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Abstract

This paper describes the classification of the functions of preverbs in Georgian and the other Kartvelian languages as a contribution to the typology of this issue. Preverbs have different meanings and activities in different languages. The typological classification of the functions of preverbs reveals the four functions: spatial, temporal, objective and lexical.

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1. Introduction

A preverb is a prefix or particle preceding the root or stem of a verb, “a convenient term for a prepositional element in a compound verb” (Margolis 1909:33). Booij and Van Kemenade (2003:1) define the notion of a preverb as a traditional descriptive notion in Indo-European linguistics, which refers to morphemes that appear in front of a verb, and which constitute a close semantic unit with that verb. Interestingly enough, the morpheme that functions as a preverb can also function without a preverbal context, often as an adverb or an adposition. Most linguists use the notion ‘preverb’ as a cover term for preverbal words and preverbal prefixes. Dufresne, et al. (2003:33) add, that preverbs are intriguing grammatical objects. Semantically, they form a lexical unit with the verb they modify, sometimes behaving like an affix and sometimes more like an independent word. In all cases, however, preverbs appear to form a complex predicate with the verb they modify. Many studies in linguistics investigate verbs with preverbs and particles (Léonard & Kihm 2015; Blom 2005, Farrell 2005, Hoekstra1988, 1992, Levin & Rappaport 1995, Ackerman & Webelhuth 1998, Lü deling 2001, Stechow 1995, Pinker 1989, Müller 2000, Haider 1997, Haiden 2006, Li 1999, Dehe´ 2002, etc.).

In Indo-European languages, preverbs mostly show asemantic relatedness – the fourth type of lexical derivation (Aronoff & Rees-Miller 2000:232). Compare: Latin ***con****ducere* 'hire', ***tra****ducere* 'transfer' /'translate', ***de****ducere* 'bring', ***re****ducere* 'must', or Russian *pisat* 'write', ***pri****pisat* 'ascribe' ***o****pisat* 'describe', ***pod****pisat* 'sign', and so on. Although preverbation is a morphological phenomenon, however, studying the argument structure of preverbed verbs is a good opportunity to explore syntax-semantics and syntax-lexicon interfaces (McGillivray 2013 :119).

In Georgian, preverbs, postpositions, and particles are different morphological units, although Georgian polypersonal verbs with preverbs are often translated into Indo-European languages using postpositions and particles. This paper addresses only preverbs as verbal prefixes. Studies of preverbs in Georgian are incomplete; the literature lacks a full description of their functions and semantic nuances. Several issues remain uninvestigated. First, not all functions of Georgian reverbs have been revealed hitherto. Second, a preverb may have different meanings and functions with different verbs. The polysemy of Georgian preverbs lacks a proper examination. Third, aside from the main functions, preverbs may convey some additional semantic content with certain verbs, which are not yet properly described in the literature. Many questions remain unanswered, such as: What are these additional contents for each Georgian preverb? Which verbs may contain such contents? When and how do these contents occur? Finally, Georgian verbs may accept a number of preverbs, though there are some restrictions; some preverbs never occur with certain verbs. This system has not been studied sufficiently. Again there are some questions waiting for answers. Which verbs accept which peverbs? Which verbs never accept certain preverbs and why?

This paper sheds light on Georgian preverbs, revealing the full picture of their functions. Solving this puzzle is an important input for Georgian verb studies, though the field will require future detailed investigations of each preverb. This paper describes the typological classification for the functions of preverbs and shows how the morpho-semantic contents of preverbs appear in Georgian. I argue that preverbs stimulate object role-shifting in verbs in Georgian and other Kartvelian languages. I also argue that preverbs affect verbal valency in these languages. This paper contributes to the scholarly literature by revealing the object role-shifting function of preverbs and the general classification of the functions of preverbs. This paper sheds more light on preverbs in non-Indo-European languages.

This study uses a descriptive-analytical method and comparative analysis along with typological data analysis.

The paper proceeds as follows. Section 2 describes the functions of preverbs and their combinations. Section 3 analyses the examples of role-changing between direct and indirect objects in Kartvelian languages. Section 4 provides examples of object alternations from different languages. The paper concludes in Section 5.

2. Functions of preverbs in Georgian

2.1 Spatial, temporal, and lexical functions of Georgian preverbs

Theoretically, all prefixes placed in front of a verbal root or stem are preverbs. "The structure of the preverb+stem combination is superficially similar (to other languages) in Georgian, a member of the Kartvelian (South Caucasian) family" (Harris 2003:61). According to Harris (2003:66), the history of preverbs in Kartvelian is similar to that of a number of other languages: adverbs or nouns gradually became part of a verb stem.

Ordinary Georgian verbs may have a few preradical prefixes, but which of them is a preverb? The answer to this question lies in morpheme position and verbal affix range. Preverbs always occupy the first position in such prefixal rows. Georgian verbs have three types of verbal prefixes:

- The first affix is a preverb (this can be a complex preverb as well), followed by
- The second, which is the marker of person (subject or object), followed by
- The third, which is a poly-functional pre-radical vowel.

Agreement markers may appear between a preverb-root combination in various ways. Svan and Georgian involve reanalysis of an adverb or noun, cliticization to an existing agreement-root sequence, and further reanalysis of the proclitic preverb as a prefix (Harris 2003: 74-75).

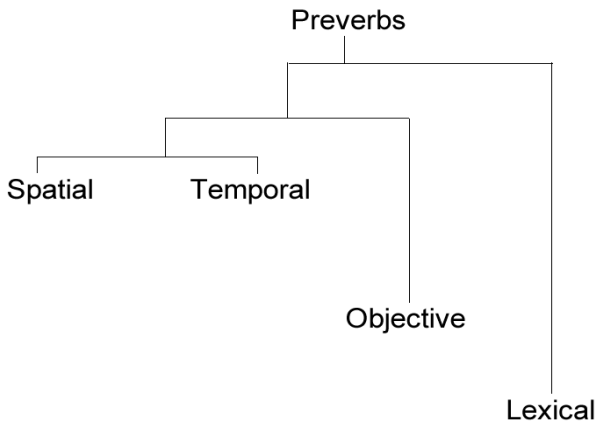
(1) *ga-v-a-k'et-e*[1]
PREV- SBJ1SG-VER/N-do-RM[2]
I did/made it.

