

A TYPOLOGY OF VERB AGREEMENT IN BURUSHASKI

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1. BACKGROUND INFORMATION

Burushaski is a language isolate spoken in the Northern Areas, Pakistan, by approximately 60-80,000 people. Nouns belong to one of four inflectional classes in Burushaski, human male, human female, general animate and inanimate, with a few semantically inanimate nouns belonging to the ‘animate’ class (1).

(1) 4 noun classes → human male [I], human female [II],
animate [III] inanimate [IV]

I: male human	II: female human	III: animate non-human	IV: inanimate
<i>hir</i> ‘man’ (I)	<i>dasín</i> ‘girl’ (II)	<i>ha yúr</i> ‘horse’ (III)	<i>yaténč</i> ‘sword’ (IV)

Hunza/Nagar Burushaski [HB/NB]

The Burushaski verb is relatively complex. The maximal verb template consists of four prefix positions, a root in position-Ø, and up to six suffix positions. Positions +3 and +5 are mutually exclusive, so all slots cannot be filled in a single verb form. See (2) for a schematic representation of the Burushaski verb template.

(2) Verb Template →

-4	-3	-2	-1	Ø	+1	+2	+3	+4	+5	+6
NEG	D	PERSON	CAUS	✓	PL.SUBJ	DUR	1SG.SUBJ	AP/NON.FIN/MODAL	SUBJ.SFX	Q

Finite verbs in Burushaski fall into two basic inflectional sets, roughly speaking a durative/non-past set of inflections marked with the durative affix in position +2 and a past/perfective set of inflections which lack a formal marker *per se*. Within each set, at least three tense forms are found (3).

(3)	<i>Durative/Non-Past</i> <i>DUR affix</i> Present Future Imperfect	<i>Past/Perfective</i> <i>unmarked (Aorist)</i> ¹ Past Perfect Pluperfect
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Previous discussions of aspects of Burushaski verb agreement may be found in both the several grammars and text collections (Lorimer 1935-38, Klimov 1970, Berger 1974, 1998) as well as in several shorter works (e.g. Børgstrom 1942).

2. TYPES OF VERB AGREEMENT IN BURUSHASKI

Several different types of verb agreement are found in Burushaski. In the first section below we briefly present the basic sub-types, and then turn to a discussion of agreement with NPs in conjunctive and disjunctive coordinative structures.

2.1 Subject Suffixes

Following Tiffou and Morin (1982), we assume that the subject of the Burushaski verb is the noun phrase which triggers suffixal person/number/class agreement in position +5, except for first singular subjects which are marked in position +3 (4). Examples of subject agreement in Burushaski may be found in (5) (i)-(iv).

(4)	<u>SG</u>	<u>PL</u>	
1	-a ₃	-an/-en	
2	-a ₅	-en	[2sg can also be -áa]
I	-i	-en	
II	-u/o	-en	
III	-i	-ie(n) (~ -io = NB)	
IV	-i	-I	

- (5) i. *dasen-e hir park-ule del-u*
 girl-ERG man park-LOC hit-II
 'The girl hit the man in the park'
 [Anderson et al. 1998]

- ii. *un in mu-cú-č-um-a*
 you s/he II-marry-DUR-AP-2
 'You will marry her'
 [Tiffou and Morin 1982: 88]

- iii. *hilés-e dasin mu-yeéc-im-i*
 boy-ERG girl II-see-AP-I
 'The boy saw the girl'
 [Willson 1990: 4]

¹ Called the Konativ by Berger. Note that Yasin Burushaski prefers the unmarked Aorist over the Past; Hunza and Nagar Burushaski show just the opposite. The Past historically comes from a univerbated auxiliary verb construction.

- iv. *ǰaa u dáfa ó-t-a-m*
 I.ERG they drive.out PL-AUX.TR-1-AP
 'I drove them out'
 [Willson 1990: 46]

The particular suffix that is selected to index the referent properties of the subject is determined by the interaction of a small number of constraints belonging to the levels of (linear and hierarchical) syntax and semantics. These are presented in 2.6.2 below.

2.2 Person/Class Prefixes

In addition to the suffixal subject agreement, Burushaski allows for the indexing of the person/number/class of a verbal actant or discourse referent in prefix position –2. There are four different classes of these prefixes, determined by the inflectional stem-class of the verb (6).

