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Variation in stem formation in Tsezic languages

The Tsezic languages are a group of five closely related languages that form one subbranch within the Nakh-Daghestanian language family. They can be divided into East Tsezic, comprising Hunzib and Bezhta, and West Tsezic, comprising Khwarshi, Tsez and Hinuq. All Tsezic languages are spoken on the territory of Daghestan, in Southern Russia. The Tsezic languages are morphologically ergative. The most frequent word order is SOV. Tsezic nouns can be marked for number and case. As in other Daghestanian languages, the case formation itself is rather straightforward and regular. The main difficulty in the nominal morphology of the Tsezic languages is the formation of the oblique stem from the base stem. In this paper two main points are made: first, a detailed description of the stem formation mechanisms is given. Second, it is shown that gender affixes are not an important source of oblique and/or plural formatives presented. In the conclusion it is stressed that the Daghestanian languages including the five Tsezic languages treated in this paper have a cross-linguistically unusual system of stem formation that is, however, typical for these Daghestanian languages. Outside the Caucasus only South Dravidian languages seem to have a similar system, but to a much lesser extent. The Tsezic stem formation system is highly complex with its ten patterns of stem formation. It has also shown that there are problems with all proposed diachronic analyses and some proposed synchronic ones. The stem formation of Tsezic system originated in Proto-Daghestanian and Proto-Nakh-Daghestanian, but unfortunately there are no widely accepted reconstructions of it, so the topic deserves further research.

1. Introduction

The Tsezic languages are a group of closely related languages that form one subbranch within the Nakh–Daghestanian language family. They can be divided into East Tsezic, comprising Hunzib and Bezhta, and West Tsezic, comprising Khwarshi, Tsez and Hinuq. All Tsezic languages are spoken on the territory of Daghestan, in Southern Russia. However, groups of Tsez and Bezhta speakers live in Turkey, and some Bezhta speakers live in Georgia as well. The Tsezic languages are morphologically ergative. The most frequent word order is SOV.







Tsezic nouns can be marked for number and case. As in other Daghestanian languages, the case formation itself is rather straightforward and regular. The main difficulty in the nominal morphology of the Tsezic languages is the formation of the oblique stem from the base stem. The aim of this paper is to give a detailed description of stem formation, capturing various general patterns and extending previous descriptions. In order to facilitate understanding I will first give a brief introduction to the nominal morphology of the Tsezic languages (section 2). In sections 3-5 all mechanisms of stem formation are described. Section 6 presents an analysis of the various patterns. Finally, a diachronic view at the system is presented.

2. Nominal morphology

All Tsezic languages have a gender system following the general pattern of the Nakh–Daghestanian gender system. Synchronically, the gender system does not influence the nominal stem and case formation. But since it has been claimed that the stem markers reflect the gender system, a brief look should be helpful. Gender is a covert category in Tsezic. Instead, it is shown by agreement affixes on most vowel–initial verbs, on some vowel–initial adjectives and adverbs/postpositions as well as by the form of demonstrative pronouns. Broadly speaking, gender I contains male humans and gender III animals. In all Tsezic languages gender II contains female humans, but in Tsez where gender II and IV collapsed into one gender, gender II contains also those nouns that in the other Tsezic languages belong to gender IV, namely various animate and inanimate objects, e.g. plants or clothes. Gender III contains mostly animals and some loans denoting abstract objects. Gender V contains some body parts, abstract concepts and many inanimate objects. It seems that in Bezhta gender IV and gender V collapsed.

The agreement prefixes in the Tsezic languages are presented in table 1.

gender	Tsez		nder Tsez Hinuq		Khv	nwarshi B		ezhta Hunzib		nzib
	SG	PL	SG	PL	SG	PL	SG	PL	SG	PL
I	Ø-	<i>b</i> –	Ø-	<i>b</i> –	Ø-	<i>b</i> –	Ø-	<i>b</i> –	Ø-	<i>b</i> –
II	ν–	r-	ν-	b-/r-	ν–	<i>b</i> –	ν–	<i>b</i> –	ν-	<i>b</i> –

Table 1: Agreement prefixes in Tsezic





My data and the following analysis are mainly based on the investigation of various texts. Many of these texts were collected in the field (Zaira Khalilova for Khwarshi and D.F., for Hinuq). The Bezhta texts which serve as basis for this talk are the memoires of Šeyx Ramazan, written down by himself at the end of the twentieth century and edited and translated by Madžid Xalilov. They have not yet been published. The Tsez texts are currently in press (Abdulaev, in press). For Hunzib the grammar by Van den Berg (1995) has been the main source. Additional sources were the series of dictionaries of the Daghestanian languages, edited by the Daghestan Scientific Centre of the Russian Academy of Science (Xalilov 1995; Xalilov 1999; Xalilov and Isakov 2001; Xalilov and Isakov 2005) and the grammatical sketches of Bokarev (1959).