All prefixes (*ga-, v-, a-)* in example (1) are preradical markers indicating the correlation between the relevant morphological categories with their semantic content. The preverb in this form is *ga-* . A Georgian verb may have a maximum of three verbal prefixes, or even none. The first element could also be another prefix and not a preverb, but only in the verbal forms without preverbs. Thus, the place for preverbs among the verbal affixes is strictly defined in all Kartvelian languages.

Georgian verb template										
-3	-2	-1	0	1	2	3	4	5	6	7
preverb	prefixal nominal marke r	version marker	VERB ROOT	passive marker	thematic suffix	causative marker	imperfective marker	suffixal nominal marker	auxiliary verb	plural marker

Table 1. Georgian verb template

In Georgian, "most verbs have a preverb lexically associated with them, although there is also a group of verbs that do not have preverbs" (Gurevich 2006:94). Preverbs have different meanings and activities in different languages. The typological schematic classification of the functions of preverbs is:



Preverbs may convey four different morphosemantic meanings or contents: spatial, temporal, objective, and lexical. These contents can be conveyed separately, shared, or mixed in the frames of one preverb. For instance, some Georgian preverbs can provide spatio-temporal content in one form. An example of shared spatio-temporal content can be seen by comparing the examples 2a, 2b, and 2c:

(2 a) *a-pren-s*
VER/N-fly-SBJ3SG
He/She lets him/her/it/them fly.

(2 b) *ga-a-pren-s*
PREV-VER/N-fly-SBJ3SG
He/She will let him/her/it/them fly away.

(2 c) *še-a-pren-s*
PREV-VER/N-fly-SBJ3SG
He/She will let him/her/it/them fly inside

By adding the preverb *ga-* or *še-*, these forms show two types of changes: the verbal action of the present tense becomes future tense and a neutral direction obtains a vector with a concrete direction (away and into, inside of something). As we see, the preverbs *ga-* and *še-* in examples 2b and 2c show shared spatio-temporal content.

Tense changing (examples 2a and 2 b or 2 c) occurs only in the first series, where preverbs produce future paradigms from the present. In the other series, preverbs have only aspectual functions (in the temporal slot).

The spatial content of preverbs seems to be initial and universal. Most languages with preverbs can share this content. "In the Kartvelian languages, preverbs have many of the properties they have in other languages, including indication of location or direction of motion" (Harris 2003:61).

In the Georgian language, simple preverbs (CV, V structures) show direction mainly with the verbs of motion. Compound preverbs (CVCV, VCV structures) are produced by adding a *mo-* preverb to simple preverbs to convey that the speaker[2] is at (or near) the final point of destination. Thus, Georgian preverbs can display two types of spatial content: direction in space and orientation towards the speaker or addresee. Shanidze (1980:238-261), Veshapidze (1967), Makharoblidze (2012:53-71) and Asatiani (2009:38-47) discuss this in more detail.

The simple preverbs below show the main directions in space. Compound preverbs with *mo-* have the same spatial vectors, but also show the orientation towards the speaker.

mi- → away /from speaker
mo- s← towards /to speaker[3]
mimo- ↔ back and forward
a-/ amo- ↑ up
ča- /*čamo-* ↓ down (into)
še- / *šemo-* ⊖→ from outside to inside; *šemo-* ↻ around[4]
ga- / *gamo-* ⊖→ from inside to outside

c'a- / *c'amo-* → away /from something / somebody

gada- / *gadmo-* ↗ overcoming, across

da- /(**damo-*)[5] ↓ ↔ over a path

The temporal function of preverbs in Georgian may have two grammatical contents:

- The present tense becomes future by adding a preverb, and
- The presence of preverbs in perfective paradigms state the aspectual function.

These contents frequently occur together. Comparing example 2a with 2b or 2c, we see the tense-changing and aspectual contrast as well. The tense-changing function of Georgian preverbs led to the emergence of new rows of conjugation – TAM paradigms. Preverbs as aspectual and tense operators in Georgian and other Kartvelian languages are well investigated (Shanidze 1980, Tschenkeli 1958, Veshapidze 1967, Asatiani 1952, Schmidt 1969, Deeters 1930, Holisky 1981, Topuria 1967, Harris 1978, 2003, Cherchi 1997, Martirosov 1956, Kobalava 2002, Asatiani 2009, Ivanishvili & Soselia 2009, and others).

The lexical function of preverbs is lexeme derivation. Sometimes, Georgian preverbs change the meaning of the word, thereby producing a new lexical unit:

(3a) *c'a-k'itxv-a*
PREV-read-INF
Reading[6]

(3b) *da-k'itxv-a*
PREV-interrogate-INF
Interrogation

(3c) *gamo-k'itxv-a*
PREV- examine-INF
Examining

(3d) *še-k'itxv-a*
PREV- ask-INF
Asking

(3e) *mo-k'itxv-a*
PREV- send regards-INF
Sending regards

(3f) *gada-k'itxv-a*
PREV- reread-INF
Rereading/ reading over

The lexical differences between the examples above come from the preverbs. Georgian has a few dozen verbs for which preverbs clearly carry a lexeme derivational function. Some preverbs are more active as derivational affixes than others are (for a more detailed discussion, see Makharoblidze 2012: 53-71).

2.2 Objective function of preverbs

While previous studies thoroughly describe the three functions of Georgian and other Kartvelian preverbvs – spatial, temporal and lexical – this paper is the first to describe the objective function of preverbs and the object role-shifting effect of preverbs in these languages.

The objective content or function of preverbs has a derivational effect, such as changing the verbal valency semantically, and coding this change at the morphological level of the language. Both the lexical and objective functions are derivational. The latter shows an argument linking effect, while the lexical function performs lexeme derivation. Because the affected argument is always an object, I call the argument linking function objective. A number of linguists describe this function of preverbs (particles and adpositions) and the effect of transitivisation in the Indo-European languages. This discussion mainly concerns their approaches. Some scientists take a morphological approach to describe the argument-structural preverbs and particles (Neeleman & Weerman 1993; Stiebels & Wunderlich 1994; Olsen 1997; McIntyre 2007, Hoekstra 1988, 1992, den Dikken 1995, Stechow 1995, Svenonius 1997, 2005). Booij and Kemenade (2003:1) argue that if the preverb becomes a real prefix, we may use the more specific notion of a 'complex verb', and use 'complex predicate' to refer to multi-morphemic expressions with verbal valency in general. Therefore, a terminological distinction exists between complex predicates and complex verbs; the latter are multi-morphemic, but behave as single grammatical words. "The argument linking properties of 'completive' complex verbs are the same as those of resultative constructions. In both cases, intransitive verbs can become transitive (chat people up, talk people senseless)" (McIntyre 2003:126).