(6)	[Berger 1998: 91]	<i>A</i>	<i>A'</i>	<i>B</i>	<i>C</i>
1		<i>á-</i>	<i>a-</i>	<i>á-</i>	<i>áa-</i>
2		<i>ǰú-/kú-</i>	<i>ǰu-</i>	<i>ǰó-/kó-</i>	<i>ǰóo-/kóo-</i>
I		<i>í-</i>	<i>i-</i>	<i>é-</i>	<i>ée-</i>
II		<i>mú-</i>	<i>mu-</i>	<i>mó-</i>	<i>móo-</i>
III		<i>í-</i>	<i>i-</i>	<i>é-</i>	<i>ée-</i>
IV.SG/PL		<i>í-</i>	<i>i-</i>	<i>é-</i>	<i>ée-</i>
1PL		<i>mí-</i>	<i>mi-</i>	<i>mé-</i>	<i>mée-</i>
2PL		<i>má-</i>	<i>ma-</i>	<i>má-</i>	<i>máa-</i>
I/II/III.PL		<i>ú-</i>	<i>u-</i>	<i>ó-</i>	<i>óo-</i>

Unlike the suffixal agreement positions +3 and +5, which unambiguously mark the referent properties of the subject, the noun that the prefixal position –2 indexes varies considerably. With 2 or 3 argument verbs, this is canonically, though not exclusively, the patient or recipient, etc. (7i-v).²

- (7) i. *haala ǰiç-um ǰaréya nu-mú-del mó-sqan-u*
 homeward enter.DUR-AP as.soon.as NF-II-SG.hit II-kill-II
 'As soon as (she) came into the house, she struck her dead
 (lit. hit her, killed her)'
 [Berger 1974: 116]
- ii. *hilés-e dasin mu-yeéc-im-i*
 boy-ERG girl II-see-AP-I
 'The boy saw the girl'
 [Willson 1990: 4]
- iii. *ǰaa u dáfa ó-t-a-m*
 I.ERG they drive.out PL-AUX.TR-1-AP
 'I drove them out'
 [Willson 1990: 46]

² This varies lexically. Certain verb stems prefer or require one or another element to be indexed in the prefixal agreement position. Other verbs allow more context-sensitive agreement. See below for more on this.

- iv. *hiles-e dasin taswiir móo-ltir-im-i*
 boy-ERG girl picture II-show-AP-I
 'The boy showed the girl the picture'
 [Willson 1990: 5]
- v. *mo ja a-p^hús-u*
 she I 1-tie.up-II
 'She tied me up'
 [Berger 1974: 49]

Note that the class-IV objects are not marked in general by the prefixal agreement position. Compare in this regard (8i) and (8ii).

- (8) i. *baldá pus-ím-i*
 load tie.up-AP-I
 'He tied up the load'
 [Berger 1998: 118]
- ii. *hir i-p^hús-im-i*
 man I-tie.up-AP-I
 'He tied up the man'

In addition, the prefixal agreement position may mark an argument roughly analogous to 'experiencer' subjects familiar from various S. Asian languages (9).

- (9) i. *q^hus go-č-ila*
 cough 2-AUX.TR-IV
 'You have a cough, are coughing'
 [Bashir 1985: 17]
- ii. *til áa-l bá-ya-m*
 forget.. 1-..forget AUX-1-AP
 'I forgot'
 [Berger 1998: 121]

With some verbs, an argument indexed by the subject suffixes can also be marked by the person/class prefixes. In general, these are 1-argument verbs, which we will turn to below briefly, but 2-argument verbs are possible in this construction as well. Compare the forms in (10). In (10i) the argument indexed by the subject suffix is also marked by the prefix, whereas the form in (10ii) looks more like a standard transitive construction, like the forms in (7), above. This is called subject-affective agreement by Bashir (1985).

- (10) i. *áa-lji du-kóo-šqalč-um-a*
 1-behind D-2-overtake.DUR-AP-2
 'You will overtake me'
 [Bashir 1985: 15]
- ii. *d-ée-šqal-car asiír man-um-o*
 D-I-overtake-ALL.B near AUX.INTR-AP-II
 'She came near to overtaking him'
 [Bashir 1985: 15]

Some verbs appear to lack prefixal agreement but actually mark this internally (at least with class-I/III/IV and plural objects).³ Many of these verbs have the important D-prefix as in (11i-iii), but others do not; see the examples in (11) and (12).

