Proto-Upper-Borosan

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Contents

List of Abbreviations

Glossing abbreviations and conventions used are those given by the Leipzig Glossing Rules:
`https://www.eva.mpg.de/lingua/resources/glossing-rules.php`.
Additional abbreviations are given below.

AV	Agentive voice marker.
DIR	Direct case.
IMPERS	Impersonal passive.
POSTP	Postposition.
PV	Patientive voice marker.

1   Introduction

Upper-Borosan has long been recognised as a language family of Upper Boroso, and the present work, exhibiting the most-up-to-date view of its reconstructed ancestor, at least at the time of writing, is the culmination of many decades of linguistic research and comparative work. While the recognition of Upper-Borosan as a language family has been more or less uncontroversial since the outset, there has been much disagreement and revision of the constituent groups, and recent work has expanded the Upper-Borosan family far beyond its original scope. The core sub-branches making up the grouping — those that have been included since the initial proposal of Upper-Borosan as a genetic grouping — are the Dulic languages, represented most prominently by the Mbamigi language, the Taantic languages, represented by the Hayafi language, and the Qëërlic languages, represented by the Setyal language. More recent additions to the grouping include the Kiorian languages of Southern Boroso (Afarman, 1987), and their proposed association with the Lorimerese languages (Afarman and Ava, 1992).

Proto-Upper-Borosan is believed to have been spoken in a region south of Lake Qëërles between 4000 and 2500 BCE.

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2   Phonology and morphophonology

Much comparative work has gone into reconstructing the phonology of Proto-Upper-Borosan. Among its most striking features include vowel reduction in unstressed syllables and a system of suprasegmental nasal spreading which is reflected as nasal harmony among modern Dulic languages.

The phonology presented below is largely the work of Seville (1982) and represents one of the most up-to-date and agreed-upon views of Proto-Upper-Borosan phonology. While there have been more recent developments, these are either largely irrelevant to the present work, or are in general less widely accepted. The account of Seville forms the foundation of much of these subsequent works and so is taken as the most relevant and complete authority on the matter.

2.1   Consonants

Proto-Upper-Borosan is reconstructed with an inventory of 20 consonant phonemes, contrasting four places of articulation and boasting a large and complete set of 12 stop consonants (not including the glottal stop, which does not pattern with the other stop consonants) contrasting voice and aspiration. The liquids, /l r/, pattern with the approximants, /j w/, in some regards, and unlike them in others, and the question of whether they should be considered a natural class together is still an open one among Upper-Borosan linguistics; see Seville (1994) for an in-depth discussion.

The inventory presented is remarkably symmetric, most notably among the stop consonants which feature a three-way distinction between voiced, voiceless, and aspirated stops at each of the major places of articulation: labial (/b p pʰ/), alveolar (/d t tʰ/), palatal (/ɟ c cʰ/), and velar (/g k kʰ/). The glottal stop, /ʔ/, is an expected exception to this pattern and the glottal place of articulation does not, in general, pattern similarly to the other places of articulation.

		Labial	Alveolar	Palatal	Velar	Glottal
Nasal		m∼b	n∼d	ɲ∼ɟ	ŋ∼g	
Stop	Plain	p	t	c	k	ʔ
	Aspirated	pʰ	tʰ	cʰ	kʰ	
Fricative			s	ʃ∼ɕ∼ç		h
Liquid			l r			
Approximant				j	w	

Table 1: Consonant phonemes of Proto-Upper-Borosan

The palatal fricative, /ʃ∼ɕ∼ç/ shows some uncertainty in its reconstruction, potentially indi-cating free variation in the pronunciation of this phoneme at the time when Proto-Upper-Borosan was spoken as a single language, or perhaps reflecting dialectal variation.

Table 1 gives the consonant phonemes of Proto-Upper-Borosan.

Worthy of note is the notation used with the voiced stops in table 1. These sounds are recon-structed as occurring in a complementary distribution with the corresponding nasal phonemes, with which they are paired in the table. This is the result of a process of suprasegmental spreading of nasalisation from adjacent nasal vowels, resulting in the nasalisation of voiced stops adjacent to [+nasal] segments, represented diagrammatically in (1).

(1) $\text{b d ɟ g} \rightarrow \text{m n ɲ ŋ} / \left\{ \begin{array}{l} \_[\ +\text{nasal}\ ] \\ [\ +\text{nasal}\ ]\_ \end{array} \right.$

(2) $\text{m n ɲ ŋ} \rightarrow \text{b d ɟ g} / [\ -\text{nasal}\ ]\_[\ -\text{nasal}\ ]$

An inverse rule could also be posited, removing nasality from nasal segments when adjacent to only oral segments, as in (2). However, this analysis finds difficulty when nasality is approached as a suprasegmental phenomenon, and so the analysis put forward here is that given above.

