durū* izu *uvčunu-za* / ...*uvčun-uv*.  
 3SG.ERG 1SG(.ABS) beat-1SG ...beat-3  
 'S/he beat me.' (Kibrik & Seleznev, 1982, p. 23)
- c. *izu* ivu *uvčunu-za* / ...*uvčunu-zu-vu*.  
 1SG(.ERG) 2SG(.ABS) beat-1SG ...beat-1SG-2SG  
 'I beat you.' (Kibrik & Seleznev, 1982, pp. 22, 29)
- d. *ivu* izu *uvčunu-va* / ...\**uvčunu-vu-zu*.  
 2SG(.ERG) 1SG(.ABS) beat-2SG ...\*beat-2SG-1SG  
 'You beat me.' (Kibrik & Seleznev, 1982, pp. 21, 27, 29)

<sup>9</sup> Tabasaran person agreement shows some dialectal variation (Kibrik & Seleznev, 1982). In the Khiv and Kondik dialects, there are two sets of local-person suffixes: one (ending in /a/) is controlled by ergative and agentive intransitive subjects; a second (ending in /u/), by direct objects and non-agentive intransitive subjects. (In Djubek, the /u/ forms only appear when there is more than one person suffix on a verb, as in (19c).) In the Khiv dialect only, both 1>2 and 2>1 verbs may bear an object suffix.

- (i) Tabasaran  
*dumu iziʔin alarxunu-ziʔin*.  
 3.ABS 1SG.SPRESS attack-1SG.SPRESS  
 'S/he attacked me.'

- (ii) Tabasaran  
*jas agaji dumu uvčun-as*.  
 my father.ERG 3SG.ABS beat-1SG.GEN  
 'My father beat him/her.'

Additionally, all three dialects have an elaborate set of suffixes controlled by local person pronouns in oblique cases (Kibrik & Seleznev, 1982, p. 23).

## 20.3 NORTHWEST CAUCASIAN

Northwest Caucasian languages stand out for their polysynthetic verbal morphology: ergative, absolutive, and dative arguments each have their own prefixal agreement slot within the verbal complex; agreement with other oblique arguments can also be accommodated with a range of applicative morphemes. Nouns and postpositions may also bear agreement prefixes, controlled by their possessors and nominal complements, respectively. Agreement reflects controller's person, number, and (in Abaza and Abkhaz) gender. Section 20.3.1 describes this core  $\phi$ -agreement system.

On the whole NWC verbal morphology is extremely intricate (Chirikba, 2003a; Dumézil, 1932; Hewitt, 1989). However, the agreement system is relatively straightforward, and generally does not interact with syntactic constructions in unusual ways. One exception is found in contexts of  $\bar{A}$ -extraction (including *wh*-movement and relativization). Here the extracted argument controls special "*wh*-agreement" (chapter 10; Baier, 2016; O'Herin, 2002; cf. Chung, 1994; Chung & Georgopoulos, 1988), morphology that replaces the normal  $\phi$ -agreement prefix on the relevant target. Section 20.3.2 focuses on NWC *wh*-agreement and its quirks.

### 20.3.1 Phi-Feature Agreement

The verbal complex in NWC contains a prefixal agreement slot for every clausal argument.<sup>10</sup> Some illustrations are given in (20).

- (20) a. Agreement with multiple arguments: Kabardian

<i>sə-</i>	<i>r-</i>	<i>jə-</i>	<i>t.</i>	
1SG.ABS-	3PL.DAT-	3SG.ERG-	give	
'S/he gives me to them.'				(Matasović, 2010a, p. 37)

- b. Agreement with multiple arguments: Abkhaz

<i>d-</i>	<i>à-</i>	<i>ts'à-</i>	<i>j-</i>	<i>ts'à</i>	<i>-jt'.</i>
3H.ABS-	3NH.DAT-	PV-	3M.ERG-	put	-AOR
'He put him/her under it.'					(Hewitt, 1989, p. 66)

- c. Agreement with multiple arguments: Abaza

<i>j-</i>	<i>sə-</i>	<i>z-</i>	<i>čə-</i>	<i>r-</i>	<i>t</i>	<i>-t'.</i>
3NH.ABS-	1SG.OBL-	BEN-	PV-	3PL.ERG-	call	-DYN
'They invited me.' (lit. 'They called it for me.')						(O'Herin, 2002, p. 78)

The NWC languages vary in their inventories of agreement prefixes. The prefixes distinguish at least person and number; in Abaza and Abkhaz they also convey gender. In all four languages, the agreement morphemes resemble their corresponding independent pronouns. The inventories of Adyghe and Abaza follow.

<sup>10</sup> For details, see chapter 9.

## (21) Agreement prefixes in Adyghe (see chapter 9)

	ABS	DAT/OBL	ERG
1SG	<i>sə-</i>	<i>s/z-</i>	<i>s/z-</i>
1PL	<i>tə-</i>	<i>t/d-</i>	<i>t/d-</i>
2SG	<i>wə-</i>	<i>w/p/b-</i>	<i>w/p/b-</i>
2PL	<i>š<sup>w</sup>ə-</i>	<i>š<sup>w</sup>/ž<sup>w</sup>-</i>	<i>š<sup>w</sup>/ž<sup>w</sup>-</i>
3SG	<i>Ø-</i>	<i>Ø-</i>	<i>(j)ə-</i>
3PL	<i>Ø-</i>	<i>a-</i>	<i>a-</i>
WH	<i>(j-)</i>	<i>z(ə)-</i>	<i>z(ə)-</i>

## (22) Agreement prefixes in Abaza (see chapter 9)

	ABS	DAT/OBL/ERG
1SG	<i>s(ə)-</i>	<i>s(ə)/z-</i>
1PL	<i>h(ə)-</i>	<i>h(ə)/ʕ-</i>
2SG.M	<i>w(ə)-</i>	<i>w(ə)-</i>
2SG.F	<i>b(ə)-</i>	<i>b(ə)/p-</i>
2PL	<i>š(ə)-</i>	<i>š(ə)/ž-</i>
3SG.M (3M)	<i>d(ə)-</i>	<i>j(ə)-</i>
3SG.F (3F)	<i>d(ə)-</i>	<i>l(ə)-</i>
3SG.nH (3nH)	<i>j(ə)/Ø-</i>	<i>(n)a-</i>
3PL	<i>j(ə)-</i>	<i>r(ə)/d(ə)-</i>
WH	<i>j(ə)-</i>	<i>z(ə)-</i>

It seems these morphemes may occur in nearly any logical combination,<sup>11</sup> and do not exhibit any unexpected interactions of the kind seen in, say, Tabasaran (section 20.2.3) or Kartvelian (section 20.4). Furthermore, agreement is not limited to just three slots in a single verb. Causatives and applicatives are very productive in the NWC languages,<sup>12</sup> and each additional argument introduced in these constructions controls a new agreement morpheme in the verb. Combinations of these operations might add one, two, or three new agreement slots to the verb (23).