³ Thus, we find *mu-del* (II-hit), *gu-del* (2-hit) not ***du-mu-l* or ***du-ku-l*, etc. as might be expected based on such forms as *du-ku-man-um-a* 'you were born' or *du-mu-man-um-o* 'she was born'. Therefore, these types of verbs form a separate subset of partly internally and partly externally marked stems.

- (11) i. *dit-thuss* ‘bring (one)’ vs. *doot-thuss* ‘bring (many)’
 ii. *dinseruss* ‘open (one)’ vs. *doonserus* ‘open (many)’
 iii. *dellus* hit (one)’ vs. *dôluss* hit (many)’
 iv. *yétsuss* ‘see (one)’ vs. *yotsuss* ‘see (many)’

- (12) *dasen-e hir park-u le del-u* (<**d-e-l*)
 girl-ERG man park-LOC hit-II
 ‘The girl hit the man in the park’
 [Anderson et al. 1998]

Some, but not all arguments bearing a dative case may be indexed by the person/class prefix (13). This is determined lexically.

(13) *dative case-marked arguments*

- i. *ún-ar go-s-as til áa-la bá-ya-m*
 you-DAT 2-tell-INF forget.. 1-..forget AUX-1-AP
 ‘I forgot to tell you’
 [Berger 1998: 121]
- ii. *un-e iskí-ulum i-í-ar ĵame-e káa hunc y-u-úm-a*
 you-ERG three-ORD I-son-DAT bow-GEN with arrow I-give-AP-2
 ‘You gave his third son a bow and arrow’
 [Tikkanen 1995: 488]

Causees and beneficiaries are marked by the prefixal position as well. See the forms in (14).

(14) *causee and beneficiary*

- i. *a-yó-o-č-i*
 NEG-PL-CAUS-do.DUR-I
 ‘He will not make them do (it)’
 [Willson 1990: 34]
- ii. *ĵa a in é-s-kʰar-a-m*
 I.ERG s/he I-CAUS-late-1-AP
 ‘I made him late’
- iii. *góo-t-a-m*
 2.CAUS-do-1-AP
 ‘I did it for you’
 [Anderson et al 1998]

While in most Burushaski dialects the concepts of causee and beneficiary seem to constitute a unitary formal element, in the region of Aliabad these two categories are kept distinct (by some speakers at least), with the beneficiary appearing with a simple prefix form, while the causee contains an additional causative morpheme, here fused into the prefix (taking type-C inflections); see (15).

(15) *causee* → **prefix* + *causative marker*; *beneficiary* → **prefix only*

- | | | | |
|----|-------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------|
| i. | <i>góo-t-a-m</i>
2.CAUS-do-1-AP
'I caused you to do it'
[Bashir 1985: 12] | ii. | <i>gó-et-a-m</i>
2-do-1-AP
'I did it for you'
[Bashir 1985: 12] |
|----|-------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------|

In short, the person/class prefix position indexes a referent high in contextual discourse salience, regardless of its thematic role, in the clause. In formal terms, there is a highly ranked constraint of discourse salience active in determining Burushaski prefixal agreement, viz. DISC-SAL. This necessarily outranks the default NEAR-OBJ constraint examined in 2.6.1 below.

(16) DISC-SAL: *A verb agrees with a referent high in discourse salience* (in Burushaski, this is marked in prefix position -2).

2.3 Possessor Agreement

Further confirmation of the highly ranked constraint DISC-SAL comes from the characteristic system of possessor agreement, where the referent marked in the prefixal agreement slot is not even a subcategorized argument of the verb. In general, possessor-raising constructions like these are motivated by the high level of discourse salience of possessors over possessums observable cross-linguistically (cf. Anderson 1995; 1997). Here the possessor of the logical object or subject is indexed by the person/class prefix (17). This is most common with, but not limited to, inalienably possessed body parts and, curiously, kin-terms as well.