III	<i>b</i> –	r-	<i>b</i> –	r-	<i>b</i> –	l-	<i>b</i> –	<i>y</i> –	<i>b</i> –	r-
			<i>y</i> –							
V	r-	r-	r-	r-	l–	l–			r–	r–

Tsezic languages have an extremely rich case system. All of them have between four and seven grammatical cases (including absolutive, ergative, genitive and instrumental) and up to 56 spatial case combinations (Comrie 1999, Comrie and Polinsky 1998, Forker Submitted).

As for the number marking, all Tsezic languages have a plural. In addition, Bezhta has what is called 'restrictive plural'. For the formation of the restrictive plural the same set of suffixes is employed as for the normal plural, but only a restrictive set of nouns can take these suffixes. To these nouns mainly belong mass nouns such as kil 'iron' or $h\tilde{\iota}\iota$ ' milk' that lack a normal plural form. But also nouns that are in principle countable, but often occur in a great quantity that appears to be an uncountable mass have occasionally restricted plural forms, e.g. $\tilde{\iota}ile$ 'lamb', k'atu 'potato'. However, the exact distribution and meaning of the restrictive plural needs further investigation.

Before taking number and/or case markers, nouns often undergo one or more morphological processes that will be described in the following three sections. These processes can lead to the formation of up to three additional stems that differ from the absolutive singular form of a noun. The additional stems are: oblique singular, absolutive plural and oblique plural. This paper is the first thorough treatment of stem formation in the Tsezic languages. From a broader prospective stem formation in all Daghestanian languages, including the Tsezic languages has been analyzed in Kibrik and Kodzasov (1990) and Kibrik (1991).

3. Oblique singular stems

The formation of the oblique singular stem shows the widest range of variation among the different stem formation processes. The nominal root corresponds to the absolutive singular form of the nouns (=citation form). Other case forms of nouns in the singular are formed by applying at least one of the following mechanisms:

- (i) no change or stress shift
- (ii) ablaut
- (iii) insertion of an epenthetic vowel
- (iv) deletion of the stem-final vowel
- (v) deletion of the stem-final consonant or glide
- (vi) oblique markers
- (vii)assimilation of the stem-final consonant

Some of the mechanisms are the result of phonotactic restrictions or general morphophonological rules of the languages, e.g. epenthetic vowels or sonorant assimilation and deletion. Tsezic languages usually avoid clusters of







more than two consonants. But the major part is lexicalized, i.e. speakers have to know what to do with a noun before using it in an utterance. Almost all mechanisms occur in all five Tsezic languages.

Two Tsezic languages, namely Khwarshi and Bezhta, have a zero–marked ergative. In these languages the oblique form of nouns without further case endings serves ergative function. If the oblique form is identical to the base form as it is frequently the case in Bezhta, then absolutive form and ergative form collapse.² In both languages those nouns that employ epenthetic vowels before adding certain case endings take -i as a kind of default ergative marker (see section 3.3 for examples).

In the remainder of this section all seven mechanisms of oblique singular stem formation are presented. For each mechanism a table with some examples is given. The table contains the absolutive, the ergative the first genitive and a fourth case of the form CV(X). This fourth case may differ from language to language according to the data available to me. But its suffix always consists at least of a consonant and a vowel. If a cell in a table is empty this means that I did not have enough data to fill it. Sometimes nouns can form stems in more than one way. In this case alternative variants are also given.

In addition to the mechanisms listed above there are a handful of nouns that form oblique stems in idiosyncratic ways. These nouns are briefly described at the end of this section.

3.1. No change³ or stress shift

The noun is left unchanged, but the stress may shift to the root–final syllable in all case forms except for the absolutive. Only nouns that end with a vowel or a glide (/y/) can undergo this process.

Table 2: No change or stress shift in the formation of the oblique singular stem

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'bear'	'boy'	'spade'	'mother'	'father'
ABS	zey	úži	réxne	iyo	αbu
ERG	zey–ä	uží I	rexné	iyo	αbu – l
GEN1	zey-s	uží–š	rexné–s	iyo-s	abu-s
CV(X)	zey–däyor	uží–žo	rexné–lo	iyo–la	abu – γur

² The absolutive-ergative syncretism usually occurs also with first and second person pronouns in the Tsezic languages. Exceptions are Tsez where only the singular pronouns show the syncretism and Khwarshi that does not have this syncretism at all.





³ Strictly speaking, no change means that no mechanism applies. But because from texts alone it is often unknown whether a noun is completely left unchanged or whether a stress shift occurs, both variants are grouped here together. In the given table known stress shifts are indicated. For Hunzib it is unclear whether a stress shift occurs or not. In Bezhta and Tsez many nouns do not undergo stress shift.