Other authors consider particle verbs and preverbal constructions as syntactic matters (Zeller 2001, Haider 1997, Lü deling 2001, Booij 1990, Keyser & Roeper 1992, Müller 2000). According to Zeller (2003:199) the view that the particle and the verb must be realized in a strictly local configuration requires that this relation is established at the level of syntax where lexical relations are established and checked. "Even the meaning of a so-called 'semantically transparent' particle verb cannot always simply be reduced to the meaning of the verb and the meaning of the particle" (Zeller 2003:198).

In addition to syntactic position, Zeller (2003:203) offers a hybrid approach, discussing particle verbs in the context of a comparison between some of these alternative theories and the multi-representational approach, and showing that only the latter can fully account for the heterogeneous properties of the verb-particle construction. Zeller (2003:203) argues that the hybrid status of particle verbs is a challenge and a multi-representational theory can be an adequate and well-motivated approach that can avoid losing hierarchically structured syntactic representations when confronted with problematic data. This hybrid theory seems to be the best approach. Following this logic, preverbs (and particles with verbs) are morphosyntactic matters, and for mono-personal languages (such as Indo-European), this is a convenient analytical tool. On the one hand, anything concerning verbal valency in these languages should be considered on the syntactic level only, since the verbs contain no morphological marking for objects (or, in other words, there is no morphologically referenced argument structure). On the other hand, the proper morphological verbal forms with preverbs and/or particles create a concrete morpho-semantic base for any changes of verbal valency.

From a typological point of view, the objective function of the Georgian preverb in the context of polypersonal verbal systems seems very interesting. Although the influence of preverbs, particles, and prefixes on verbal valency and argument-linking is a fairly common topic in cross-linguistic studies devoted to Indo-European languages, this function has never been discussed,[7] nor have Georgian data been considered for typological research. The author (2010:77-101)

describes the argument linking function of Georgian and Mingrelian preverbs in "Linguistic Papers II."

In the examples below, changes of verbal valency are connected to the morphosemantics of the preverbs.

(4a) *a-a-šen-a (man*-S, *is*-Od)[8]
PREV-VER/N-build-SBJ3SG (He/she-ERG it-NOM)
He/she built it.

(4b) *mo-a-šen-a (man*-S, *is*-Od., *mas*-Oind.)
PREV-VER/N-build-SBJ3SG (He/she-ERG it-NOM it-DAT)
He/she built it at/on it.

(4c) *mi-a-šen-a (man*-S, *is*-Od., *mas*-Oind.)
PREV-VER/N-build-SBJ3SG (He/she-ERG it-NOM it-DAT)
He/she built it at/on it.

(4d) *da-a-šen-a (man*-S, *is*-Od., *mas*-Oind.)
PREV-VER/N-build-SBJ3SG (He/she-ERG it-NOM it-DAT)
He/she built it on/upon it.

(5a) *ga-v-č'er-i (me*-S, *is*-Od)
PREV-SBJ1SG-cut-RM (I it-NOM)
I cut it.

(5b) *mo-v-* č'*er-i (me*-S, *is*-Od., *mas*-Oind.)
PREV-SBJ1SG-cut-RM (I it-NOM it/her/him-DAT)
I cut it from/to/off him/her/it.

In these examples, the preverbs *a-* and *ga-* change for *mi-*, *mo-*, and *da-* preverbs, and the verbal valency increases; bitransitive (or ditransitive) forms are derived from transitive verbs. Preverbs can reduce verbal valency as well, and the same examples demonstrate this (vice versa).

In Georgian, the preradical vowels usually affect verbal valency (Shanidze 1980, Harris 978, Deeters 1930, Holisky 1981, Vogt 1971, Tschenkeli 1958, Schmidt 1969, Uturgaidze 2002, Hewitt 1995, etc.). When a preverb affects the verbal person linking, then these vowels lack a valency-increasing function and are not relevant to this content.

(5c) *mo-v-a-č'er-i (me*-S, *is*-Od., *mas*-Oind.)
PREV-SBJ1SG-VER/N-cut-RM (I It-NOM it/her/him-DAT)
I cut it from him/her/it.

As we see, the number of verbal persons changed in example 5b without any preradical vowel. In example 5c, however, the preradical vowel *a-* has the morphosemantic content of superessive, while the preverb *mo-* causes a valency increasing effect.

The verbal valency, in other words, the number of verbal persons, can change by adding a preverb to the verbal forms or by changing the existing preverb.

(6a) *v-a-ngri-e me k'edel-i.*
SBJ1SG-VER/N-destroy-RM I wall-NOM.
I was destroying the wall.

(6b) *da-v-a-ngri-e me k'edel-i.*
PREV-SBJ1SG-VER/N-destroy-RM I wall-NOM.
I destroyed the wall.

(6c) *mo-v-a-ngri-e me k'edel-i saxl-s.*
PREV-SBJ1SG-VER/N-destroy-RM I wall-NOM house-DAT.
I destroyed the wall of/at the house.

The transitive verb (6a) becomes ditransitive (6c) by adding the preverb *mo-*. The transitive verb (6b) also becomes ditransitive (6c) by substituting the preverb *da-* with the preverb *mo-*.

In Georgian, preverbs may have different functions when attached to different verbs, and concrete verbal semantics have core importance in each case. While speaking about the role of preverbs for verbal valency, I should mention another separate case. The preverb *da-* conveys the meaning of plurality for the direct object of some verbs; compare:

(7a) *kal-ma p'ur-i gamo-a-cx-o.*
Woman-ERG bread-NOM PREV-VER/N-bake-RM
'The woman baked a loaf of bread.'

(7b) *kal-ma p'ur-eb-i da-a-cx-o.*
Woman-ERG bread-PL-NOM PREV-VER/N-bake-RM
'The woman baked several loaves of bread.'

This function belongs only to the *da-* preverb, but it is still very important in Georgian verbal morphology, as the third person direct object has no marker in the verb-forms in Modern Georgian.[9] There are only two ways to convey the meaning of plurality for the direct object: the preverb *da-* has this function with some verbs, and by changing the stem of some verbs; compare: *movk'ali* 'I killed him/her' – *davxoce* 'I killed them;' *davsvi* 'I make/let him/her sit down' – *davsxi* 'I make/let them sit down;' *davagde* 'I threw it down' – *davq'are* 'I threw them down;' and so on. These forms often involve the preverb *da-*.