(17) *further 'discourse salience' agreement* → *'possessor raising'*
[Anderson 1995; 1997]

- | | | | |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------|
| i. | <i>ǰâ ai-yetis á-khol-j-ibi</i>
I-GEN 1-head 1-ache-.DUR-IV.AUX.IV
'My head aches'
[Biddulph 1884: 4] | ii. | <i>gu-yetis nu-koo-skərc</i>
2-head NF-2-cut
'Cutting off your head'
[Lorimer 1935: 231; Anderson 1995: 7] |
| iii. | <i>kʰakʰáay-umuc pʰaʃ mée-t-aa</i>
walnut-PL gobble.up 1PL-AUX-2
'You gobbled up our walnuts'
[Berger 1998: 162] | | |
| iv. | <i>hiles-e dasin-mo mo-miʃ moo-skarc-im-I</i>
boy-ERG girl-GEN II-finger II-cut-AP-I
'The boy cut off the girl's finger'
[Willson 1990: 5] | | |

The form in (17iii) shows that not only these inalienably possessed body parts and kin-terms trigger possessor agreement. Possessor agreement appears

to be a special case of agreement with a discourse-salient referent, and hence is subsumed the constraint DISC-SAL.

2.4 Double Agreement

As mentioned above, various verb stems in Burushaski mark the same referent with both the subject suffixes and the person/class prefixes. Generally speaking, forms exhibiting this doubly-marked inflectional pattern refer to the control of the subject. If a subject of an intransitive predicate is 'in control' or consciously causes the action of the verb to come about, it is marked only once, but if the degree of control over the action by the subject is less than might be expected in canonical situations, or, more commonly, if the verb is inherently (i.e. lexically-marked) [-control] (or 'out-of-control'), the subject is doubly marked (18).⁴

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| (18) i. <i>yurc-ím-i</i>
sink-AP-I
'He dove under'
[Berger 1998: 118] | ii. <i>i-yúrc-im-i</i>
I-sink-AP-I
'He sank, drowned' |
| iii. <i>dasín háale mó-yen-um-o</i>
girl at.home II-sleep-AP-II
'The girl slept in the house'
[Willson 1990: 4] | iv. <i>in i-k'áran-im-i</i>
s/he I-be.late-AP-I
'He was late'
[Willson 1990] |
| v. <i>c^hordimo hiles d-í-tal-im-i</i>
in.the.morning boy D-I-wake.up-AP-I
'The boy woke up in the morning'
[Willson 1990: 41] | vi. <i>í-ir-im-i</i>
I-die-AP-I
'He died'
[Willson 1990: 41] |
| vii. <i>a-tú-ku-man-um-a</i>
NEG-D-2-be(.born)-AP-2
'You weren't born' | |

Class-IV nouns never show this pattern. The forms in (19) suggest that this restriction is perhaps grammatical and not semantic, as the semantically inanimate *hun* 'wood' (which belongs to class-III) triggers the double agreement, but *ha* 'house' (belonging to class-IV) does not.

⁴ The terms 'control' and 'out-of-control' are borrowed from the Salish linguistic tradition. For more on control in Salish, and degrees of (non-)proto-typical agentivity and (in)transitivity, see (Carlson and Thompson 1982; Kinkade 1982, 1985, Kroeber 1988, Thompson 1979, van Eijk 1990).

(19) *class IV never doubly marked, class I/II/III are*

- | | | | |
|----|------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------|
| i. | <i>ha yul-úm-i</i>
house burn-AP-IV
'The house burned'
[Berger 1998: 118] | ii. | <i>hun i-yúl-im-i</i>
wood III-burn-AP-III
'The wood burned' |
|----|------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------|

A further source of double-marking of subject comes from fused auxiliary verb constructions, where each element bore its own marker of subject (20). See also 2.5 below.

(20) *fused/eroded auxiliary > double marking*

- | | | | |
|----|--------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------|
| i. | <i>un hurúš-áa</i>
you sit.DUR-2 (< 2=(AUX)-2)
'You sit' [Tiffou and Morin 1982: 88] | ii. | <i>in hurúš-u-b-ó</i>
s/he sit.DUR-II=AUX-II
'She sits' [Tiffou and Morin 1982: 88] |
|----|--------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------|

2.5 Agreement in Auxiliary Verb Constructions

As just alluded to, Burushaski belongs to the class of languages that exhibit double-marking in auxiliary verb constructions. Actually, Burushaski belongs to the class showing split-doubled marking (Anderson 1999; forthcoming). One obligatory inflectional category is marked on either the lexical verb or the auxiliary verb, while another is marked on both. Thus, object (21) and negative (22) appear on the lexical verb alone, but subject on both the lexical verb and the auxiliary verb.