3.2. Ablaut

Ablaut occurs only with a handful of cognate nouns: e.g. 'moon', 'sun', 'neck', 'salt', 'sleep', 'place', 'water'. The changes in the vowel quality are: Tsez: $|i| \rightarrow |a|$ or $|\ddot{a}|$ and |u| and $|o| \rightarrow |e|$; Hinuq: $|u| \rightarrow |e|$; Khwarshi: $|o| \rightarrow |e|$ or |a| and $|e| \rightarrow |a|$; Bezhta: $|a| \rightarrow |i|$ and $|o| \rightarrow |i|$; Hunzib: $|o| \rightarrow |i|$ and |a| or $|a| \rightarrow |i|$ or $|\dot{a}|$. Ablaut can be combined with vowel deletion (Tsez $mo\check{c}i$ 'place'), an oblique marker (Bezhta $ma\check{\lambda}o$ 'sleep') or an epenthetic vowel (Hinuq buq 'sun', GEN1 beq-e-s).

Hinuq Khwarshi Bezhta Hunzib 'place 'moon' 'eye' 'sleep' 'sun' ABS moč/i buceezolmač/o boqERG moč–ä miλ-a bece-y ezal-a $biq-\partial -l$ GEN1 meč-o-s bece-sezal-a-s $mi\lambda$ -a-sbiq-∂-s CV(X) meč-o-λ'or bece- λ 'o-zo ezal-a- λ 'a miλ–a–λ 'as

Table 3: Ablaut in the formation of the oblique singular stem

3.3. Insertion of an epenthetic vowel

Epenthetic vowels are inserted after consonants or semivowels if the following case marker consists of a single consonant for instance the first genitive. As epenthetic vowels occur the following segments: Tsez: -e, Hinuq -e, or sporadically -i, Khwarshi -i, Bezhta -i, Hunzib -i, and probably -e/-a. This mechanism can be combined with vowel deletion (Tsez γudi 'day', GEN1 $\gamma ud-e-s$), ablaut (Hinuq buq 'sun') and various oblique markers (Khwarshi is 'sibling').

Table 4: Insertion of epenthetic vowels in the formation of the oblique singular stem

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'eagle'	'cat'	'sibling'	'snow'	'head'
ABS	cey	k 'et'/ u^4	is	$ ilde{o}z$	q'am
ERG	cey–ä	k'e t ' $-i$	is-t-i	$ ilde{o}z\!\!-\!\!i$	q' am $-i$ $-l$
GEN1	cey-e-s	k'et'-e- s	is-t-i-s	$\tilde{o}z$ $-i$ $-s$	q'am-i-s
CV(X)	cey–ž'ay	k'et'–zay	is-t- λ 'o	õz-Л'а	q'αm−λ'o





⁴ The slash in the Absolutive forms of nouns in this and in all other tables means, that the final vowel separated from the root through the slash must be deleted for the formation of oblique singular and/or plural forms.

3.4. Deletion of the stem-final vowel

Many nouns undergo deletion of the stem final vowel.⁵ The preferred vowels for deletion are often but not always back vowels: Tsez /i/, /u/; Hinuq /u/, Khwarshi /o/, /u/, Bezhta /o/, Hunzib /u/. But all other vowels can be deleted as well. This mechanism occurs in combination with oblique markers Hunzib ože 'boy'), epenthetic vowels (Khwarshi boc'o 'wolf') and ablaut (Bezhta bolo 'neck').

Table 5: Deletion of the stem-final vowel in the formation of the oblique singular

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'honey'	'goat'	'wolf'	'neck'	'boy'
ABS	nuc/i	t' ek/a	boc'/o	boł/o	ož/e
ERG	nuc–ä	t' ek $-i$	boc' $-i$	bil–a	ož–di–l
GEN1	nuc-o-s	t' ek - e - s	boc'-i-s	bil-a-s	ož-di-s
CV(X)	nuc-o- λ 'o-si	t' ek $-zo$	boc'–ã'o	bil−a−λ̃'a	ož–di–yur

3.5. Deletion of the stem-final consonant or glide

Among the glides both /w/ and /y/ can be deleted. A final consonant is mostly deleted together with a vowel (VC or CV) whereby the consonant is usually -r (see section 7.1 for a possible diachronic explanation). But in Hunzib there are a few nouns where a final -s is deleted which represents a petrified ablative suffix, e.g. ABS $habu\~\lambda os$ 'miller', GEN1 $habu\~\lambda o-do-s$, formed from habur 'wheel', 'mill' by deletion of the final -r and suffixing of the Superablative $-\~\lambda os$. This mechanism can be combined with ablaut (Hunzib koro 'hand') and various oblique markers (Hinuq k"ezey 'hand'). It seems that Khwarshi does have nouns belonging to this category.