The Georgian preverb can stimulate two types of changes to verbal valency. First, the preverb can increase or reduce the number of existing arguments (in verbal morphology). The affected argument is an indirect object in most cases as an argument with spatial content (see examples 4b, 4c, 4d). Second, the preverb stimulates role-shifting between objects. The direct object in transitive verbs becomes the indirect object and a new direct object appears, making the verb ditransitive (see examples 8a-9b).

(8a) *me ga-v-k'vet-e sxeul-i.*
I PREV- SBJ1SG-cut-RM body-NOM
I cut the body.

(8b) *me mo-v-k'vet-e sxeul-s nac'il-i.*
I PREV-SBJ1SG-cut-RM body-DAT part-NOM
I cut a part of the body.

(9a) *kal-ma da-m-a-b-a me.*
woman-ERG PREV-OBJ1SG-VER/N-bind/fasten-SBJ3SG I

The woman bound/fastened me.

(9b) *kal-ma mo-m-a-b-a me tok'i.*
woman-ERG PREV-OBJ1SG-VER/N-bind/fasten-SBJ3SG I/me rope-NOM.
The woman bound/fastened the rope to me.

Preverbal object role-shifting can be of two types:

A. In transitive verbs, the direct object becomes indirect and a new direct object appears in the verb (see examples 10a-10c).

(10a) *k'ac-ma me ga-m-q'id-a.* .
man-ERG I PREV-OBJ1SG-sell-SBJ3SG
The man sold me.

(10b) *k'ac-ma me sxva-s mi-m-q'id-a.*
man-ERG I other-DAT PREV-OBJ1SG-sell- SBJ3SG .
The man sold me away to somebody (to the other person).

(10c) *k'ac-ma me p'ur-i mo-m-q'id-a.*
man-ERG I bread-NOM PREV-OBJ1SG-sell- SBJ3SG
The man sold me the bread.

The preverb *ga-* was exchanged for the preverb *mi-*, and the transitive form (10a) became ditransitive (10b), adding the indirect object to the verbal morphology. The direct object (*me)* of the verb with the *mi-* preverb in example 10b becomes the indirect object for the same verb with the *mo-* preverb in example 10c, and a new direct object (*p'uri*) appears as well. The opposite effect of the *mi-* and *mo-* preverbs in stimulating object role-shifting may clearly occur only with the first and second object persons, because as a preverb communicating orientation towards the speaker, *mo-* is never used with the third person in Modern Georgian (for more detail, see Shanidze 1980:238-261).

B. Preverbs have a role-shifting effect between direct and indirect objects in ditransitive verbs. This is a direct role-shift, or in other words, the objects are swapped: the direct object becomes indirect and the former indirect object becomes direct object:

(11a) *mo-m-a-b-a bavšv-ma me sk'am-i.*
PREV-OBJ1SG-VER/N-bind/fasten-SBJ3SG child-ERG I/me chair-NOM
The child bound/fastened the chair to me.

(11b) *mi-m-a-b-a bavšv-ma me sk'am-s.*
PREV-OBJ1SG-VER/N-bind/fasten-SBJ3SG child-ERG I chair-DAT
The child bound/fastened me to the chair.

In example 11(a), *m-* is a marker for the first person direct object, while in 11 (b), *m-* marks the first person indirect object. As *m-* is the same prefix for the first person direct and indirect objects, these forms differ only by the preverb. The same appears with the second person objects, because they share marker *g-*, and only preverbs reflect the object role-shifting phenomenon. The same situation occurs for the plural forms of the first and second objects.

(12a) *kal-ma šen mo-g-a-xetk-a dok-i.*
woman-ERG you PREV-OBJ2SG-VER/N-throw-SBJ3SG pot-NOM
The woman threw the pot on/at you.

(12b) *kal-ma šen mi-g-a-xetk-a dok-s.*
woman-ERG you PREV-OBJ2SG-VER/N-throw-SBJ3SG pot-DAT
The woman threw you at/on the pot.

(13a) *mo-g-a-c'eb-a man šen kag'ald-i.*
PREV-OBJ2SG-VER/N-glueing-SBJ3SG he/she-ERG you paper-NOM
He glued the paper on/at/upon you.

(13b) *mi-g-a-c'eb-a man šen kag'ald-s.*
PREV-OBJ2SG-VER/N-glueing- SBJ3SG he/she-ERG you paper-DAT
He glued you on/at/upon the paper.

As we see in the examples above, the role-shift between the direct and indirect objects is connected with the *mi-* and *mo-* preverbs. Originally, *mo-* is a preverb showing orientation towards the speaker, and this preverb never occurs with the third person. Thus, the object role-shift obviously takes place only in verbs with first and second person objects. With the third person object, the role-shift will not appear as clearly on the morphological level, but the syntactic level can clarify this matter:

(14a) *ga-a-txov-a mama-m švil-i.*[10]
PREV-VER/N-marry-SBJ3SG father-ERG daughter-NOM
The father married / gave away his daughter.

(14b) *mi-a-txov-a mama-m švil-i k'ac'-s.*
PREV-VER/N-marry-SBJ3SG father-ERG daughter-NOM. man-DAT
The father married /gave away his child/daughter to the man.

(14c) *mi-a-txov-a mama-m švil-s kal-i.*
PREV-VER/N-marry-SBJ3SG father-ERG son-DAT woman-NOM
The father married his child(son) with/to the woman.

In these examples, the valency-increasing effect is clear, but the object role-shift is not visible in the verbal morphology. The verbs in examples 14b and 14c look the same, and the object role-shift in 14c shows clearly only in the syntax, where we can see that *švils* is now in the dative case. Thus, the former direct object of the verb in 14a became the indirect object by changing the preverb *ga-* for the preverb *mi-* in 14c, and a new direct object (*kali*) appears.

Crucially, object role-shifting may occur only with verbs that can semantically accept first and second person direct objects, or in other words, these verbs can accept an animate (namely, human class) direct object. Interestingly, all verbs can be divided into groups according to acceptance of first and second direct objects as morphological verbal persons (or arguments). Examples of this (accepting) verbal group are: *xat'va* 'to paint', *ganac'q'eneba* 'to offend', k'vla 'to kill', *dasma* 'to make sit / put', *aq'vana* 'to lift', and so on. Object role-shifting may occur only with such verbs, but not in every verb of this group.[11] Some examples of non-accepting verbs are: *p'at'ieba* 'forgive', *(še)sma* 'to drink', *k'eteba* 'to do/to make', and *k'itxva* 'to ask', among others. These are forms with only third person direct objects,[12] which are mostly inanimate, and this verbal person is not marked in Georgian verbs, neither in the singular nor in the plural.