## (23) a. Prolific agreement in NWC: Abaza

*jələwəsɾəttʰ*. =  
*jə-*      *lə-*      *wə-*      *s-*      *rə-*      *t*      *-tʰ*.  
 3nH.ABS-    3F.DAT-    2SG.DAT-    1SG.ERG-    CAUS-    give    -AOR  
 'I made you give it to her.' (Lomtadidze & Klychev, 1989, p. 146)

## b. Prolific agreement in NWC: Adyghe

*səqəpfarjəkɛlək<sup>w</sup>ək*. =  
*sə-*      *qə-*    *p-*      *f-*      *a-*      *r-*    *jə-*      *kɛ-*      *lək<sup>w</sup>ə*    *-k*.  
 1SG.ABS-    PV-    2SG.OBL-    BEN-    3PL.DAT-    PV-    3SG.ERG-    CAUS-    see      -PST  
 'S/he showed me to them for you.' (Korotkova & Lander, 2010, p. 301)

<sup>11</sup> Indeed, data like (21a), (24b), and (24d) suggest NWC does not have Person-Case Constraint (cf. section 20.4.1).

<sup>12</sup> See chapters 9 and 10.

c. Prolific agreement in NWC: Abaza

*jləcərzalahč'ipat'* =  
*j-* *lə-* *cə-* *r-* *z-* *a-* *la-* *h-* *č'ipa* *-t'*.  
 3NH.ABS- 3F.OBL- COMIT- 3PL.OBL- BEN- 3NH.OBL- INS- 1PL.ERG- do -DYN  
 'We did it with her for them with it.' (O'Herin, 2002, p. 229)

d. Prolific agreement in NWC: Kabardian

*waq'ədədjəzγəšəžəfateq'əm.* =  
*w-* *a-* *q'ə-* *də-* *d-* *jə-* *z-* *γə-* *šə*  
 2SG.ABS- 3PL.OBL- PV- COMIT- LOC- 3SG.DAT- 1SG.ERG- CAUS- lead  
*-žə* *-f* *-a* *-te* *-q'əm.*  
 -REV -POT -PRF -IMPRF -NEG  
 'I could not then make him/her lead you (Kumakhov & Vamling, 2009, p. 30)  
 back out from there together with them.'

In Abaza and Abkhaz, there's one situation where a verb will *lose* an agreement prefix. If the absolutive argument is immediately preverbal and would normally control a prefix shaped *j-* (i.e., 3NH.ABS or 3PL.ABS), there is a strong preference to omit that prefix (24a). In these circumstances the noun and verb form a single stress-assignment domain (chapter 10; cf. also Allen, 1956, pp. 133–139). However, when a word intervenes between the absolutive argument and the verb, the agreement prefix is obligatory (24b).

(24) Abaza

- a. *sara a-mʃʷ* (*ʔjə-*)*s-ba-j-t'*.  
 1SG DET-bear (*ʔ*3NH.ABS-)1SG.ERG-see-PRS-DYN  
 'I see the bear.'
- b. *sara a-mʃʷ* *ʃ'ajsta* *\*(jə-)**s-ba-j-t'*.  
 1SG DET-bear early *\*(*3NH.ABS-)1SG.ERG-see-PRS-DYN  
 'I see the bear early.' (O'Herin, 2002, pp. 19–20; see Hewitt, 1989, p. 56, for Abkhaz)

Finally, I note that verbs aren't the only agreement targets in NWC. Nouns agree with their possessors, and postpositions with their objects (chapter 9). The prefixes on these categories are similar in form to those found in the DAT/OBL slot on verbs. At least in Adyghe and Kabardian, if any modifiers precede the possessed noun, the possessor prefix appears on the leftmost modifier (25c).

(25) a. Nonverbal agreement targets: Abkhaz

*a-xàts'a* *jə-zə*  
 DET-man 3M.OBL-for  
 'for the man' (Hewitt, 1989, p. 46)

b. Nonverbal agreement targets: Abkhaz

*a-phʷəs* *l-xàts'a*  
 DET-woman 3F.POSS-husband  
 'the woman's husband' (Hewitt, 1989, p. 64)

c. Nonverbal agreement targets: Kabardian

*si-adəye* *tχəłə-r*  
 1SG.POSS-Cherkess book-ABS  
 'my Circassian book' (Kumakhov & Vamling, 2009, p. 26)

### 20.3.2 *Wh*-Agreement

*Wh*-agreement is special morphology triggered by arguments which undergo  $\bar{A}$ -movement, such as *wh*-movement or relativization (Baier, 2016; Chung, 1994, 1998; Chung & Georgopoulos, 1988). The NWC languages exhibit a unique system of *wh*-agreement which manifests itself in the targets' prefixal agreement slots, replacing normal  $\phi$ -agreement.<sup>13</sup>

The following relative clauses illustrate. (In the English translations, the symbol *t* marks the extracted argument position that controls *wh*-agreement; in NWC, there is no overt element that corresponds to a relative pronoun.)

- (26) a. *Wh*-agreement in relative clauses: Abaza

[<sub>RC</sub> *jə-psə-z* ] *a-ph<sup>w</sup>əs*  
**WH.ABS-die-nFINITE.PST** **DET-woman**  
 'the woman [<sub>RC</sub> **who** *t<sub>ABS</sub>* died ]' (Lomtadidze & Klychev, 1989, p. 137)

- b. *Wh*-agreement in relative clauses: Abaza

[<sub>RC</sub> *j-awə-j-ʃtə-z* ] *a-haq<sup>w</sup>-dəw*  
**WH.ABS-PV-3M.ERG-throw-PST** **DET-stone-big**  
 'the big rock [<sub>RC</sub> **which** he threw *t<sub>ABS</sub>* ]' (O'Herin, 2002, p. 260)

- c. *Wh*-agreement in relative clauses: Abaza

[<sub>RC</sub> *a-tdzə s-zə-r-ba-wa* ] *a-qac'a*  
**DET-house** **1SG.DAT-WH.ERG-CAUS-see-nFINITE.PRES** **DET-man**  
 'the man [<sub>RC</sub> **who** *t<sub>ERG</sub>* is showing me the house ]' (Lomtadidze & Klychev, 1989, p. 137)

- d. *Wh*-agreement in relative clauses: Abkhaz

[<sub>RC</sub> *Meràb a-š<sup>w</sup>q<sup>w</sup>ə z-j-tà-z* ] *a-ph<sup>w</sup>əs*  
**Merab** **DET-book** **WH.DAT-3M.ERG-give-nFINITE.AOR** **DET-woman**  
 'the woman [<sub>RC</sub> **who** Merab gave *t<sub>DAT</sub>* the book ]' (Hewitt, 1987b, p. 157)

- e. *Wh*-agreement in relative clauses: Adyghe

[<sub>RC</sub> *č'ale-m xatə-r ze-r-jə-pč'e-š'tə* ] *š<sup>w</sup>anə-r*  
**boy-ERG** **orchard-ABS** **WH.OBL-INS-3SG.ERG-hoe-FUT** **hoe-ABS**  
 'the hoe [<sub>RC</sub> **which** the boy will be weeding the orchard with *t<sub>OBL</sub>* ]' (Caponigro & Polinsky, 2011, p. 85)

The NWC language family has several different strategies for forming *wh*-questions, including the use of a suffix dedicated to constituent questions (27a), *wh*-movement to a preverbal focus position (27b), and a pseudo-cleft construction (27c).<sup>14</sup> These all involve *wh*-agreement.