Table 6: Deletion of the stem-final consonant or glide in the formation of the oblique singular stem

	Tsez (Mokok dialect)	Hinuq	Khwarshi	Bezhta	Hunzib
	'husband'	'hand'		'eye'	'hand'
ABS	xedi/w	k weze/y		hä/y	koro
ERG	xedi-y-a / xed-yo	k "eze $-ra$ - y		hä	$k ilde{lpha}\!\!-\!\!l$
GEN1	xed-yo-s	k "eze-ra-s		$h\ddot{a}$ – l	$k ilde{lpha}\!\!-\!\!s$
CV(X)	xed-yo-qay	k "eze-ra-zo		hä–yä	kã– λ 'o

One reviewer suggested that in principle these nouns could be regarded as having an absolutive suffix. However, case suffixes are usually uniform in their morphological form. They have at most allomorphs based on clear morphophonological rules. The deleted vowels, in contrast, are not subject to any such rule. Furthermore, for each language all or almost all vowels would then be markers for the Absolutive case, but most nouns would lack an overt marker for the Absolutive case. But this would be in clear contrast with the rest of the case morphology in the Tsezic languages, which is very regular and straightforward. Therefore, all examples given in section 3.4 and all similar examples are clearly instances of vowel deletion.





3.6. Oblique markers

The employment of special markers is the most frequent way of oblique stem formation in all Tsezic languages. The number of markers varies considerably from language to language: Tsez has 9-11, Hinuq 18, Khwarshi 6, Bezhta 12, and Hunzib 19-22 suffixes.⁶ Every language has only few productive markers: Tsez -o, -re, -yo, Hinuq -mo, Khwarshi -mo, Bezhta -li and Hunzib -li. Some markers occur only with one or two words, e.g. Tsez -dara in ca-dara-s 'star-OBL-GEN1', Hinug -nu in $bi\check{s}a-nu-s$ 'food-OBL-GEN1', Bezhta -di in öž-di-s 'boy-OBL-GEN1', and Hunzib -ru in lu-ru-s 'wool-OBL-GEN1'.

Some markers are clearly phonologically or morphologically conditioned and are therefore quite productive. For instance, in all languages nouns ending with the Abstraction suffix -li take always all the same oblique marker (e.g. in Bezhta -la). Similarly, nouns ending in -i usually have a uniform way of oblique stem formation in every Tsezic language, e.g. in Hunzib they normally take the oblique suffix -ya.

A number of nouns can have more then one oblique marker. Usually they have a less productive marker and take the most productive marker as an alternative (see examples in section 3.10).

Oblique markers can be combined with ablaut (Khwarshi ezol 'eye'), vowel deletion (Hunzib ož/e 'boy'), glide deletion (Hinuq h "eze/y 'hand'), VC deletion (Tsez *ozuri* 'eye', LAT $oz-\ddot{a}-r$) and assimilation (Bezhta *kid* 'girl').

Table 7: Oblique markers in the formation of the oblique singular stem

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'cattle'	'wind'	'axe'	'wife'	'stable'
ABS	posu	łaci	õg	aq/o	bež
ERG	posu-r-ä	łaci–na–y	õg–mo	aq– a	bež $-l$ i $-l$
GEN1	posu-re-s	łaci–na–s	õg−mo−s	aq– a – s	bež-li-s
CV(X)	posu–r–žo	łaci–na–qo	õg−mo−lo	aq– a – qa	bež-li-yur

3.7. Assimilation of the stem-final consonant

This mechanism is not very widespread. As the Khwarshi and the Hunzib examples show, assimilation can be combined with vowel deletion.

Table 8: Assimilation of the stem-final consonant in the formation of the oblique singular stem

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib	
	'weapon'	'shop'	'weapon'	'girl'	'winter'	
ABS	tup/i	magazin	tub/i	kid	$\tilde{\lambda}$ ' in/i	
ERG	tup–ä	magazim-mo-y	tum- mo	kib– ba		

For Tsez and Hunzib there are no exact numbers available because from the data alone it is sometimes impossible to decide whether a vowel is only epenthetic or represents an oblique marker.

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GEN1	tum-mo-s	magazim-mo-s	tum-mo-s	kib-ba-s	λ'im–mo–s
CV(X)	tum−mo– <i>ੈ</i> i	magazim-mo-zo	tum- mo - lo	kib-ba- λ 'a	

3.8. Combinations of two and three mechanisms

Combinations of at least two mechanisms are quite frequent, but not every mechanism can be combined with every other mechanism. No mechanism can be combined with itself. 20 combinations are possible in principle⁷, but only 11 are attested as can be seen in table 9.