The Kartvelian languages have three semantic groups of verbs in which object role-shifting may occur:

1. To buy/sell/(ex)change, to bind/link, and to bring/give type verbs. In this group, the objects are swapped in ditransitive verbal forms (see examples 9-14);
2. To cut/tear and to clean type verbs, where the direct object can be something or somebody as a whole, but it may alter only a part of it. In such case, this whole becomes an indirect object (see examples 5, 8, 18-19);
3. To build/destroy and to write type verbs. In these verbs, the indirect object with spatial content can be added turning transitive verbs into ditransitives (see samples 4, 6, 17).

3. Object role shifting in Kartvelian languages

Typologically, object role-shifting is not a unique case. The same type of preverbal object role swapping may occur in the Indo-European languages. If we compare the two sentences: 'I asked it for something' and 'I asked something for it', or another pair of sentences: 'I did it for/with something' and 'I did something for/with it', we can observe the object role exchange through particles, or postpositions, and position. The direct object often tries to stay near the verb and the indirect object is linked to the particle or adposition. Several researchers investigate argument alternation. I do not call this function of preverbs 'object alternation' instead considering 'object role-shifting' to be a morphosyntactic phenomenon with certain morphological references existing inside the incorporated Georgian/Kartvelian verbs as opposed to primarily syntactic 'object alternations' with semantic and pragmatic components (as discussed by, among others, Fillmore 1965; Levin 2006, 2015; Allerton 2006; Rappaport & Levin 2008, 2012; Rappaport 2014; Thompson 1995; Hale & Keyser 2002; Müller & Wechsler 2014; Bresnan et al 2007; Bresnan & Nikitina 2009, etc.). Contextual factors are very important for argument alternations in general, but for object role-shifting, the verbal morphosemantics is a crucial key to the data. Considering verbal forms with the third person direct object (when syntactic context reveals the morphological changes), object role-shifting can be one type of object alternation, though these two issues may have a single linguistic umbrella theoretically.

There are several new challenges in argument alternations: understanding the relation between the variants; how to account for alternate realizations of a verb's arguments, as well as any changes in the number of arguments, as in the causative alternation; understanding the factors that determine the choice of variant in a given context; and how to semantically characterize a set of verbs that show a particular alternation (Levin 2015). The same challenges appear for verbal morphological object role-shifting in polypersonal verbal systems.

It should be noted that argument alternation is well attested cross-linguistically. Argument alternations that were described for English and other Indo-European languages are equally well attested in Georgian with similar semantic and pragmatic shifts. See examples 15 and 16 below:

(15a) *marc'q'v-is-gan ga-v-a-k'et-e k'rem-i.*
Strawberry-GEN-FROM PREV- SBJ1SG-VER/N-make-RM cream-NOM
I made a cream from strawberry.

(15b) *k'rem-is-gan ga-v-a-k'et-e marc'q'v-i.*
cream-GEN-FROM PREV- SBJ1SG-VER/N-make-RM strawberry-NOM
I made a strawberry from/out of cream.

(16a) *saxl-is gul-is-tvis v-i-q'id-e ezo.*
House-GEN sake/heart-GEN-FOR SBJ1SG-VER/S-buy-RM yard
I bought a yard for the sake/ because of the house.

(16b) *ezo-s gul-is-tvis v-i-q'id-e saxl-i.*
Yard-GEN sake/heart-GEN-FOR SBJ1SG-VER/S-buy-RM house-NOM

I bought a house for the sake/ because of the yard.

Interestingly, the other Kartvelian languages show the same system for both cases of the objective function for preverbs. Below are some examples of changing verbal valency and object role-shifting in Mingrelian (Zugdidi-Samurzakano – Northwest dialect) and Svan (Lower Bal dialect):

(17a) Georg. *me da-v-c'er-e c'eril-i.*
I PREV-SBJ1SG-write-RM letter-NOM
Mingr. *ma do-b-č'ar c'eril-i.*
I PREV-SBJ1SG-write letter-NOM
Sv. *mi čot-īr c'eril.*
I PREV-write letter
I wrote a letter.

(17b) Georg. *me mi-v-c'er-e c'eril-i megobar-s.*
I PREV-SBJ1SG-write-RM letter-NOM friend-DAT
Mingr. *ma me-b-č'ar c'eril-i megobar-s.*
I PREV-SBJ1SG-write letter-NOM friend-DAT
Sv. *mi kaot-īr c'eril apxneg-s.*
I PREV-write letter friend-DAT
I wrote a letter to a friend.

(18a) Georg. *ga-v-t'ex-e me dok-i.*
PREV-SBJ1SG-break-RM I pot-NOM
Mingr. *go-b-t'ax ma ork'ol-i.*
PREV-SBJ1SG-break I pot-NOM
Sv. *čo-k'uš mi dok.*
PREV-break I pot
I broke a pot.

(18b) Georg. *mo-v-t'ex-e me dok-s p'ir-i.*
PREV-SBJ1SG-break-RM I pot-DAT piece-NOM
Mingr. *mo-b-t'ax ma ork'ol-s p'ij-i.*
PREV-SBJ1SG-break I pot-DAT piece-NOM
Sv. *ko-xû-a-k'ûš mi dok-s p'il.*
PREV-SBJ1SG –VER/N-break I pot-DAT piece
I broke off a piece of a pot.

(19a) Georg. *me p'ur-i ga-v-č'er-i.*
I bread-NOM PREV-SBJ1SG-cut-RM
Mingr. *ma kobal-i go-b-č'k'ir.*
I bread-NOM PREV-SBJ1SG-cut
Sv. *mi diär č-û-a-č'k'or.*
I bread PREV-SBJ1SG-VER/N-cut
I cut the bread.

(19b) Georg. *me p'ur-s q'ua mo-v-č'er-i.*
I bread-DAT crust PREV-SBJ1SG-cut-RM
Mingr. *ma kobal-s k'ide mo-b-č'k'iri.*
I bread-DAT crust PREV-SBJ1SG-cut

Sv. *mi dīär-s meq' ko-x-a-č'k'ûr.*
I bread-DAT crust PREV-SBJ1SG-VER/N-cut
I cut the crust off/from the bread.

These examples show that the objective function of preverbs may occur in all Kartvelian languages.[13] Showing the inner differentiation in the thread of spatio-temporal, argument structure, and lexicon building between the Kartvelian languages, requires future scrutiny.