<sup>13</sup> See also chapters 9 and 10. Relativization is discussed extensively for Abkhaz by Hewitt (1987b), and Adyghe by Caponigro and Polinsky (2011). The latter authors argue relativization is a ubiquitous syntactic mechanism in the Adyghe, found not just in canonical relative clauses but in a host of other embedded clauses.

<sup>14</sup> See also chapters 9 and 10.



- (27) a. Abkhaz  
*jə-z-fa-xʲà-da?*  
 3NH.ABS-**WH.ERG**-eat-PRF-WHQ  
 ‘Who *t*<sub>ERG</sub> has eaten it?’ (Hewitt, 1989, p. 85)
- b. Abaza  
*s-kʲtap dəzda j-na-z-axʷ?*  
 1SG.POSS-book who 3NH.ABS-PV-**WH.ERG**-take  
 ‘Who *t*<sub>ERG</sub> took my book?’ (O’Herin, 2002, p. 252)
- c. Adyghe  
*mə maʃjəne-r zə-qʷəta-ke-r xet-a?*  
 DEM car-ABS **WH.ERG**-break-PST-ABS who-Q  
 ‘Who *t*<sub>ERG</sub> broke this car?’ (lit. ‘Who is the one who *t*<sub>ERG</sub> broke this car?’)  
 (Caponigro & Polinsky, 2011, p. 99)

In certain syntactic configurations, *wh*-agreement can spread, appearing in more places than might be expected.<sup>15</sup> One such context is when a possessor undergoes  $\bar{A}$ -movement, as in (28a). Unsurprisingly, the possessed noun bears *wh*-agreement, instead of normal possessor agreement. Additionally, the verb shows *wh*-agreement in the agreement slot corresponding to the whole noun phrase from which the possessor is extracted (here, the absolutive object). This is unexpected, since the whole phrase *the man’s house* is not undergoing extraction, just its possessor.

- (28) Abaza
- a. [<sub>RC</sub> *z-tɔzə* ] [*jə-w-xʷaʃ-z* ] *a-qac’a*  
**WH.POSS**-house **WH.ABS**-2SG.ERG-buy-PST DET-man  
 ‘the man [<sub>RC</sub> who you bought [<sub>ABS</sub> the house of *t*<sub>POSS</sub> ] ]’ (O’Herin, 2002, p. 260)
- b. [<sub>RC</sub> *z-pa* ] *bzəj də-z-ba-wa* ] *a-qac’a*  
**WH.POSS**-son good 3H.ABS-**WH.ERG**-see-PRS DET-man  
 ‘the man [<sub>RC</sub> who<sub>i</sub> *t*<sub>ERG</sub> loves [<sub>i</sub> his<sub>j</sub> son ] ]’ (lit. ‘...who<sub>i</sub> sees his<sub>j</sub> son as good’)  
 (O’Herin, 2002, p. 274)

“Extra” *wh*-agreement is also found if an extracted argument is coreferential with the possessor of one of its coarguments (28b). (O’Herin in his 2002 work, and in chapter 10 of this volume calls this phenomenon *wh*-agreement under coreference. In this context, the verb bears a *wh*-prefix in the appropriate argument slot—but so does as does the possessed noun, even though neither it nor its possessor undergoes  $\bar{A}$ -movement.)

Finally, when the subject of a verb taking an infinitival complement is extracted (29c), *wh*-agreement appears both on the matrix verb, and on the embedded verb, corresponding to the null infinitival subject (notated PRO in the English gloss). These cases of extra *wh*-agreement have attracted a few theoretical analyses, which involve feature sharing/transmission (O’Herin, 2002, ch. 8) and parasitic gaps (Ershova, 2019).

<sup>15</sup> See chapter 10.

## 20.4 KARTVELIAN

Kartvelian languages display intricate patterns of  $\phi$ -agreement on their finite verbs. There are several slots in the verbal template for agreement affixes (29), registering features of the subject, object, or both. Arguments'  $\phi$ -features, case, grammatical role, and information structure properties can all play a role in the agreement calculus, as does verb class.

### (29) Simplified Kartvelian verbal template<sup>16</sup>

-3	-2	-1			+1	+2	+3
Preverb	Agr	Deriv./Infl.	Root	Deriv./Infl.	TAM+Agr	Agr	

One source of complexity in Kartvelian is the existence of two distinct agreement patterns, which differ in the way syntactic roles map to agreement morphology. The following Georgian forms illustrate (30). Usually, all subjects control Set A affixes (which include *v*- '1.A', *-e* 'PST.L', and *-a* 'PST.3SG'), and objects control Set B affixes (including *m*- '1SG.B' and *g*- '2.B'); this is the normal agreement system (30a). It contrasts with the inverse system, which obtains whenever the subject is assigned dative case. In these cases, the mapping between controllers and morphology inverts: subjects control Set B, and objects Set A (30b). Of course, even in languages with elaborate rich agreement, dative subject constructions very often "invert" agreement, insofar as nominative objects will control erstwhile subject agreement morphemes. What sets SC languages apart, though, is how pervasive inverse agreement is—it affects not just experiencer-subject predicates but also all transitive and unergative verbs in certain TAMs and modal constructions.<sup>17</sup>

### (30) Direct vs. Inverse agreement in Georgian

- a. Direct: 'x saw [y]' (partial aorist paradigm, Aronson, 1990, p. 172)

	<span style="border: 1px solid black; padding: 2px;">1SG.NOM</span>	<span style="border: 1px solid black; padding: 2px;">2SG.NOM</span>	<span style="border: 1px solid black; padding: 2px;">3SG.NOM</span>
<b>1SG.ERG</b>	— <sup>18</sup>	<span style="border: 1px solid black; padding: 2px;">g</span> - <i>nax-e</i>	<i>v-nax-e</i>
<b>2SG.ERG</b>	<span style="border: 1px solid black; padding: 2px;">m</span> - <i>nax-e</i>	—	<i>nax-e</i>
<b>3SG.ERG</b>	<span style="border: 1px solid black; padding: 2px;">m</span> - <i>nax-a</i>	<span style="border: 1px solid black; padding: 2px;">g</span> - <i>nax-a</i>	<i>nax-a</i>

- b. Inverse: 'x had seen [y]' (partial pluperfect paradigm, Aronson, 1990, pp. 273–275)