Table 9: Combinations of oblique stem formation mechanisms in the singular

	(vii)	(vi)	(v)	(iv)	(iii)
(ii)	+	+	+	+	+
(iii)		+		+	
(iv)	+	+			
(v)		+			
(vi)	+				

Especially rare mechanisms like assimilation of a stem-final consonant (viii) do not combine very often. The most widespread mechanism, the use of oblique markers (vi), combines freely with every other.

Combinations of three mechanisms are quite rare. They always involve vowel deletion (v) and oblique markers (vii). Three possibilities are attested:

(ii) + (iv) + (vi), e.g. Tsez
$$mo\check{c}/i$$
 ('place'), Bezhta $ma\check{\lambda}/o$ ('sleep'), both given in section 3.2 (iii) + (iv) + (vi), e.g. Khwarshi $i\check{s}/u$ ('mother'), ERG $i\check{s}-et'-i$, GEN1, $i\check{s}-et'-i-s$, GEN2 $i\check{s}-et'-lo$ (vii) + (iv) + (vi), e.g. Khwarshi tub/i ('weapon'), Hunzib $\check{\lambda}'in/i$ ('winter'), both given in section 3.7

3.9. Alternative oblique stems

In all Tsezic languages some nouns⁸ can form more then one oblique singular stem. The variants differ in the mechanisms employed and/or in the oblique suffixes used. For example, the Hinuq noun k "et' 'sheaf' permits three different oblique markers. The Khwarshi noun δg 'axe' alternates between





⁷ Not all logically possible combinations, which would be 8x7=56 are principally possible, because some exclude each other, e.g. deletion of a stem final consonant and deletion of a stem final vowel.

⁸ Van den Berg (1995: 39) counts about 7% of such nouns in her material. For the other languages there are no statistics available.

taking an epenthetic vowel or an oblique marker. The table shows example from all five languages.

Table 10: Alternative oblique stems in the singular

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'fist'	'folk'	'axe'	'calf'	'wing'
ABS	besi	xalq'	õg	biš/e	hab/u
GEN1	besi-s / besi-	xalq'i-la-s /	õg−i–s /	biš–i–s /	hab– a – s /
	mo-s	xalq'i–mo–s	õg−mo−s	biše-li-s	habu-li-s

3.10. Exceptions

A handful of nouns demonstrate completely idiosyncratic behavior. For example, in the Khwarshi noun kad 'girl' a sonorant is inserted into the root. The Tzes noun 'boy' has also an irregular oblique form. In Hinuq, Bezhta and Hunzib, but not in Tsez, there are a handful of mostly monosyllabic words with CV structure where a glide (eventually followed by a vowel) is inserted after the stem final vowel. In the Hinuq and Hunzib examples given in the table the glide is followed by an oblique marker that is also found with other nouns.

Table 11: Exceptional ways of forming the oblique singular stem

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'boy'	'thing'	'girl'	'fire'	'thing'
ABS	uži	žo	kad	c'o	žo
ERG	žo-yä	<i>žo-y-la-y</i>	kand $-i$	c 'o-y- li / c 'o-y	žo-yo-l
GEN1	ža-s	$\check{z}o$ – y – la – s	kand-i-s	c 'o-y-s	žo-y-lo-s
CV(X)	ža–qor	$\check{z}o\!\!-\!\!y\!\!-\!\!la\!\!-\!\!qo$	kand−i– <i>ì</i> , 'o	c 'o $-y$ - la	

4. Absolutive plural

The absolutive plural is formed by adding one (or occasionally two) suffixes to the absolutive singular form of nouns, or sometimes to the oblique singular. Sometimes the final vowel is deleted. This is often, but not always the case for nouns that undergo vowel deletion also for the oblique singular.

The West Tsezic languages have only one productive absolutive plural suffix divergent from the oblique suffixes: Tsez -bi, Hinuq -be and Khwarshi -bo/-ba. Additionally, a small number of nouns in the West Tsezic languages may have idiosyncratic plural forms.

The East Tsezic languages have not only one productive plural suffix, but several. Additionally, they have some unproductive suffixes. Thus, Bezhta has 11 plural suffixes, among them -a and -la are the most productive ones. In addition, five of the suffixes are not only used for the normal plural, but also





for the paucal. Hunzib has 14 plural suffixes, -la is the most productive. For the occurrences of some of the Bezhta and Hunzib plural suffixes, especially the more productive ones, phonological conditions can be established. All unproductive plurals must be memorized by the speakers. In both languages and also in Tsez occasionally the plural suffix is identical to the oblique singular suffix, e.g. Bezhta balay ('dagger'), INS balay-ya-d, PL balay-ya; Hunzib $a\lambda$ ('village') GEN1 $a\lambda-a-s$, PL $a\lambda-a$, and Tsez asa ('mountain ash') GEN1 asa-b

In Tsez, Khwarshi and Bezhta an additional suffix frequently precedes the absolutive plural suffix. This suffix is often, but not always, the same that is used for the formation of the oblique singular stem. ¹⁰ Hinuq and Hunzib have only one example each, where an additional suffix precedes the plural suffix.