The verb-forms above (examples 17-19) are in the Aorist. The objective function of preverbs does not occur in the third series (in the rows of perfective conjugation, which include perfect, pluperfect, and prefect subjunctive), as these paradigms can accept only bivalent transitive forms.

Object role-shifting takes place in verbal morphology, and is naturally reflected in the syntax as well, while object alternations are primarily syntactic matters. Thus, object role-shifting may occur in languages with incorporated verbs, or in other words, with verbs having the capacity to incorporate actants. In the near future, I intend to investigate object role-shifting across polysynthetic languages.

Typologically, the role of preverbs and pre- and postpositions for object alternation seems crucial. In Levin's (2006) paper, each example of object alternation in English is connected with preverbs and/or pre/postpositions. The pre/postpositions are linked to the indirect object and object alternation may occur in the languages of different types of the order of lexical object, oblique phrase and verb. Such alternations may also occur in languages with a different relationship between the order of object and verb and the order of adposition and noun phrase.

4. Preverbs across languages

Georgian is not unique in displaying the all four functions of preverbs. Russian has similar functions of preverbs. I will not stop at spatial, temporal, and lexical functions, as these are well-known contents for the Russian preverbs. The examples below illustrate the objective function of Russian preverbs:

(20 a) Na-pisal on pismo.
PREV-write/PAST he letter.
He wrote a letter.

(20 b) Pri-pisal on eto slovo k pism-u.
PREV-write/PAST he this word ADP letter-DAT.
He wrote (added) this word to the letter.

The direct object (*pismo*) in sentence (20a) becomes an oblique in dative with a preposition in sentence (20 b), and a new direct object (*slovo*) appears. These examples (20 a, b) show the increasing case of verbal valency along with object role-shifting.

The world languages can be divided into two main groups: those with preverbs (such as Georgian, Russian, Latin, Athabaskan (Apachean) Algonquian, etc) and those without preverbs (such as Turkish, Basque, Persian, Korean, etc.)

Preverbs may have different capacities for their functions. Interestingly, some lexical changes always co-occur with spatial, temporal and objective functions. Thus, languages with preverbs can be classified into the following groups and subgroups:

I Languages in which preverbs have two functions:

A Languages where preverbs display spatial and lexical content,

B Languages where preverbs display temporal and lexical content,

*C Languages where preverbs display objective and lexical content;

II *Languages in which preverbs have three functions*:
D Languages where preverbs display spatial, temporal and lexical content,
E Languages where preverbs display spatial, objective and lexical content,
F Languages where preverbs display temporal, objective and lexical content;

III G *Languages in which preverbs have four functions: spatial, temporal, objective and lexical.*
IV *H *Languages where preverbs display only one type of content.*

As mentioned above, some lexical changes always co-occur with the other functions, and the most common and widespread functions of preverbs are temporal and spatial. Therefore, the C subgroup and H group are unexpected theoretical possibilities. The E and F subgroups are less expected subgroups, while the D subgroup can be the most widespread.

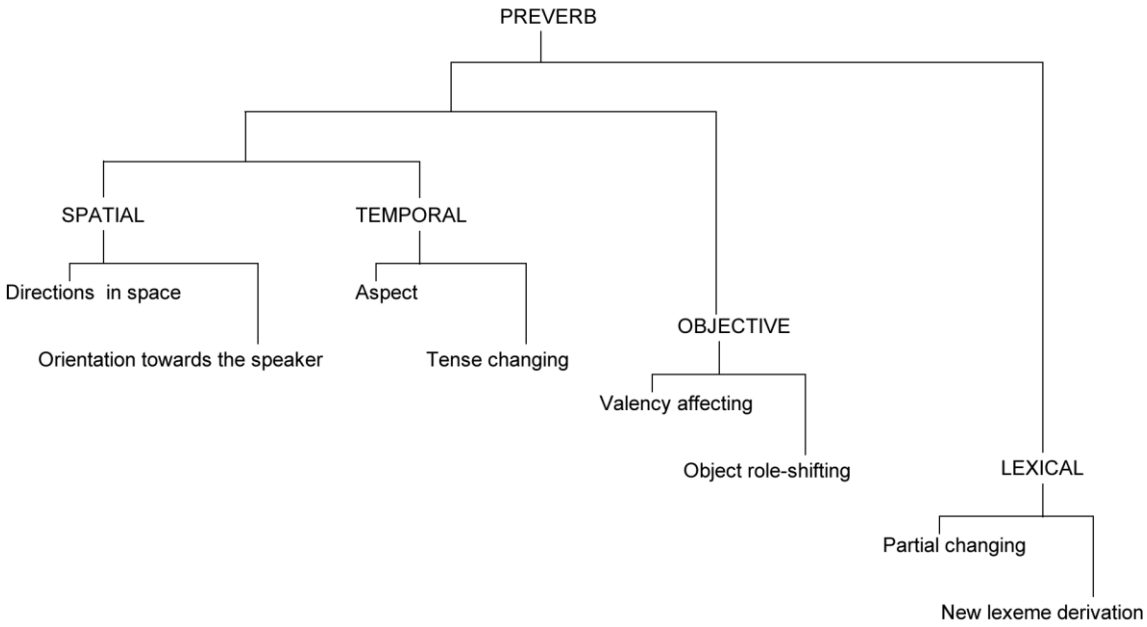
I - Preverbs with 2 functions	**II - Preverbs with 3 functions**	**III - Preverbs with 4 functions**
A - Spatial and lexical	**D** - Spatial, temporal, and lexical	**G** - Spatial, temporal, objective, and lexical
B - Temporal and lexical	**E -** Spatial, objective, and lexical	
C - Objective and lexical	**F -** Temporal, objective, and lexical content	

Table 2. Language groups and subgroups with preverbs

The issue of preverbs can be added to The World Atlas of Language Structures (WALS) - the largest database of structural properties of languages. The name for WALS feature can be 'Preverbs', as a feature is a structural property of languages that describes one aspect of cross-linguistic diversity. As already mentioned above, the preverbs are correlated with other linguistic features, such as aspect, tense, space, object and verbal valency. The WALS feature 'Preverbs' will have nine different values (including languages without preverbs), which can be shown by different colors on the world linguistic map. For example: Abkhazian, Greek and Latin belong to the A subgroup with spatial and lexical functions, which can be red; Mazatec belongs to the D subgroup with spatial, temporal and lexical functions, which can be blue; Georgian and Russian belong to the III group (G) – with all fours functions, which can be green; and so on.