(21) *object on lexical verb, subject on both lexical verb and auxiliary verb*

- | | |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i. | <i>ǵáa a-yúgusanc moó-y-a bá-a</i>
I.GEN 1-daughter.PL 2PL-give-1 AUX-1
'I herewith am giving you my daughters'
[Berger 1998a: 161] |
| ii. | <i>máa má-ma k^hosé č^har-ulum mu-c^hú-ya bá-a</i>
y'all.GEN 2PL-mother DET.III rock-INABL II-get-1 AUX-1
'I got your mother from this rock-mountain'
[Berger 1998b: 202] |

(22) *negative on lexical verb; subject on both lexical verb and auxiliary verb*

- | | |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i. | <i>k^hué-eṭe máa moó-y-aa máari, yáare musulman-e máari oó-moó-č-a</i> b
this-SUPERESS y'all-GEN 2PL-give.DUR-1 tribute rather Muslim-GEN tribute NEG-2PL-give.DUR-1 A
'I am ready to give you these (as) tribute, but I won't give you Muslims as tribute' |
| ii. | <i>óo-du-móo b-o-m</i>
NEG-D-II AUX-II-AP
'She didn't come'
i.) [Berger 1998a: 162] ii.) [Berger 1998b: 198] |

2.6 Agreement with conjoined NPs

When discussing agreement with conjoined NPs it is important to distinguish between syntactic agreement and semantic agreement. In most languages, both syntactic and semantic factors are involved in determining verbal agreement. “Syntactic agreement (or agreement *ad formam*, or ‘grammatical’ agreement) is agreement consistent with form” (Corbett 1991: 226). “Semantic agreement (or agreement *ad sensum*) is agreement consistent with the gender [or other agreement category] assigned by semantic assignment rules” (Corbett 1991: 225-6).

Generally simplex NPs trigger syntactic agreement in Burushaski. For example, Class III (animate non-human) nouns trigger Class III agreement, regardless of whether or not they are semantically animate. It is a cross-linguistic tendency for simplex NPs to trigger syntactic agreement; however, when the agreement trigger is a coordinative phrase, agreement is often semantically determined (Wechsler 1999: 6). In the case of conjoined NPs, we often speak of a resolution rule, “a rule which specifies the form of an agreeing element (or target) when the controller consists of conjoined noun phrases” (Corbett 1991: 261). Of course it is possible for a language to lack a resolution rule, in which case partial agreement results, that is, agreement with only one of the conjoined NPs. Partial agreement is generally seen as a special case of syntactic agreement (cf. Corbett 1991; Sadock 1998). Resolution rules, on the other hand, are usually semantically motivated, though they may be syntactically motivated if the semantics are inapplicable, as with purely arbitrary gender assignment (cf. Wechsler 1999).

In this section we will focus on number agreement with conjoined NPs. We adopt a constraint-based approach to agreement (cf. Sadock 1998). In this way, agreement is determined according to the interaction of ranked constraints which may be syntactically or semantically motivated. We find first that no resolution rules apply with object agreement. Next we will demonstrate that a resolution rule applies in the case of ‘and’-conjoined subject NPs; however, with ‘or’-conjoined subjects, a resolution rule may or may not apply. After examining the data and comparing it with other languages, we will conclude that extra-linguistic factors contribute to determining agreement in Burushaski.

2.6.1 Object Agreement

Cross-linguistically, if a target agrees with only one of the conjuncts in a coordinative phrase, it is most likely the nearest conjunct that it agrees with (Corbett 1991; Sadock 1998). This is the pattern we find in Burushaski (c.f. examples 23-24).

- (23) i. *ne bal ka on gu-del-i* vs. ii. *ne on ka bal del-i*
 he door and you 2-hit-I he you and door hit-I
 'He hit the door and you' 'He hit you and the door'
 [Anderson et al. 1998] [Anderson et al. 1998]
- (24) i. *ne bal-(in) ka hayor-a dol-i*
 s/he door-(PL) and horse-PL hit.I/II/III.PL-I
 'He hit the door(s) and the horses'
 [Anderson et al. 1998]
- ii. *ne hayor-a ya bal-(in) del-i*
 s/he horse-PL or door-PL hit-I
 'He hit the horses or the door(s)' [Anderson et al. 1998]
- iii. *on kitap ja-ya ya hir-e e-či-a*
 you book I-DAT or man-I.OBLQ I-give-2
 'You gave the book to me or the man'
 [Anderson et al. 1998]
- iv. *on kitap hir-e ya ja-ya a-či-a*
 you book man-I.OBLQ or I-DAT 1-give-2
 'You gave the book to the man or me'
 [Anderson et al. 1998]
- v. *hir-e kitap Sa ya Mari-y mu-č-i...Mari-mu-ya*
 man-ERG book Sam or Mary-DAT II-give-I Mary-II.OBLQ-DAT
 'The man gave the book to Sam or Mary'
 [Anderson et al. 1998]
- vi. *hir-e kitap Mari ya Sam-e e-č-i*
 man-ERG book Mary or Sam-I.OBLQ I-give-I
 'The man gave the book to Mary or Sam'
 [Anderson et al. 1998]
- vii. *ne bal ya on gu-del-i* viii. *ne on ya bal del-i*
 he door or you 2-hit-I he you or door hit-I
 'He hit the door or you' 'He hit you or the door'
 [Anderson et al. 1998] [Anderson et al. 1998]