Tsez Hinuq Khwarshi Bezhta Hunzib SG li 'water t'eka 'goat' yin/e 'woman' änhey/o 'hole' miq 'pole' PLłi-da-bi t'ek(a/i)-be yin-a-ba $\ddot{a}^n hey - a - a$ $miq-\partial l-a$ OBL t'ek-(i)ła Iyin-a- $\ddot{a}^n hey - a$ miq-əl-

Table 12: Formation of the absolutive plural

The formation of the absolutive plural is less variegated than the oblique singular formation. Only four mechanisms are attested:

(i) plural suffix

m–e–s, PL asa–m–bi.

- (ii) deletion of the stem-final vowel
- (iii) (oblique) markers before plural suffix
- (iv) assimilation

Mechanism (i) and (ii) are illustrated in table 13:

Table 13: Plural suffixes and deletion of stem-final vowels in the plural

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
SG	hut' 'lip'	uži 'boy'	zor 'fox'	ãc 'door'	xor 'ram'
PL	hut'-bi	uži–be	zor-bo	$\tilde{a}c$ – la	xor-la
SG	bikor/i 'snake'	k'et'u 'cat'	boc'/o 'wolf'	bac'/o 'wolf'	aq/e 'wife'
PL	bikor-bi	k'et'(u) $-be$	boc'-bo	bac'-a	aq– a

Assimilation is very rare. Examples are Tsez tupi 'gun' which becomes tum-ma-bi in the absolutive plural, and Bezhta kid 'girl' which becomes kib-ba in the absolutive plural (which is identical to the oblique singular).

¹⁰ In table 12 this is the case for Hinuq, Khwarshi and Bezhta. For Tsez and Hunzib the relevant data is lacking.





⁹ This form is identical to the Ergative singular.



The only regular and productive mechanism is the suffixing of regular plural markers, and it can be combined with all other mechanisms. Possible combinations of mechanisms are:

(i) + (ii), e.g. Tsez *bikor/i* 'snake' (i) + (iii), e.g. Hunzib *miq* 'pole' (i) + (iv), e.g. Bezhta *kid* 'girl' (i) + (ii) + (iii), e.g. Khwarshi *yin/e* 'woman'

Finally, as with the oblique singular, in all languages some nouns can have more than one absolutive plural form. The alternative suffix is always productive.

Table 14: Alternative absolutive plural stems

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
SG	bizo 'pick'	tam/a 'horn'	ẽš 'apple'	äð 'village'	hak' 'flower'
PL	bizo-bi / bizo-m-bi / bizo-r-bi	tama-be / tam- i-be / tam-be	ẽš–bo / ẽš–no–bo / ẽš–mo–bo	äλ–ä äλ–lä	hak'-a / hak'-la
SG	moł/u 'fingernail'	ywer/o 'cow'	šelʲ/u 'horn'	boc/o 'moon'	xiλ/u 'trousers'
PL	moł–a–bi / mołu–bi	y™er−iš / y™er− iš−be	šel ^j u–bo šel ^j –a–ba	boc-bo / boco-wa	xi <i>ňu-wa </i> xi <i>ň-e-la</i>

5. Oblique plural stem

In contrast to the absolutive plural, for the formation of the oblique plural all Tsezic languages have regular suffixes.

In all West Tsezic languages the oblique plural suffix is *-za*. It may be preceded by the oblique singular suffix even if that is not found in the absolutive plural form. Or, if the oblique singular is formed by ablaut, then the oblique plural suffix is added to the oblique singular form.

In the East Tsezic language Bezhta the oblique plural is regularly formed by adding -a to the absolutive plural form. However, if the absolutive plural ends already with -a? because it has been formed on the basis of the absolutive singular form, then no additional -a is added, rather absolutive and oblique plural stem forms are identical, e.g. \ddot{a}^nhey/o ('hole'), OBL SG $\ddot{a}^nhey-a-$, ABS PL $\ddot{a}^nhey-a-a-$, OBL PL $\ddot{a}^nhey-a-a-$. In addition, some nouns with unproductive absolutive plural markers have regular oblique plural forms, e.g. iyo ('mother'), ABS PL iyo-ol, GEN1 PL iyo-la-a-s. In Hunzib, the other East Tsezic language, the oblique plural suffix is -la, and it is almost exclusively added to the absolutive plural form (e.g. si 'bear'). But in some rare cases this suffix is not used and absolutive and oblique plural forms are identical (e.g. w 'dog').