5. Conclusion

Georgian preverbs are poly-functional grammatical elements. They show four functions: spatial, temporal, lexical, and objective, which the figure below illustrates for modern Georgian.



Preverbs in Georgian and other Kartvelian languages have object role-shifting and valency increasing effects. Object role-shifting occurs in verbal morphology, which the syntax reflects as well, while object alternations are primarily syntactic matters.

As shown above, object role-shifting may occur in transitive and bitransitive verbs with the ability to accept a human class (first and second persons) direct object. Adding the preverb *mo-* has a consistent effect on a variety of verbs. Future corpus-based researches could reveal more details about which verbs may be affected by this preverb.[14]

Table 2 below shows the preverbal activities in Georgian with the example of the verb *ašenebs* – 'he/she builds' (see example 4).

PREVERBS	FLEXIONAL					DERIVATIONAL					
	TEMPORAL				Marking plurality of Object direct	MORPHOSYNTACTIC				LEXICAL	
	TENSE /screeve changing			ASPECT		SPATIAL		OBJECTIVE		Partial change	New lexeme
	Verbal form	Statistics				SPACE DIRECTION	ORIENTATION (towards / to speaker)	VALENCY CHANGING	OBJECT ROLE SHIFTING		
Without preverb	*ašenebs*	1491	presnt	imperfect							
mi-	*miašen ebs*	1	Future	perfect	-	→ away /from speaker	-	+	+	+	-
mo-	*moašenebs*	3	Future	perfect	-	towards /to speaker ←	+	- / +	- / +	+	+ breeding

mimo-	*mimoašenebs*	0	Future	perfect	-	⟷ back and forward	+/-	-	-	+	-
a-	*aašenebs*	662	Future	perfect	-	↑ up	-	-	-	-	-
amo	*amoašenebs*	0	Future	perfect	-		+	-	-	+	-
ča-	*čaašenebs*	0	Future	perfect	-	↓ down	-	-	-	+	-
čamo-	*čamoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
še-	*šeašenebs*	0 / rare form	Future	perfect	-	→ from outside to inside	-	+/-	+/-	+	-
šemo-	*šemoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
šemo-	*šemoašenebs*	0	Future	perfect	-	*šemo-* ↻ around	-	+	+	+	-
ga-	*gaašenebs*	16	Future	perfect	-	→ from inside to outside	-	-	-	+	-
gamo-	*gamoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
c'a-	*c'aašenebs*	0	Future	perfect	-	→ away /from somth./somebd.	-	+/-	+/-	+	-
c'amo-	*c'amoašenebs*	0 / rare form	Future	perfect	-		+	+/-	+/-	+	-
gada-	*gadaašenebs*	7	Future	perfect	-	↗↘ overcoming, across	-	-	-	-	+ extinction
								+	+		
gadmo-	*gadmoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
da-	*daašenebs*	3	Future	perfect	+/_	↓ down	-	+	+	+	-
da-						⟷ over a path					
**damo-*					↓ down						

Table 3. Preverbal template for the verb *ašenebs* 'he/she builds'; PRESENT(3SBJSG) +PREVERB

As Table 2 shows, Georgian preverbs can bring flexional and/or derivational changes in the verb-forms. Preverbal activity in Georgian occurs at the intersection of several hierarchical levels of the language: morphosemantic, syntactic and lexical.

Kartvelian languages have three semantic groups of verbs, in which object role-shifting may occur:

1. To buy/sell/(ex)change, to bound/link, and to bring/give type verbs. In this group, the objects are swapped in bitransitive verbal forms;
2. To cut/tear, to eat, and to clean type verbs, where the direct object can be something or somebody as a whole and it may alter only a part of it. This whole becomes an indirect object;
3. To build/destroy and to write type verbs. In these verbs, the indirect object with spatial content can be added, turning transitive verbs into ditransitives.

Therefore, there is an intrinsic link between object role-shifting and the semantics of the verb itself.

Some preverbs are more active in increasing verbal valency (*shemo-, mo-, mi-)* by adding a local indirect object, while other preverbs often reduce verbal valency by removing the indirect object (*ga-, da-).* Many detailed nuances are closely related to the concrete verbal semantics of these forms. "What makes Georgian unique is the particular combination of morphosyntactic phenomena. As such, the language is a meta-example of a construction, where the whole is more than the sum of the parts" (Gurevich 2006:116).

As Georgian preverbs convey the spatial, aspectual and argumental (with objective function) values, and as they also contribute to expand the lexicon by combining with basic or pivotal lexical roots, they make up a generative core embedded in the lexicon and grammar. This module is in turn embedded in a complex inflectional class system through the paradigms of verbal conjugation.

Future investigations should be corpora-based, inductive, empirical analyses to determine the full range of activities for each preverb and describe the whole morphosyntactic system for preverbs in Georgian and other Kartvelian languages.

Typologically, the role of preverbs and adpostpositions for object alternation is crucial across languages.

The issue of preverbs can be added to The World Atlas of Language Structures. The new feature name "Preverbs" with 9 values is proposed for WALS.

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Notes

1. In Georgian, the verb can agree with subject, direct object, and indirect object. I show some examples (4, 5, 10, and 12) not as sentences, but as single verbal forms because they include the meanings of the subject and objects. In Georgian, finite verbal forms usually imply these meanings.
   For the aorist, the verb requires the ergative for the subject, the nominative for the direct object, and the dative for the indirect object. For the present tense, the transitive verbs require the nominative for the subject and the dative for the direct and the indirect objects. The syntactic encoding (case, postposition) and coding by verbal morphemes can encode the argument structure together.
2. In glosses, PREV represents preverbs; VER/N is an abbreviation for the neutral version. According to many specialists on Georgian, the *a-* prefix in (4 a, b, c, d) has a distinct function, paralleling its use in (5c), (9a-b), (12 a-b), etc., which is commonly labelled "superessive" (Geo. *sazedao*) in the Kartvelological literature. A. Shanidze assigned the superessive to a separate grammatical category, which indicates the superposition or affixing of one object onto another (Tuite, access in 2017 p. 3). According to another opinion, "superessive" is the opposition form for version. "Superessive" as a subtype of neutral version with some additional semantics (T. Makharoblidze, 2012. On the Category of Version. Kadmosi vol.4. Ilia State University. Tbilisi p. 154-213), is glossed as neutral version. VER/S and VER/O indicate the subjective and objective versions respectively. TH is an abbreviation for thematic marker. RM represents the markers of conjugation rows – so called screeves. INF is the infinitive suffix. These abbreviations

are missing in "CLIPP Christiani Lehmanni inedita, publicanda, publicata. Interlinear morphemic glossary", and Leipzig Glossing Rules (http://www.eva.mpg.de/lingua/resources/glossing-rules.php), and we had to add these glossary items.