	<span style="border: 1px solid black; padding: 2px;">1SG.NOM</span>	<span style="border: 1px solid black; padding: 2px;">2SG.NOM</span>	<span style="border: 1px solid black; padding: 2px;">3SG.NOM</span>
<b>1SG.DAT</b>	—	<i>m-enax</i> - <span style="border: 1px solid black; padding: 2px;">e</span>	<i>m-enax</i> - <span style="border: 1px solid black; padding: 2px;">a</span>
<b>2SG.DAT</b>	<i>g-enax</i> - <span style="border: 1px solid black; padding: 2px;">e</span>	—	<i>g-enax</i> - <span style="border: 1px solid black; padding: 2px;">a</span>
<b>3SG.DAT</b>	<span style="border: 1px solid black; padding: 2px;">v</span> - <i>enax</i> - <span style="border: 1px solid black; padding: 2px;">e</span>	<i>enax</i> - <span style="border: 1px solid black; padding: 2px;">e</span>	<i>enax</i> - <span style="border: 1px solid black; padding: 2px;">a</span>

<sup>16</sup> Detailed discussions of verbal morphology can be found for Georgian (Aronson, 1990; Hewitt, 1995), Laz (Chikobava, 1936; Lacroix, 2009; Öztürk & Pöchtrager, 2011), Megrelian (Chikobava, 1936; Kipshidze, 1914), and Svan (Gudjedjani & Palmaitis, 1986; Topuria, 1967).

<sup>17</sup> Inverse agreement in the Kartvelian languages is superficially similar to phenomena in American Sign Language (Pfau, Salzmann, & Steinbach, 2018) and Neo-Aramaic (Kalin & van Urk, 2015). Note that the term "inverse" is also used in Algonquian and other language families for a different phenomenon altogether (e.g., Aissen, 1999; Béjar & Rezac, 2009; Oxford, 2014). In these languages, a special "inverse" morpheme appears on verb whose object outranks the subject on a person hierarchy (e.g., 2>1>3).

<sup>18</sup> Reflexive and reciprocal objects in Kartvelian behave as if they were third person for agreement calculus. They do not trigger special verb forms.

These and other properties make the Kartvelian agreement systems exceptionally intricate. Theories of agreement and inflection frequently discuss phenomena from this family (e.g., Anderson, 1992; Béjar, 2003; Béjar & Rezac, 2009; Blix, 2020; Foley, 2017; Halle & Marantz, 1993; Nevins, 2011; Stump, 2001; Trommer, 2001; Wier, 2011); Georgian in particular has figured prominently in this literature, but microvariation across the family is theoretically significant, and a prime target for future investigation.

This section first discusses prefixal and then suffixal agreement. Both domains exhibit complex interactions of person and number features. For reference, the appendix gives full paradigms.

## 20.4.1 Prefixal Agreement

The Kartvelian languages' agreement prefix inventories are given in (31). As outlined above, these morphemes come in two sets, A and B, whose functions differ across the normal and inverse agreement systems. Additionally, Georgian and Svan have a prefix (glossed '3.C') controlled by third person indirect objects in the normal agreement system, and by third person dative subjects in the inverse system.

### (31) Agreement prefixes in the Kartvelian languages<sup>19</sup>

Georgian	Laz & Megrelian	Svan
<i>v</i> - '1.A'	<i>v/b/p/p̃</i> - 1.A	<i>xw</i> - '1.A'
<i>gv</i> - '1PL.B'	<i>m(lb/p/p̃)</i> - 1.B	<i>m</i> - '1SG.B'
<i>(x)</i> - '2.A'	<i>g/k/k̃/r</i> - 2.B	<i>n</i> - '1EXCL.B'
<i>h/s/Ø</i> - '3.C'		<i>gw</i> - '1INCL.B'
		<i>x</i> - '2.A'
		<i>l</i> - '3.A'
		<i>ǰ</i> - '2.B'
		<i>x</i> - '3.C'

The prefix *x*- '2.A' in Georgian is marginal, appearing only in a few irregular verb forms; likewise for *l*- '3.A' in Svan. Also, note that only the Upper Bal dialects of Svan make an inclusive-exclusive distinction (Topuria, 1967; Tuite, 1998b, p. 200); other dialects lack the *l*- '1INCL.A' and *n*- '1EXCL.B' prefixes.

Across the Kartvelian family, prefixal agreement morphemes exhibit blocking relationships similar to those in Nakh-Dagestanian languages (section 20.2.3). But whereas Nakh-Dagestanian blocking effects can be easily stated in terms of controllers' syntactic roles—e.g., object agreement blocks subject agreement in Dargwa (18)—blocking in

<sup>19</sup> The prefixes in this table all appear in slot –2 of the verbal template (30). Additional prefixal agreement can appear in slot –1: all four Kartvelian languages have an applicative morpheme whose shape is determined by the person features of the applied argument (*i*- for local persons, *u/o*- for third persons). Arguably, certain preverb alternations (in slot –3) may also qualify as agreement, as the following examples illustrate (see also Aronson, 1990, pp. 174, 406–407).

- |   |                                       |
|---|---------------------------------------|
| (i) Georgian                            | (ii) Georgian                         |
| <i>mo-m-c-em-s</i> .                    | <i>mi-s-c-em-s</i> .                  |
| PV <sub>1</sub> -1SG.B-give-TH-NPST.3SG | PV <sub>2</sub> -3.C-give-TH-NPST.3SG |
| 'S/he will give it to me.'              | 'S/he will give it to him/her.'       |

(after Aronson, 1990, p. 174)

Kartvelian is most straightforwardly characterized morphologically. Whenever both a Set A and a Set B prefix are licensed, the Set B prefix wins—no matter the syntactic role of its controller. Consequently, Kartvelian languages display a preference for object agreement in normal contexts, and a preference for subject agreement in inverse contexts. The pattern is especially clear in Svan (32): *m-* ‘1SG.B’ blocks *x-* ‘2.A’ in both 2SG>1SG normal verbs and 1SG>2SG inverse verbs—compare (*\*x-*)*m̄*-*amāre* ‘you prepare me’ (32a) and *m-*(*\*x-*)*alät* ‘I love you’ (32b). Likewise, *ǰ-* ‘2.B’ always blocks *xw-* ‘1.A’.

(32) Prefixal competition in Svan (Upper Bal dialect, Topuria, 1967, pp. 21–22)

a. ‘*x* prepares *y*’ (Normal Agreement)

	1SG.DAT	2SG.DAT	3SG.DAT
1SG.NOM	—	<i>ǰ</i> - <i>amāre</i>	<i>xw</i> - <i>amāre</i>
2SG.NOM	<i>m̄</i> - <i>amāre</i>	—	<i>x</i> - <i>amāre</i>
3SG.NOM	<i>m̄</i> - <i>amāre</i>	<i>ǰ</i> - <i>amāre</i>	<i>amāre</i>

b. ‘*x* loves *y*’ (Inverse Agreement)

	1SG.NOM	2SG.NOM	3SG.NOM
1SG.DAT	—	<i>m</i> - <i>alät</i>	<i>m</i> - <i>alät</i>
2SG.DAT	<i>ǰ</i> - <i>alät</i>	—	<i>ǰ</i> - <i>alät</i>
3SG.DAT	<i>xw</i> - <i>alät</i>	<i>x</i> - <i>alät</i>	<i>x</i> - <i>alät</i>