The following tables 15 and 16 illustrate the various ways of forming oblique plural stems:







Table 15: Oblique plural stems

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'stick'	'boy'	'sibling'	'leg'	'bear'
SG ABS	hibo	uži	is	č'amal	si
PL ABS	hibo-bi	uži–be	is-na-ba	\check{c} 'amal $-a$	si–bur
PL ERG	hibo-za	uži–ža–y	is-na-za	$\check{c}\text{'}amal–a–a$	si-bur-la-l
PL GEN1	hibo– za – s	uži–ža–s	is-na-za-s	$\check{c}\text{'}amal-a-a-s$	si-bur-la-s

Table 16: Oblique plural stems

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
	'boy'	'house'	'mother'	'horse'	'dog'
SG ABS	uži	buže	išu	šügöšöwä	wə
SG OBL	ža–	beže–	iš-e-t'-	šügöšöwä	w <i>ə</i> -y-
PL ABS	uži–bi	buře-be	išu–bo	šügööl	wə-ba
PL OBL	<i>ža–za–</i>	beře-za-	iš-e-t'-za-	šügöšöwä–ä	w <i>></i> -ba-

As was already illustrated for the oblique singular and plural, some nouns have also two or three forms for the oblique plural stem, e.g. Khwarshi $\tilde{o}g$ ('axe'), PL GEN1 $\tilde{o}g$ –no–za–s, $\tilde{o}g$ –mo–za–s or $\tilde{o}g$ –za–s.

6. Structuring the chaos

Generalizing over all Daghestanian languages Kibrik and Kodzasov (1990: 251–258) distinguish 11 pattern of stem formation. Kibrik (1991) lists seven general patterns and 16 subtypes. However, for the sake of abstraction these authors conflate distinct patterns into one more abstract pattern: in both papers what are here described as the last pattern in section 6.2 and the first pattern in section 6.3 are treated like variants of one and the same underlying pattern (see Kibrik and Kodzasov 1990, page 255 and Kibrik 1991, page 263 – 264 for more details). In this way some of the interesting variation gets lost. In contrast, in this paper every possible pattern will be presented together with one example and a comment on its frequency.

All Tsezic nouns can be divided into ten classes according to the ways in which oblique singular, absolutive plural and oblique plural are formed from the absolutive singular stem, disregarding the details of formation. All nouns distinguish at least two stems and at most four stems. The majority of nouns have four different stems. Usually the oblique plural is formed quite regularly whereas the formation of oblique singular and absolutive plural shows a lot variation. This is typical for the stem formation in all Daghestanian languages (Kibrik 2003: 69). Minor patterns are restricted to a few nouns or to one language.

6.1. Two-stem patterns

Tsezic languages do not have nouns where ABS SG = OBL SG and ABS PL = OBL PL. Other Daghestanian languages such as Khinalug (e.g. halám





'sheep', OBL SG halám-, ABS PL halám-irdir, OBL PL halám-irdir- van den Berg 2005: 161) and Udi have such nouns. But such a pattern is rather uncommon for Daghestanian languages.

The two-stem pattern below is attested in the Tsezic languages, but in each language is restricted to one or two nouns only.

ABS SG	=	ABS PL
	\downarrow	
OBL SG	=	OBL PL

□ minor pattern

 $\hfill\Box$ e.g. Hinuq xexbe ('child', 'children'), OBL SG, xexza OBL PL xexza-

Another possibility of analyzing nouns like xexbe is to take their morphological make-up into account. xexbe clearly contains the plural suffix -be in the direct form, and the oblique plural suffix -za in the oblique form. Though morphologically plural, this noun can also refer to a single entity. The syntax follows the semantics, that is, if only one child is the referent, then the noun triggers singular agreement, otherwise the agreement suffix must be plural. Such words are called "deponents"; they use formal markers of inflectional categories in the 'wrong' function (Haspelmath 2002: 143).

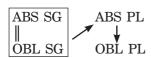
6.2. Three-stem patterns

There are five different three-stem patterns with three different kinds of syncretisms, but the majority of them occur only in one or two languages and a few nouns.



 \square common pattern

 $\hfill\Box$ e.g. Tsez zey ('bear'), OBL SG zey-, ABS PL zey-bi, OBL PL zey-za-



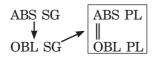
□ common pattern

 $\hfill\Box$ e.g. Bezhta isi ('sister'), OBL SG isi–, ABS PL isi–ya, OBL PL isi–ya–a–



 \square minor pattern

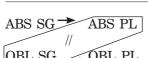
□ e.g. Hunzib $n\alpha c/\partial$ ('louse'), OBL SG $n\alpha c-i-$, ABS PL $n\alpha c-b\alpha$, OBL PL $n\alpha c-b\alpha$



□ minor pattern

 \Box e.g. Bezhta
 \ddot{a}^nhey/o ('hole'), OBL SG $\ddot{a}^nhey-a-$, ABS PL
 $\ddot{a}^nhey-a-a-$, OBL PL $\ddot{a}^nhey-a-a-$