This is discussed in greater detail in section 2.2.1.

2.2   Vowels

The vowel system of Proto-Upper-Borosan consists of five contrastive vowels. This inventory is notable for its asymmetry, lacking a corresponding back rounded vowel at the same height as /e/.

These vowels show an additional phonological nasalisation contrast, not shown in table 2, which gives rise to the suprasegmental nasalisation process described in section 2.2.1. The vowel contrasts show no reconstructed variation when nasalised, thus giving each vowel phoneme a natural pair of realisations in nasalised and non-nasalised suprasegmental environments.

Table 2 gives the vowel phonemes of Proto-Upper-Borosan.

Proto-Upper-Borosan is reconstructed with an additional phone, [ə], and arguments have been made in favour of considering it a contrastive phoneme, however the current position of most

	Front	Central	Back
High	i	ɨ	u
Mid	e		
Low		a	

Table 2: Vowel phonemes of Proto-Upper-Borosan.

workers is that it is an allophone of both /a/ and /u/ in unstressed contexts. As a phonological rule, this is represented by (3).

(3) $\left\{ \begin{array}{c} a \\ u \end{array} \right\} \rightarrow ə$ / [–stress]

Similarly to the phonemes /a u/, the allophone [ə] contrasts nasality in nasalised environments. An analogous rule to (3) is given in (4) for nasalised environments.

(4) $\left\{ \begin{array}{c} ã \\ ũ \end{array} \right\} \rightarrow ə̃$ / [–stress]

One argument in favour of considering [ə] an allophone is, unlike all other vowels, [ə] does not occur in stressed position and in the few situations where stress does shift off of one of /a u/ it regularly generates the reflexes expected of [ə] in daughter languages, suggesting that, synchronically, shift of stress away from /a u/ resulted in reduction to [ə].

It is notable, however, that [ə] frequently occurs in contexts where it will never receive stress. This leaves its reconstruction ambiguous as the vowel could be underlyingly either /a/ or /u/, with no way to make a distinction. In these situations it is reconstructed as [ə] but understood as underlyingly one of /a/ or /u/.

2.2.1 Nasality

The feature [+nasal] is assigned lexically to individual [−consonantal] segments, i.e. vowels. This feature also spreads from segments to which is is assigned to adjacent segments bearing the [+consonantal −sonorant −strident +voice] specification. This generates the aforementioned complementary distribution of voiced stops and their corresponding nasal consonants, where voiced stops are realised as nasal when adjacent to other [+nasal] segments, represented diagrammatically as (1) (repeated here as (5)), or more abstractly in (6).

(5) b d ɟ g → m n ɲ ŋ / $\left\{ \begin{array}{c} \_\_[\,+\text{nasal}\,] \\ [\,+\text{nasal}\,]\_\_ \end{array} \right\}$

(6) $\begin{bmatrix} +\text{consonantal} \\ -\text{sonorant} \\ -\text{strident} \\ +\text{voice} \\ -\text{nasal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{sonorant} \\ +\text{nasal} \end{bmatrix}$ / $\left\{ \begin{array}{c} \_\_[\,+\text{nasal}\,] \\ [\,+\text{nasal}\,]\_\_ \end{array} \right\}$

Stress position	Percentage of reconstructed lexicon
Initial	81%
Penultimate	3%
Ultimate	15%
Other	1%

Table 3: Occurrence of stress positions in the etymological dictionary of Seville (1982).

2.3   Phonotactics

Proto-Upper-Borosan permits geminate stops and nasals medially. Phonemically this is analysed as having an intervening syllable break, but is realised as a geminate in the onset of the second syllable.

(C)(L)V(j)(C)

L is one of /l r j w/ in complex onsets (i.e. CL) C cannot be in L Any diphthongs are prohibited; if two vowels come into contact, an intervening glottal stop is inserted.

2.3.1   Stress

Proto-Upper-Borosan stress is lexically determined, typically occurring on either the initial or one of the final two syllables (the penultimate and ultimate, respectively), however its position is unpredictable from phonological criteria.

Seville (1982) gives one of the most complete etymological dictionaries of Upper-Borosan available. Table 3 shows the frequency of different stress positions among the over 900 reconstructed words.

A small percentage of Proto-Upper-Borosan's reconstructed lexicon show stress positions that are not one of those given above; these are the 'Other' in table 3. These are typically function words or commonly used words, somewhat explaining their aberrant stress positions.