Burushaski seems to be quite strict in this pattern. Note that even though animacy distinctions are present in the language, an 'Animacy Hierarchy' does not play a role in determining agreement. We see this in examples (23i-ii) and (24vii-viii).⁵ Similarly, although in some languages agreement may be with the highest number conjunct, regardless of whether it is the nearest, in Burushaski such does not appear to be the case (24ii).

⁵ In English, on the other hand, animacy seems to play a role, even in the absence of a resolution rule.

i. You or your dog are/?? is in trouble.

ii. Your dog or you are/* is in trouble.

In order to account for this data, we propose the following constraint.

- (25) *NEAR-OBJ: The verb agrees with the nearest object NP*

With respect to object agreement, we have found no evidence that semantics plays a role in determining agreement, though it is possible that any semantic constraints are simply ranked lower than NEAR-OBJ. A full description of Burushaski verbal agreement would include further constraints that are ranked with respect to NEAR-OBJ, e.g. the previously mentioned DISC-SAL, which clearly must be more highly ranked than NEAR-OBJ in order to account for some of the data discussed in Section 2.2-2.3 above.

2.6.2 Subject Agreement

Unlike object agreement, Burushaski applies resolution rules to subject agreement. In the following discussion, the only relevant resolution rule is number resolution because most gender and person distinctions neutralize in the plural. In (26) we see that ‘and’-conjoined NPs trigger plural agreement.

- (26) i. **hir ka gus-e mi mi-ic-en**
 man and woman-ERG we 1PL-see-PL
 ‘The man and the woman saw us’
 [Anderson et al. 1998]

- ii. **dasen ka hir-e gus park-ule mu-del-en**
 girl and man-ERG woman park-LOC II-hit-PL
 ‘The girl and the man hit the woman in the park’
 [Anderson et al. 1998]

Since number resolution rules are semantically based (Corbett 1991: 264), we posit the following constraint.

- (27) *SEM-SUBJ: The verb agrees semantically with its subject*

Clearly, SEM-SUBJ must be ranked lower than a syntactically based constraint. Otherwise, we would find that simplex NPs should trigger agreement according to their semantically determined gender rather than their grammatical gender. Therefore, we posit the following higher ranked constraint.

- (28) *SYN-SUBJ: The verb agrees syntactically with its subject*

Presumably, coordinative phrases are not marked for grammatical agreement features (Sadock 1998; Wechsler 1999).⁶ Thus, in the case of coordinative

⁶ We should add the caveat that they are not marked for syntactic features unless there is an explicit syntactic resolution rule in effect in the language.

phrases, SYN-SUBJ is inapplicable, and SEM-SUBJ is the highest ranked applicable constraint.

In contrast to 'and'-conjunction, we find a syntactic pattern with 'or'-conjunction. That is, the verb agrees with the nearest subject NP in (29i-ii).

- (29) i. *dasen ya hir-e gus mu-del-i* vs. ii. *hir ya dasen-e gus mu-del-i*
 girl or man-ERG woman II-hit-I man or girl-ERG woman II-hit-II
 'The girl or the man hit the woman' 'The man or the girl hit the woman'
 [Anderson et al. 1998] [Anderson et al. 1998]

To account for this data, we propose the following constraint.

- (30) *NEAR-SUBJ: The verb agrees with the nearest subject NP*

Clearly, SEM-SUBJ outranks NEAR-SUBJ; otherwise, SEM-SUBJ would not apply in (26). Presumably, with disjunction a semantic resolution rule cannot apply, which means that SEM-SUBJ is not applicable. Thus NEAR-SUBJ applies as in (29i-ii).