Ditransitives are another construction in which agreement prefixes can block one another. Consider the following *x.SUBJ*>*3.IO*>*3.DO* verbs from Georgian (33). In the *3>3>3* and *2>3>3* forms, there’s no competition; only the third person indirect object can control a prefix (namely, the *s-* allomorph of 3.c). But in the *1>3>3* context, there are two candidates for agreement: *v-* ‘1.A’ or *s-* ‘3.C’. The subject prefix alone appears, showing that Set A prefixes block the 3.C prefix.<sup>20</sup>

(33) Forms for Georgian ‘*x* will give it to *y*’ (after Aronson, 1990, pp. 173–174)

	3SG.SUBJ	2SG.SUBJ	1SG.SUBJ
3SG.IO	<i>mi-s-cem-s</i>	<i>mi-s-cem</i>	<i>mi-v-cem</i>

One might imagine that two Set B prefixes could compete in *3>L>L* ditransitives. At least for Georgian and Svan, such argument combinations are ruled out independently by a Person-Case Constraint (Bonet, 1991, pp. 214–217; Harris, 1981, ch. 3; Wier, 2011, pp. 247–261; chapter 21). However, there’s no such PCC in Laz, and it appears that dialects of this language vary in what principles they use to resolve *3>L>L* agreement. In the Pazar dialect, agreement with indirect objects blocks agreement with direct objects (34). But in the Arhavi dialect, the agreement controller is apparently whichever object is first person; i.e., *m-* ‘1.B’ always blocks *g-* ‘2.B’ (35).

<sup>20</sup> In archaic and nonstandard varieties of Georgian, however, both prefixes can appear.

(i) Old Georgian

Ø	Ø	še-v- <i>h</i> - <i>mtxw-evodet</i>
<i>pro</i> :1PL.NOM	<i>pro</i> :3SG.DAT	PV-1.A-3.C-meet-PRF.SBJV.AGR
‘had we met him/her’		

(Tuite, 1998a, p. 13)

(34) Pazar Laz

- a. *Himu-k ma si g-o-ts'ir-u.*  
 3SG-ERG 1SG(.NOM) 2SG(.DAT) 2.B-VAL-show-PST.3SG  
 'S/he showed me to you.' (Öztürk & Pöchtrager, 2011, p. 47)
- b. *Ø Ø Ø m-o-dzir-u.*  
*pro:3SG.ERG pro:2SG.NOM pro:1SG.DAT 1.B-VAL-show-PST.3SG*  
 'S/he showed you to me.' (Atlamaz, 2013, p. 26)

(35) Arhavi Laz

- a. *baba-skani-k si ma va mo-m-ç-ase.*  
 father-2SG.POSS-ERG 2SG(.NOM) 1SG(.DAT) NEG PV-1.B-give-FUT.3SG  
 'Your father will not give you to me [i.e., as a wife].'  
 (Lacroix, 2009, p. 700, citing Dumézil, 1937)
- b. *baba-k Ø Ø var me-m-ç-am-s.*  
 father-ERG *pro:1SG.NOM pro:2SG.DAT* NEG PV-1.B-give-TS-npst.3SG  
 'My father will not give me to you.' (Lacroix, 2009, p. 700)

Prefixal agreement phenomena in Kartvelian languages—especially the monotransitive pattern in Georgian—has attracted much theoretical attention, in both the syntactic and morphological literature. Agreement inversion and the competition between Set A and Set B prefixes are the topics most frequently discussed. Inverse agreement is often taken to be an epiphenomenon of the syntax of dative subject constructions (Béjar, 2003; Lomashvili & Harley, 2011; Marantz, 1989). Marantz and subsequent authors assume that dative subjects originate in a different structural position than nominative or ergative ones, cashing out the analytical intuition of Harris (1981) that dative subjects are, at some level of representation, essentially indirect objects. If the agreement system is set up in such a way to be sensitive to controllers' underlying structural position, it follows that dative subjects and indirect objects will trigger similar agreement morphology. Anderson (1984, 1992), on the other hand, takes a very different approach to Georgian inverse agreement. For him, inversion is a purely morphological operation that literally inverts the structural relationship of the subject and object's feature bundles; he does not assume a special syntax for dative subject constructions.

As for the blocking relationship between Kartvelian agreement prefixes, early analyses often stipulate the pattern (Harris, 1981, p. 31; Marantz, 1989, p. 26). More recent accounts derive the pattern from syntactic or morphological principles. For example, Béjar (2003) and Béjar and Rezac (2009) propose a system whereby a functional element ( $\nu^0$ ) first agrees with the object. Local person objects will satisfy the needs of  $\nu^0$ , so it stops agreeing; third person object, though, cannot satisfy  $\nu^0$ , so it must then agree a second time with the subject. Set B prefixes are the morphological expression of  $\nu^0$  when it is satisfied on its first cycle of agreement; Set A, on the second cycle. Lomashvili and Harley (2011) expand on this analysis, incorporating a cyclicity mechanism to capture certain quirks Béjar and Rezac (2009) do not discuss. Morphological accounts of prefixal blocking typically assume Set B prefixes are representationally privileged in some way (Anderson, 1984, 1992; Blix, 2020; Halle & Marantz, 1993, p. 119); for example, Halle

and Marantz (1993) propose that they expone more features than Set A prefixes do. In contrast, Foley (2017) proposes that the blocking relationship arises from the same principles which prevent multiple exponence of number features.

### 20.4.2 Suffixal Agreement

Agreement suffixes appear in slots +2 and +3 of the Kartvelian verbal complex (30). Suffixes can express agreement in person or number, as well as TAM features. Interactions between these morphemes are intricate and are subject to much microvariation. Only a slice of these phenomena can be covered here, but an extremely thorough description of the patterns can be found in Tuite (1998a).

In most Kartvelian languages, agreement expressed by TAM suffixes (slot +2) is always (at least partially) controlled by the argument that could control a Set A prefix: subjects in normal contexts (36a) and direct objects in inverse contexts (36b) (cf. the paradigms in (30). However, the pattern in Pazar Laz is different<sup>21</sup>: in normal environments, TAM suffixes still register subjects (36c). In inverse environments, they fail to agree with objects. Instead, default 3SG agreement appears (36d). In this respect, Laz isn't unusual—cross-linguistically, dative subjects can impede agreement with other arguments (e.g., in Icelandic, Sigurðsson, 1996). Strikingly, though, an inverse object that is focused *can* control suffixal agreement (36e).<sup>22</sup>

(36) a. Georgian

*šen*                      *me*                      *m-nax-e*.  
 2SG(.ERG)    1SG(.NOM)    1.B-see-PST.L  
 'You saw me.'

(after Aronson, 1990, pp. 169–170)

b. Georgian

*me*                      *šen*                      *unda*                      *m-enax-e*.  
 1SG(.DAT)    2SG(.NOM)    MODAL    1.B-see.PLUPRF-PST.L  
 'I should have seen you.'