2.3.1.1   Stress in reduplication

3   Grammar outline

3.1   Word order

Proto-Upper-Borosan displays a basic VSO word order, reflective of its overall strongly head-initial syntax. This basic order can be seen in (7). Case marking on arguments allows the order of subject and object to be varied, usually for pragmatic effect, with more salient arguments typically coming first. This variation is shown in (8). The same sentences with the arguments reversed in their syntactic roles are given in (9) and (10).

The contrastive focus construction (as in (8) and (10)) may optionally include the focus marker *li*, which precedes the focused argument. This may be omitted for focused objects, but is included in the following examples

(7) *nẽnā́-jã*   *ló?a-cʰa*   *ŋẽs*
     look.for-AV   father-DIR   sister
     'Father is searching for sister.'

(8) *nẽnā́-jã*   *lɨ*   *ŋẽs*   *ló?a-cʰa*
     look.for-AV   FOC   sister   father-DIR
     'Father is searching for *sister*.'

(9) *nẽnā́-jã*   *ŋẽs-cʰa*   *ló?a*
     look.for-AV   sister-DIR   father
     'Sister is searching for father.'

(10) *nẽnā́-jã*   *lɨ*   *ló?a*   *ŋẽs-cʰa*
     look.for-AV   FOC   father   sister-DIR
     'Sister is searching for *father*.'

Oblique arguments generally occur after the core arguments. The order of obliques is largely underspecified, however time and location tend to precede instrument and beneficiary, which themselves precede other obliques. As with core arguments, these can be focused with the marker *lɨ*, which is not optional for focused obliques. Unlike core arguments, obliques move to the pre-verbal position when focused. This is a disfavoured position and hence only time, location, instrument, and beneficiary obliques can be focused and occur only rarely.

3.2 Morphological marking

In addition to the use of word order to disambiguate argument roles, Proto-Upper-Borosan makes use of flagging (case marking) and indexing (verbal agreement) strategies. In particular, nominal case in conjunction with the verbal voice markers forms the basis of distinguishing agentive arguments from patientive ones, and provides a method of topicalising arguments and hence affording special discourse status to certain referents.

Proto-Upper-Borosan's synthetic case marking is minimal, distinguishing only a marked direct case and an unmarked indirect. Analytic case marking occurs in the form of postpositions marking spatial relationships, semantic and syntactic roles, and various types of obliques.

4 Word classes

4.1 Verbal categories

Based off of the semantic properties of the arguments they specify and the syntactic frames they occur in, Proto-Upper-Borosan verbs can be divided into the following broad categories. These categories are especially relevant for valency-changing processes, discussed in section 6.

- monovalent verbs
- monovalent motion verbs

- bivalent verbs

- bivalent motion verbs

- labile verbs

These categories are examined in the following sections and morphosyntactic means to distinguish them are given.

4.1.1   Monovalent verbs

Monovalent verbs are those that, in their least marked form, take a single core argument. Note that this definition is a syntactic one, in terms of number of core arguments, not transitivity, as there are a number of syntactically monovalent verbs that are more prototypically transitive than intransitive, and express additional arguments by means of postpositional phrases.

4.1.2   Bivalent verbs

4.1.3   Labile verbs

5   Verbal morphology and the verb phrase

5.1   Tense and aspect

5.2   Adjunct nominals

Many verbs may occur with an additional bare noun stem which serves to semantically specify the action of the verb, denoting an object or instrument, usually those that are intrinsic or key to the action. For example, 'bow' may be an adjunct nominal for 'shoot' (or a similar verb, e.g. 'throw' or 'release'), or 'fish' for 'catch.' This syntactically restricts the adjunct nominal the the position immediately following the verb, and forbids it from taking any form of marking. The adjunct nominal remains a phonologically separate words, however is, in all other regards, essentially a part of the verb, hence this may also be referred to as pseudo-noun incorporation.

(11)   *sahu-jarú   ɲã   i   lupé-cʰa*
       release-PV   spear   3S   animal-DIR
       'The animal was speared by him.'