So far, Burushaski resembles English with respect to the order of subject agreement constraints; however, we find that in Burushaski it is possible for a number resolution rule to apply with 'or'-conjunction (i.e. in Burushaski *ya*-conjunction). Note that in (31i-vi) the verb takes the plural suffix *-en*.

- (31) i. *gus ya hir-e hales yeéc-en*
 woman or man-ERG boy see-PL
 'The woman or the man saw the boy' [Anderson et al. 1998]
- ii. *hir ya gus-e hales yeéc-en*
 man or woman-ERG boy see-PL
 'The man or the woman saw the boy' [Anderson et al. 1998]
- iii. *on ya hir-e hales yeéc-en*
 you or man-ERG boy see-PL
 'You or the man saw the boy' [Anderson et al. 1998]
- iv. *hir ya on hales yeéc-en*
 man or you boy see-PL
 'The man or you saw the boy' [Anderson et al. 1998]
- v. *gus ya hir-e dasen a-mu- yeéc-en*
 woman or man-ERG girl NEG-II-see-PL
 'The woman or the man didn't see the girl' [Anderson et al. 1998]
- vi. *hir ya gus-e dasen a-mu- yeéc-en*
 man or woman-ERG girl NEG-II-see-PL
 'The man or the woman didn't see the girl' [Anderson et al. 1998]

Cross-linguistically, we find two common patterns with 'or'-agreement: the verb agrees with the nearest conjunct, or the verb takes plural agreement. For

example, in English and Ndebele we find that agreement is generally with the nearest conjunct.

(32) i. *English*

John or Mary is coming to the party

ii. *Ndebele* (Bantu, Niger-Congo)

- a. *u-mangoye loba i-nja i-dle inyama*
 1/2A.SG-cat or 9/10SG-dog 9/10SG-eat steak
 ‘The cat or the dog ate the steak’
 [Moosally 1998: 103]

- b. *i-nja loba u-mangoye u-dle inyama*
 9/10SG-dog or 1/2A.SG-cat 1/2A.SG-eat steak
 ‘The dog or the cat ate the steak’
 [Moosally 1998: 103]

In Spanish and Romanian, the verb always takes plural agreement.

(33) i. *Spanish*

El niño o la niña vieron el accidente.
 the boy or the girl saw.PL the accident
 ‘The boy or the girl saw the accident’
 [E. Steinberg, personal communication 2000]

ii. *Romanian*

baiatul sau fata vor sosi in curind
 boy.MASCULINE or girl.FEMININE will.PL arrive soon
 ‘The boy or the girl will arrive soon’
 [Mosally 1998: 115]

Burushaski seems to be a mixed system. In some cases a resolution rule applies (34i), and in others agreement is with the nearest conjunct (34ii).

(34) *Burushaski*

- i. *hir ya dasen-e gus mu-del-u*
 man or girl-ERG woman II-hit-II
 ‘The man or the girl hit the woman’ [Anderson et al. 1998]

- ii. *hir ya gus-e hales yeéc-en*
 man or woman-ERG boy see-PL
 ‘The man or the woman saw the boy’
 [Anderson et al. 1998]

When a resolution rule applies with ‘or’-conjunctions, is it semantically-based or syntactically-based? The Burushaski data suggests that it is semantically-based, though we will argue that in Romanian and Spanish it may be syntactically-based. Before we present our argument for why it is

semantically-based in Burushaski, consider the following English data (Eggert, in progress).

(35) *English [Eggert, in progress]*

- i. *John, Mary, Peter, or Alice ?is/are coming to the party*
- ii. *John, Mary, Peter, or Alice is/*are going to win the race*

In (35) we see that pragmatics plays a role. In (35i), our extra-linguistic (encyclopedic) knowledge tells us that, in all likelihood, more than one member of the set {John, Mary, Peter, Alice} will come to the party, while in (35ii), we expect there to be only one winner. We notice a similar phenomenon in our Burushaski data. With 'see' there is plural agreement, while with 'hit' there is singular agreement. We suggest that, in general, it is unlikely that there will be more than one hitter, but it is equally likely that both or only one of the disjuncts did the seeing. Note that the reasoning involved is based on our knowledge of events of party going, winning, hitting, and seeing, not on the actual semantics of the predicates.

To represent the kind of deductive reasoning we have in mind, we need to present a semantic analysis of 'or' that leaves disjunctive NPs unmarked for semantic number. We propose that this can be done in a straightforward way if we adopt the quantifier analysis of 'and' and 'or' proposed in Eggert (in progress) and Eggert (forthcoming).