(after Aronson, 1990, pp. 169–170)

c. Pazar Laz

*si*                      *ma*                      *ce-m-ç-i*.  
 2SG(.ERG)    1SG(.NOM)    PV-1.B-beat-PST.L  
 'You beat me.'

(Öztürk & Pöchtrager, 2011, p. 46)

<sup>21</sup> The Arhavi dialect behaves more like the other Kartvelian languages (Lacroix, 2009, section 9.4.5).

<sup>22</sup> In a 2.DAT>1 verb with a focused object, the object controls both suffixal *and* prefixal agreement (ia). This means that the Set A prefix *v*- '1.A' blocks the Set B prefix *g*- '2.B', subverting the normal blocking pattern (ib).

(i) Pazar Laz

a. *si*                      *ma*                      *v-a-cer-i*.  
 2SG(.DAT)    1SG(.NOM)    1.A-APPL-believe-PST.L  
 'You believed ME [not someone else].'

b. *si*                      *ma*                      *g-a-cer-u*.  
 2SG(.DAT)    1SG(.NOM)    2.B-APPL-believe-PST.3SG  
 'You believed me.'

(Öztürk, 2016, p. 5; cf. Öztürk & Pöchtrager, 2011, p. 62)

d. Pazar Laz

*ma* si *ce-m-a-ç-ŭ.*  
 1SG(.DAT) 2SG(.NOM) PV-1.B-APPL-beat-PST.3SG  
 ‘I was able to beat you.’ (Öztürk & Pöchtrager, 2011, p. 62)

e. Pazar Laz

*ma* SI *ce-m-a-ç-ŭ.*  
 1SG(.DAT) 2SG(.NOM) PV-1.B-APPL-beat-PST.L  
 ‘I was able to beat YOU.’ (Öztürk & Pöchtrager, 2011, p. 63)

The primary expression of number agreement in Kartvelian languages is suffixal. As an illustration, take the following partial paradigms, which give certain forms in Georgian (Aronson, 1990, p. 172), Megrelian (Chikobava, 1936, pp. 164–165; Laz behaves identically), and Becho Svan (after Gudjedjani & Palmaitis, 1986, pp. 63, 69; Topuria, 1967, pp. 22, 93).

(37) Number agreement syncretisms across Kartvelian languages.

	Georgian: ‘x saw y’		Megrelian: ‘x measured y’		Svan: ‘x was preparing y’	
	2SG.O	2PL.O	2SG.O	2PL.O	2SG.O	2PL.O
1SG.S	<i>g-nax-e</i>	<i>g-nax-e-t</i>	<i>r-zim-i</i>	<i>r-zim-i-t</i>	<i>ĵ-amara-sgw</i>	<i>ĵ-amara-sgw</i>
1PL.S	<i>g-nax-e-t</i>	<i>g-nax-e-t</i>	<i>r-zim-i-t</i>	<i>r-zim-i-t</i>	<i>ĵ-amara-d</i>	<i>ĵ-amara-d</i>
3SG.S	<i>g-nax-a</i>	<i>g-nax-a-t</i>	<i>r-zim-u</i>	<i>r-zim-es</i>	<i>ĵ-amara</i>	<i>ĵ-amara-x</i>
3PL.S	<i>g-nax-es</i>	<i>g-nax-es</i>	<i>r-zim-es</i>	<i>r-zim-es</i>	<i>ĵ-amara-x</i>	<i>ĵ-amara-x</i>

First compare the upper halves of the paradigms (1>2 forms). In both Georgian and Megrelian, there’s a reversed-L-shaped syncretism. This is a case of omnivorous number agreement (Nevins, 2011): the suffix *-t* ‘PL’ can reflect a plural subject (in the 1PL>2SG context), a plural object (1SG>2PL), or both (1PL>2PL). Note that the cognate suffix in Svan does not have an omnivorous distribution; instead we see horizontal 1SG>2 and 1PL>2 syncretisms. Descriptively, Svan TAM suffixes controlled by L.SG arguments (including *-sgw* ‘IMPL.SG’) block *-d* ‘L.PL’.

Next consider the lower 3>2 cells. In Megrelian and Svan, we see another reversed-L syncretism. The omnivorous suffix here (*-es* ‘PST.3PL’ or *-x* ‘3PL’) indicates that the subject is third person, and that one or another argument is plural. Georgian’s *-es* ‘PST.3PL’ suffix, though, is not so flexible—it’s only licensed by a 3PL subject. Consequently, 3SG>2PL combinations trigger two distinct suffixes: the TAM suffix for 3SG subject agreement, and the suffix *-t* to express the 2PL object’s number feature.<sup>23</sup> Finally, notice the lack of *-t* ‘PL’ in the 3PL>2PL cell (*\*gnaxest*), showing that 3PL.TAM suffixes (including *-es* ‘PST.3PL’) block *-t* ‘PL’.

In inverse agreement contexts, many of these interactions between suffixes hold—though, of course, the syntactic roles of their controllers are reversed. In Svan, for

<sup>23</sup> There are TAMs where 3SG TAM suffixes and *-t* ‘PL’ do not co-occur. As a rule, if the 3SG agreement suffix ends in /s/, that segment will delete before *-t* ‘PL’. Compare *g-naxav-s* ‘s/he will see you.SG’ and *g-naxav(-s)-t* ‘s/he will see you.PL’. See Blix (2020) for an analysis of this asymmetry, and Tuite (1998a, esp. pp. 136–137) for details on dialectal and diachronic variation.

instance, a 2PL object normally fails to control number agreement given a first person subject. But in inverse contexts, number agreement with a 2PL *subject* fails given a first person *object* (38b).

(38) Lent'ex Svan

- a. *si* *mi* *ǰ-alät-xwi*.  
 2SG(.DAT) 1SG(.NOM) 2.B-love.PRES-ST.1  
 'You.SG love me.'
- b. *sgäy* *mi* *ǰ-alät-xwi/\*...-d*.  
 2PL(.DAT) 1SG(.NOM) 2.B-love.PRES-ST.1/\*...-L.PL  
 'You.PL love me.'

(Topuria, 1967, p. 21)

However, not every pattern inverts so neatly in dative subject constructions. In particular, third person arguments control number agreement in surprising ways. One reason for this is that third person direct objects across the family generally fail to control any agreement.<sup>24</sup> In normal agreement contexts, this isn't consequential, as there are no morphemes which even could be controlled by 3.DOS. However, since the objects of dative-subject constructions control TAM suffixes, and there are 3PL agreement suffixes for every non-inverse TAM, one might expect 3PL.DOS to control agreement in inverse contexts. But this is not the case. Compare the following aorist (regular) ~ pluperfect

<sup>24</sup> There are a few exceptions. In some varieties of Svan (Topuria, 1967, p. 24) and nonstandard/ archaic Georgian (Cherchi, 1997; Tuite, 1998a), 3PL objects of dative-subject constructions can indeed control number agreement under certain circumstances (i). And, in Old Georgian, there was another suffixal slot for number agreement (Harris, 1985; Tuite, 1998a), where nominative direct objects of all persons could control agreement (ii).