6   Valency-changing processes

Proto-Upper-Borosan exhibits a rich array of valency-changing processes which are widely used to focus indefinite elements of the clause due to the restriction of verbal voice markers to definite antecedents. Majority of these constructions employ dedicated morphology, however there is some reuse of markers and the causatives employ exclusively periphrastic constructions. The passive demotes the A argument of bivalent verbs and promotes the P argument; the impersonal passive demotes all core arguments of either monovalent or bivalent verbs, leaving the verb with zero valence; the antipassive demotes the P argument of bivalent verbs and shows significant semantic range, being co-opted for reflexive and anticausative meanings; the reciprocal also demotes the

P argument of bivalent verbs, however indicates that the A argument acts upon itself, and with certain verbs takes on a broader co-participation meaning; the causative moves the S argument of monovalent verbs to P role, promoting a causer oblique to A role; a secondary causative finds exclusively assistive or comitative meanings; finally, the applicatives promote oblique arguments to P role, creating some of the few instances of double object constructions in Proto-Upper-Borosan.

These structurally and semantically diverse constructions all serve to change clause-level valency and are treated in the following sections.

6.1   Passives

Proto-Upper-Borosan's general passive is marked by the suffix *-pĩ*. The omitted A argument in the corresponding bivalent clause may be reintroduced by the postposition *nãʔ*, however if left unspecified takes an anaphoric reading[1]. The use of the passive precludes the usage of the voice markers. This construction is primarily used to focus indefinite P arguments of bivalent verbs.

(12) *pʰár-rã   ẽcʰű̃   pʰe*
      hit-AV   1-DEF.SG   man
      'I hit a man.'

(13) *pʰár-pĩ   pʰe   ẽ   nãʔ*
      hit-PASS   man   1   POSTP
      'A man was hit by me.'

(14) *pʰár-pĩ   pʰe*
      hit-PASS   man
      'A man was hit (by it).'

6.1.1   Impersonal passive

The impersonal passive demotes all core verbal arguments, leaving a valency of zero. Unlike the general passive, the impersonal passive can also be used with stem monovalent verbs with the same effect. This serves to background the agent and patient of the verb, focusing on the action itself. It is marked by the suffix *-kʰwiʔ*. The use of the impersonal passive precludes the usage of the voice markers. Only the P argument of the base verb, if bivalent, may be reintroduced by the postposition *hir*, or the S argument with the postposition *nãʔ* if the base verb is monovalent. Unspecified arguments take an anaphoric reading.

(15) *gehú-jã   í-cwa   ʔe*
      bite-AV   3-DIR.SG   PROX
      'He bit into this.'

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[1]As opposed to a non-specific reading, i.e. "do something [to it]" vs. "do something [to something]."

(16) *gehú-kʰwiʔ*
      bite-IMPERS
      'It$_i$ has been bitten (by it$_j$).'[2]

(17) *gehú-kʰwiʔ   ʔe   hir*
      bite-IMPERS   PROX   POSTP
      'This has been bitten (by it).'

The impersonal passive is obligatorily marked for a small set of verbs describing weather events or verbs with an inherent object. These verbs do not allow the use of voice markers at all.

(18) *ʔáʔã̃-kʰwiʔ*
      rain-IMPERS
      'It's raining.'

(19) *ŋĩ́se-kʰwiʔ*
      catch.fish-IMPERS
      '(It's) catching fish / fish are being caught.'

(20) *ŋĩ́se-kʰwiʔ   í-seg   nã̃ʔ*
      catch.fish-IMPERS   3-PL   POSTP
      'They're catching fish.'

6.2 Antipassives

antipassive removes patient, decreasing valency.

middle voice characteristics on some verbs, e.g. reflexive on verbs of posture, motion, grooming (shave-ANTIP "shaves itself"; sit-ANTIP "sits itself down" > "sits down (inchoative)"). this allows antipassive use with morphosyntactic patient (i.e. non-valency decreasing)

antipassive syncretic with anticausative, distinguished syntactically (X V: antipassive; V X: anticausative).

6.3 Reciprocals

reciprocal marking can take on generic co-participation meaning with some verb stems e.g. take.shape-RECP "fuse together"; refuse-RECP "disobey".

6.4 Causatives

The causative is more unique among Proto-Upper-Borosan's valency-changing operations in being entirely analytical, formed via a periphrastic construction using an unproductive and largely lexicalised nonfinite verbal form.

6.4.1   Assistive causative

6.5   Applicatives

benefactive & locative these are additional affixes on the stem and simply use the patientive
voice to focus applied objects.

generic an affix used without any voice marker with a broad, underspecified range of meanings.

6.6   Combinations of valency-changing processes

6.7   Lability

7   Nominal phrases and possession

7.1   Relative clauses

Only core arguments are available for relativisation. Indefinite arguments form internally headed
relative clauses, relative clauses on definite arguments are marked by the relativising clitic *-gaŋã*.

7.2   Possession

7.2.1   Alienable possession

7.2.2   Inalienable possession

7.2.3   Natural possession

8   Clause types

8.1   Simple clauses

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