- (36) i. 'or' = $\lambda X_1 \dots \lambda X_n (\exists x: x \in (\cup (X_1 \dots X_n)))$
 ii. 'and' = $\lambda X_1 \dots \lambda X_n (\forall x: x \in (\cup (X_1 \dots X_n)))$

These formulae allow us to give a straightforward definition of semantic plurality⁷:

- (37) *An argument is plural iff it denotes a set with cardinality > 1.*

Assuming that the existential quantifier loosely means 'at least one', the denotation of an 'or'-conjunction has an indeterminate semantic number. Moreover, we predict that pragmatic factors could help to determine the semantic number.

The Burushaski data can now be explained fairly simply if we assume the constraints already posited (all of which are necessary for accounting for

⁷ The definition here is a simplification. We may want to allow for atomic plural arguments, that is, plurals that do not denote sets. For example, one could argue that a committee with 10 members represents a plural entity, but its denotation is not equivalent to the set of those 10 members (cf. Landman 1989a; Landman 1989b; Landman 1996; Link 1984; Schwarzschild 1996 for discussion).

agreement in other languages as well, cf. Corbett 1991; Sadock 1998; Wechsler 1999). We assume the following order for the constraints:

- (38) *SYN-SUBJ: The verb formally agrees with its syntactic subject*
SEM-SUBJ: The verb semantically agrees with its subject
NEAR-SUBJ: The verb agrees with its nearest subject

In coordinate phrases, SYN-NUM cannot apply without a specific syntactic resolution rule. Since 'or'-conjunctions are indeterminate for number, SEM-NUM cannot apply unless the pragmatics disambiguates the range of possible denotations. For example, in (35ii) we can deduce from our extra-linguistic (encyclopedic) knowledge that there can be only one winner; therefore, the subject must denote a singular entity. In other situations, it may be quite likely that the subject denotes a plural entity cf. (35i).

In Spanish and Romanian, if the semantic number is indeterminate, the default is for the target to take plural agreement. This default is in effect even when pragmatically it is impossible for the denotatum to be plural (E. Steinberg, p.c.). In such cases, we may wish to conclude that the language has a syntactically-based resolution rule for 'or'-conjunctions, whereby they trigger plural agreement. In English, on the other hand, there seems to be no default, so SEM-SUBJ generally does not apply, though, given sufficient pragmatic disambiguation, it can. Finally, in Burushaski, the default is again to trigger plural agreement, but the default can be overridden by the pragmatics. Because the pragmatics can override the plural default, we conclude that agreement in Burushaski is denotationally determined; therefore, plural agreement with 'or'-conjunctions must be semantically-based. In that case, the Burushaski data in which 'or'-conjunction triggers plural agreement is qualitatively different than similar examples in Romanian and Spanish.

3 SUMMARY

In conclusion, it is clear from the Burushaski data that verb agreement phenomena are subject to a range of often competing constraints belonging to different, autonomous levels of grammar which combine and interact in various complicated ways. These include syntactically-based constraints (or ones based on the level of linear order), e.g. NEAR-OBJ, NEAR-SUBJ, SYN-SUBJ, semantically based constraints, e.g. SEM-SUBJ, as well as constraints belonging to the level of discourse (e.g. DISC-SAL). These factors combine with extra-linguistic (encyclopedic) knowledge of (contextual) pragmatics resulting in the complex patterns of agreement attested in this fascinating isolate language of the Karakorum/Hindu Kush region.

ABBREVIATIONS

1	First Person	CV	Converb
OBJ	Object	2	Second Person
CAUS	Causative	OBLQ	Oblique
I	Class-I	CNCTV	Connective
OPT	Optative	II	Class-II
D	D-prefix/preverb	ORD	Ordinal
III	Class-III	DAT	Dative
PL	Plural	IV	Class-IV
DUR	Durative	Q	Interrogative
ABL	Ablative	ERG	Ergative
SG	Singular	ABS	Absolutive
GEN	Genitive	SUBJ	Subject
ADESS	Adessive	INABL	Inablative
SUP	Supine	AP	Aorist Participle
INF	Infinitive	SUPERABL	Superablative
APP	Applicative	LOC	Locative
SUPRESS	Superessive	ARTCL	Article
NEG	Negative	TR	Transitive
AUX	Auxiliary	NOM	Nominative

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