- (i) Georgian, Khevsureti dialect  
*ǰmert-s vašl-ni čamo-Ø-u-ǰr-ian*.  
 god-DAT apple-PL.NOM PV-3.C-APPL.3-throw-PRF.3PL  
 'God has thrown down apples.'

(Tuite, 1998a, p. 146)

- (ii) Old Georgian  
*čar-avlin-n-a mona-ni twis-ni*.  
 PV-send.AOR-PL-PST.3SG servant-PL.NOM own-PL.NOM  
 'He sent his servants away.'

(Tuite, 1998a, p. 101)

As for third person indirect objects, these too can occasionally control number agreement in nonstandard/colloquial Georgian (e.g., Tuite, 1998a, pp. 122–124) and apparently also in Laz (Tuite, 1998a, p. 211, citing von Erckert, 1895, pp. 349, 353).

- (iii) Colloquial Georgian  
*am dro-s mat gamo-Ø-e-laṗaraḱ-eb-a-t*  
 this time-DAT 3PL.DAT PV-3.C-APPL-speak-TS-nPST.3SG-PL  
*es morige*.  
 this duty\_officer.NOM  
 'At this point the officer on duty converses with them.'

(Tuite, 1998a, p. 122)

Tuite observes 3PL.IOS that are topical, pronominal, and/or null are more likely to control such agreement, at least for Georgian.



(inverse) pairs from Georgian. The first, (39a ~ a'), shows that when you move from one TAM to the other, and swap the subject and object's  $\phi$ -features, the verb's agreement affixes are typically held constant (though the affixes' controllers swap). Given this observation, and the fact that the aorist 3PL.ERG>1SG verb is *m-nax-es* (39b), one would predict the corresponding pluperfect 1SG.DAT>3PL verb to be *\*m-enax-es*. However, suffixal agreement actually surfaces in the default 3SG form (39b'), showing that whatever constraint which prevents 3.DOS from controlling agreement holds even in inverse contexts.

(39) Avoiding agreement with 3PL objects, p. Georgian

- a. *šen*                      *me*                      *m-nax-e*.  
 2SG(.ERG)    1SG(.NOM)    1SG.B-see-PST.L  
 'You saw me.'
- a'. *me*                      *šen*                      *unda*                      *m-enax-e*.  
 1SG(.DAT)    2SG(.NOM)    MODAL    1SG.B-see.PLUPRF-PST.L  
 'I should have seen you.'
- b. *mat*                      *me*                      *m-nax-es*.  
 3PL.ERG    1SG(.NOM)    1SG.B-see-PST.3PL  
 'They saw me'
- b'. *me*                      *isini*                      *unda*                      *m-enax-a/...-\*es*.  
 1SG(.DAT)    3PL.NOM    MODAL    1SG.B-see.PLUPRF-PST.3SG/...-\*PST.3PL  
 'I should have seen them.' (after Aronson, 1990, pp. 273–275)

Conversely, since objects control TAM suffixes in the inverse agreement pattern, 3PL.DAT subjects need to resort to other morphemes (a suffix, either in slot +2 or +3) to express their plurality. But across the Kartvelian family, 3PL.DAT subjects can only control number agreement if the object is also third person.<sup>25</sup>

(40) 1/2SG objects blocking 3PL.DAT number agreement

- a. Georgian: 'x needs [y]' (after Aronson, 1990, pp. 335–336)
- |         |                   |                   |                     |
|---------|-------------------|-------------------|---------------------|
|         | 1SG.NOM           | 2SG.NOM           | 3.NOM               |
| 3SG.DAT |                   |                   | <i>s-čirdeb-a</i>   |
| 3PL.DAT | <i>v-čirdeb-i</i> | <i>s-čirdeb-i</i> | <i>s-čirdeb-a-t</i> |
- b. Arhavi Laz: 'x has seen [y]' (Lacroix, 2009, p. 315; cf. Megrelian, Kipshidze, 1914, pp. 84–85)
- |         |                    |                  |                    |
|---------|--------------------|------------------|--------------------|
|         | 1SG.NOM            | 2SG.NOM          | 3.NOM              |
| 3SG.DAT |                    |                  | <i>u-dziru-n</i>   |
| 3PL.DAT | <i>b-u-dziru-Ø</i> | <i>u-dziru-Ø</i> | <i>u-dziru-nan</i> |
- c. Lentex Svan: 'x loves [y]' (Topuria, 1967, p. 21)
- |         |                    |                  |                 |
|---------|--------------------|------------------|-----------------|
|         | 1SG.NOM            | 2SG.NOM          | 3.NOM           |
| 3SG.DAT |                    |                  | <i>x-alät</i>   |
| 3PL.DAT | <i>xw-alät-xwi</i> | <i>x-alät-xi</i> | <i>x-alät-x</i> |

<sup>25</sup> This generalization, too, has exceptions. Tuite (1998a, p. 176, n. 73; citing Tschenkéli, 1958, p. 461) reports forms like *vučvarvar-t* 'they.DAT love me' to occur in colloquial Georgian.

Certain aspects of Kartvelian suffixal agreement, in particular the omnivorous distributions of agreement *-t* ‘PL’ in Georgian and *-es* ‘PST.3PL’ in Laz, have attracted theoretical attention (Anderson, 1984, 1992; Béjar, 2003; Blix, 2020; Foley, 2017; Marantz, 1989; McGinnis, 2013; Nevins, 2011). These authors have proposed a number of theoretical mechanisms to ensure that both subjects and objects can control plural agreement suffixes. The analysis by Béjar (2003) of the Georgian facts is especially successful. For her, number agreement in the language is parasitic on person agreement (see the discussion at the end of section 20.4.1). This derives a number of facts, including the omnivory of number agreement and the blocking relationship between 3PL TAM suffixes and *-t* ‘PL’. However, other number agreement patterns, and especially the microvariation observed across the Kartvelian languages, have yet to be grappled with theoretically.

## 20.5 CONCLUSION AND OPEN QUESTIONS

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In terms of agreement, there is an embarrassment of riches in the Caucasus. Individual phenomena attested in each of the language families are not unique. For example, promiscuous agreement parallel to the Nakh-Dagestanian languages’ can be seen in dialects of Italian (Antrim, 1994); polysynthetic agreement like Northwest Caucasian can be seen in Yimas (Foley, 1991; Phillips, 1993); morpheme blocking relationships as complex as Kartvelian are found in Algonquian (Béjar & Rezac, 2009; Oxford, 2014). But the sheer density of these unusual agreement patterns within these families makes the languages of the Caucasus a prime target for future investigation on the typological and theoretical properties of agreement. Open questions include: To what extent does the syntactic structure underlying long-distance agreement and biabsolutive constructions vary across Nakh-Dagestanian? Are the agreement markers in Northwest Caucasian expressions of bona fide predicate–argument agreement, or are they incorporated pronouns—and is the answer to that question the same throughout the family? What theoretical ramifications does the intricate variation in number agreement across Kartvelian have?