3. The preverb *mo-* occurs with the second person as well. The second person must be close to the first one, as they are the participants of communication.
4. Recently, I asserted that when *šemo-* does not show the orientation towards the speaker, it can provide the meaning of the verbal act around the indirect object and it is connected with the postposition *garšemo* 'around'. Compare the following pairs of sentences: a. *bavšvma šemoirbina saxlši.* 'The child ran into the house'. (I – the speaker was inside this house.) and b. *bavšvma šemourbina saxls.* 'The child ran around the house'. a. *(me) avašene k'ošk'i.* 'I built a tower'. and b. *(me) šemovašene k'ošk's (garšemo) k'ibe.*'I built a staircase around the tower'. a. *gavč'eri p'uri.* 'I cut the bread'. and b. *šemovč'eri p'urs kerki.* 'I cut the crust around the bread'.
5. Modern Georgian does not use the preverb *damo-*, except in the form *damo-k'idebuleba* 'attitude'.
6. The forms in example 3 could also be translated as infinitives, but the translations show that these forms are actually deverbal nominalizations. Hopefully, this is a more appropriate English translation.
7. Despite the fact that any Georgian grammar will describe the alternations between the (mono)transitive *davc'er* 'I will write it' (with preverb *da-*) and the ditransitive *mivc'er.* 'I will write it to him/her/them' (with preverb *mi-*), prior studies do not connect this fact to preverbs' functions. Preverb-signaled argument structure alternations are new for Kartvelian studies.
8. Following traditional Georgian studies, I show the verbal persons (actants) morphosemantically implied in these verbal forms in the parentheses in exsamples 4 and 5, illustrating their roles by 'S' for subject, 'Od.' for direct object, and 'Oind.' for indirect object. Georgian has free word order. In these examples, the verbs are in the first place, but this does not mean that the VSO order is usual in this language. The verbal semantics imply the pronouns in the examples.
9. According to many specialists on Georgian, the *a-* prefix in (4) has a distinct function, paralleling its use in (5c), (9a-b), (12 a-b), etc., which is commonly labelled "superessive" (Geo. *sazedao*) in the Kartvelological literature. A. Shanidze assigned the superessive to a separate grammatical category.
10. In old Georgian, the verbal suffix *-en* marks the plural forms of the direct object.
11. *švili* in Georgian translates into 'family child'/'offspring', which means 'a daughter' or 'a son' without any gender content. In Georgian, *a-txov-a* can only have a female direct object. Thus, *švili* is female in sentences 13a and 13 b, and male in 13c.
12. The full semantics and detailed nuances of this function of preverbs require deeper investigation. I plan to follow this topic in the near future.
13. These verbs do not take human direct objects in Georgian. The person forgiven or asked is expressed as an indirect object, while the direct object expresses the offence (for 'forgive') or the question (for 'ask').
14. According to traditional Georgian studies, Mingrelian and Laz are two dialects of Zan.
15. Currently, there is no ISU Georgian Language Corpus available, but it is nearing completion (www.iliauni.edu.ge).

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Table Click here to download Table tables.doc

Georgian verb template										
-3	-2	-1	0	1	2	3	4	5	6	7
preverb	prefixal nominal marke r	version marker	VERB ROOT	passive marker	thematic suffix	causative marker	imperfective marker	suffixal nominal marker	auxiliary verb	plural marker

Table 1. Georgian verb template

I - Preverbs with 2 functions	**II - Preverbs with 3 functions**	**III - Preverbs with 4 functions**
A - Spatial and lexical	**D** - Spatial, temporal, and lexical	**G** - Spatial, temporal, objective, and lexical
B - Temporal and lexical	**E** - Spatial, objective, and lexical	
C - Objective and lexical	**F** - Temporal, objective, and lexical content	

Table 2. Language groups and subgroups with preverbs

PREVERBS	FLEXIONAL					DERIVATIONAL					
	TEMPORAL				Marking plurality of Object direct	MORPHOSYNTACTIC				LEXICAL	
	TENSE /screeve changing			ASPECT		SPATIAL					
	Verbal form	Statistics				SPACE DIRECTION	ORIENTATION (towards / to speaker)	OBJECTIVE		Partial change	New lexeme
								VALENCY CHANGING	OBJECT ROLE SHIFTING		
Without preverb	*ašenebs*	1491	presnt	imperfect							
mi-	*miašen ebs*	1	Future	perfect	-	→ away /from speaker	-	+	+	+	-
mo-	*moašenebs*	3	Future	perfect	-	towards /to speakes ←	+	-	-	+	+ breeding
								+	+		

mimo-	*mimoašenebs*	0	Future	perfect	-	↔ back and forward	+/-	-	-	+	-
a-	*aašenebs*	662	Future	perfect	-	↑ up	-	-	-	-	-
amo	*amoašenebs*	0	Future	perfect	-		+	-	-	+	-
ča-	*čaašenebs*	0	Future	perfect	-	↓ down	-	-	-	+	-
čamo-	*čamoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
še-	*šeašenebs*	0 / rare form	Future	perfect	-	from outside to inside	-	+/-	+/-	+	-
šemo-	*šemoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
šemo-	*šemoašenebs*	0	Future	perfect	-	*šemo-* ↻ around	-	+	+	+	-
ga-	*gaašenebs*	16	Future	perfect	-	from inside to outside	-	-	-	+	-
gamo-	*gamoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
c'a-	*c'aašenebs*	0	Future	perfect	-	→ away /from somth./somebd.	-	+/-	+/-	+	-
c'amo-	*c'amoašenebs*	0 / rare form	Future	perfect	-		+	+/-	+/-	+	-
gada-	*gadaašenebs*	7	Future	perfect	-	overcoming, across	-	-	-	-	+ extinction
								+	+		
gadmo-	*gadmoašenebs*	0 / rare form	Future	perfect	-		+	-	-	+	-
da-	*daašenebs*	3	Future	perfect	+/_	↓ down	-	+	+	+	-
da-						↔ over a path					
**damo-*					↓ down						

Table 3. Preverbal template for the verb *ašenebs* 'he/she builds'; PRESENT(3SBJSG) +PREVERB