Only a handful of experimental agreement-related studies have been conducted on Caucasian languages to date (Gagliardi & Lidz, 2014; Harris & Samuel, 2011). Gagliardi (2012) was a first ever experimental study of the acquisition of agreement in a Nakh-Dagestanian language. Further experimentation on Caucasian agreement may be a fruitful endeavor, since phenomena in the three language families are relevant to many issues in psycholinguistics.

## APPENDIX

- (41) Person agreement in Aqusha Dargwa: ‘*x hit*’ (van den Berg, 1999, pp. 158, 164)

	1SG.ABS	2SG.ABS	3SG.ABS
1SG.ERG	○-iti- <u>ra</u>	○-iti- <u>ri</u>	○-iti- <u>ra</u>
2SG.ERG	○-iti- <u>ra</u>	○-iti- <u>ri</u>	○-iti- <u>ri</u>
3SG.ERG	○-iti- <u>ra</u>	○-iti- <u>ri</u>	○-iti- <u>b</u>

The symbol ○ indicates a slot for gender agreement, controlled by the absolutive object.

- (42) Person agreement in Tabasaran: ‘*x beat*’ (Kibrik & Seleznev, 1982, p. 29)

	1SG.ABS	2SG.ABS	3SG.ABS
1SG.ERG	uvčunu- <u>za</u>	uvčunu- <u>za</u> , uvčunu- <u>zu</u> - <u>vu</u>	uvčunu- <u>za</u>
2SG.ERG	uvčunu- <u>va</u>	uvčunu- <u>va</u>	uvčunu- <u>va</u>
3SG.ERG	uvčun- <u>uv</u> , uvčunu- <u>za</u>	uvčun- <u>uv</u> , uvčunu- <u>va</u>	uvčun- <u>uv</u>

- (43) Basic agreement in Georgian: ‘*x saw*’ (after Aronson, 1990)

	1SG.O	1PL.O	2SG.O	2PL.O	3.O
1SG.S	—	—	<u>g</u> -nax- <u>e</u>	<u>g</u> -nax- <u>e</u> - <u>t</u>	v-nax- <u>e</u>
1PL.S	—	—	<u>g</u> -nax- <u>e</u> - <u>t</u>	<u>g</u> -nax- <u>e</u> - <u>t</u>	v-nax- <u>e</u> - <u>t</u>
2SG.S	<u>m</u> -nax- <u>e</u>	<u>gv</u> -nax- <u>e</u>	—	—	nax- <u>e</u>
2PL.S	<u>m</u> -nax- <u>e</u> - <u>t</u>	<u>gv</u> -nax- <u>e</u> - <u>t</u>	—	—	nax- <u>e</u> - <u>t</u>
3SG.S	<u>m</u> -nax- <u>a</u>	<u>gv</u> -nax- <u>a</u>	<u>g</u> -nax- <u>a</u>	<u>g</u> -nax- <u>a</u> - <u>t</u>	nax- <u>a</u>
3PL.S	<u>m</u> -nax- <u>es</u>	<u>gv</u> -nax- <u>es</u>	<u>g</u> -nax- <u>es</u>	<u>g</u> -nax- <u>es</u>	nax- <u>es</u>

- (44) Inverse agreement in Georgian: ‘*x.DAT needs*’ (after Aronson, 1990, p. 275)

	1SG.O	1PL.O	2SG.O	2PL.O	3.O
1SG.S	—	—	m-čirdeb- <u>i</u>	m-čirdeb- <u>i</u> - <u>t</u>	m-čirdeb- <u>a</u>
1PL.S	—	—	gv-čirdeb- <u>i</u>	gv-čirdeb- <u>i</u> - <u>t</u>	gv-čirdeb- <u>a</u>
2SG.S	g-čirdeb- <u>i</u>	g-čirdeb- <u>i</u> - <u>t</u>	—	—	g-čirdeb- <u>a</u>
2PL.S	g-čirdeb- <u>i</u> - <u>t</u>	g-čirdeb- <u>i</u> - <u>t</u>	—	—	g-čirdeb- <u>a</u> - <u>t</u>
3SG.S	v-čirdeb- <u>i</u>	v-čirdeb- <u>i</u> - <u>t</u>	s-čirdeb- <u>i</u>	s-čirdeb- <u>i</u> - <u>t</u>	s-čirdeb- <u>a</u>
3PL.S	v-čirdeb- <u>i</u>	v-čirdeb- <u>i</u> - <u>t</u>	s-čirdeb- <u>i</u>	s-čirdeb- <u>i</u> - <u>t</u>	s-čirdeb- <u>a</u> - <u>t</u>

- (45) Basic agreement in Svan: 'x was preparing[y]' (Upper Bal dialect, after Gudjedjiani & Palmaitis, 1986; Topuria, 1967)

	1SG.O	1EXCL.O	1INCL.O	2SG.O	2PL.O	3.O
1SG.S	—	—	—	ǰ-amār-ās	ǰ-amār-ās	xw-amār-ās
1EXCL.S	—	—	—	ǰ-amār-ad	ǰ-amār-ad	xw-amār-ad
1INCL.S	—	—	—	—	—	l-amār-ad
2SG.S	m-amār-ās	n-amār-ās	—	—	—	x-amār-ās
2PL.S	m-amār-ad	n-amār-ad	—	—	—	x-amār-ad
3SG.S	m-amār-a	n-amāra-a	gw-amār-a	ǰ-amār-a	ǰ-amār-ax	amār-a
3PL.S	m-amār-ax	n-amāra-ax	gw-amāra-ax	ǰ-amār-ax	ǰ-amār-ax	amār-ax

- (46) Inverse agreement in Svan: 'x.DAT loves[y]' (Lent'ex dialect, Topuria, 1967)

	1SG.O	1PL.O	2SG.O	2PL.O	3.O
1SG.S	—	—	m-alät-xi	m-alät-d	m-alät-Ø
1PL.S	—	—	gw-alät-xi	gw-alät-d	gw-alät-Ø
2SG.S	ǰ-alät-xwi	ǰ-alät-d	—	—	ǰ-alät-Ø
2PL.S	ǰ-alät-xwi	ǰ-alät-d	—	—	ǰ-alät-x
3SG.S	xw-alät-xwi	xw-alät-d	x-alät-xi	x-alät-d	x-alät-Ø
3PL.S	xw-alät-xwi	xw-alät-d	x-alät-xi	x-alät-d	x-alät-x

- (47) Basic agreement in Megrelian: 'x measured[y]' (after Chikobava, 1936, pp. 163–164)

	1SG.O	1PL.O	2SG.O	2PL.O	3.O
1SG.S	—	—	r-zim-i	r-zim-i-t	b-zim-i
1PL.S	—	—	r-zim-i-t	r-zim-i-t	b-zim-i-t
2SG.S	b-zim-i	b-zim-i-t	—	—	zim-i
2PL.S	b-zim-i-t	b-zim-i-t	—	—	zim-i-t
3SG.S	b-zim-u	b-zim-es	r-zim-u	r-zim-es	zim-u
3PL.S	b-zim-es	b-zim-es	r-zim-es	r-zim-es	zim-es