□ minor pattern

□ e.g. Hunzib aq/e ('wife'), OBL SG aq-a-, ABS PL aq-a, OBL PL aq-a-la-

6.3. Four-stem patterns

In the first four–stem pattern both absolutive plural and oblique plural are derived from the oblique singular. Therefore, Kibrik (1991: 263– 264) regards the oblique singular stem as base stem for nouns following this pattern; and he claims that the absolutive singular stem is derived by deletion. But this analysis is not satisfying because the deleted segments correspond to oblique markers normally used in the languages. Nevertheless the precise analysis of the final segments found in all three stems besides the absolutive singular remains problematic. They cannot be described as genuine oblique markers or genuine as plural markers.

In all remaining four–stem patterns it is the absolutive singular form which serves as the base for the formation of at least the oblique singular and the absolutive plural.

□ common pattern

 \Box e.g. Khwarshi $\tilde{e}\check{s}$ ('apple'), OBL SG $\tilde{e}\check{s}\!-\!mo\!-\!,$ ABS PL $\tilde{e}\check{s}\!-\!mo\!-\!bo,$ OBL PL $\tilde{e}\check{s}\!-\!mo\!-\!za\!-\!$

$$\begin{array}{c} \text{ABS SG} \longrightarrow \text{ABS PL} \\ \downarrow \\ \text{OBL SG} \end{array}$$

□ common pattern

 \Box e.g. Khwarshi obu ('father'), OBL SG obu–t'–, ABS PL obu–bo, OBL PL obu–za–

$$ABS SG \longrightarrow ABS PL$$

$$V$$

$$OBL SG \longrightarrow OBL PL$$

□ common pattern

 \Box e.g. Hinuq *ižey* ('eye'), OBL SG *iže* ra-, ABS PL $i\check{z}ey$ -be, OBL PL $i\check{z}e$ -ra-za-

$$\begin{array}{ccc} \text{ABS SG} & \longrightarrow \text{ABS PL} \\ \downarrow & \downarrow \\ \text{OBL SG} & \text{OBL PL} \end{array}$$

14

□ common pattern

□ e.g. Bezhta *tušman* ('enemy') OBL SG *tušman-li-*, ABS PL *tušman-la*, OBL PL *tušman-la-a-*

Tsez has a number of nouns belonging to the last pattern where, however, the markers used for the oblique singular stem and for the plural stems seem to be diachronically related. These markers are clearly different, but probably

cognates, as can be seen in the following table:



Table 17: Four-stem patterns

	'girl'	'pole'	'wedding'	
ABS SG	kid	giri	berten	
GEN1 SG	kid-be-s	giri-mo-s	berten-yo-s	
ABS PL	kid-ba-bi	giri-ma-bi	berten-ya-bi	
GEN1 PL	kid– ba – za – s	giri-mo-za-s	berten-yo-za-s	

7. Reflections on diachrony

7.1. Origins

In view of the great variation of oblique and plural suffixes one may ask where all these suffixes come from. In the literature one can find various suggestions regarding the oblique suffixes. Three suggested origins of oblique and plural suffixes are:¹¹

- □ former case markers
- □ former Absolutive endings
- □ gender affixes

The first suggestion can be interpreted as an implication of some analyses of those Daghestanian languages that apparently use the ergative as oblique stem to which all other cases are added (e.g. Bezhta and Khwarshi). For these languages it could be claimed that what was formerly only a case marker for the ergative has been developed into an oblique marker. Kibrik (1991: 257) points out that such an analysis can be unsatisfactory because in the function of the other cases (e.g. Genitive, Instrumental) "ergative meaning is not a component".¹²

Alekseev (2003: 32) attributes the second suggestion to Burčuladze (1986). According to Alekseev, Burčuladze claims that in Lak the oblique markers were former direct markers (i.e. absolutive suffixes). Later on they were truncated in the absolutive and reinterpreted as oblique markers, and only used before the oblique case suffixes. Alekseev cites some examples from some Lezgic languages, from Lak and from Dargi. Similar examples occur in the Tsezic languages, e.g. 'fox': the absolutive singular in Hinuq is zeru (GEN1 zeru–s or zer–e–s), the oblique stem in Hunzib is s–ro– (ABS s). Thus, the claim would be that the original situation was like in Hinuq. The second syllable of zeru would have been the absolutive suffix. In Hunzib, in contrast,





¹¹ Bernard Comrie (p.c.) suggests as a fourth origin number markers. However, the only example for this origin is Hinuq / Tsez xexbe ('child', 'children'), where the plural marker -be is replaced by the oblique plural marker -za when case suffixes are added (see section 6.1).

¹² One reviewer suggested that Kibrik's objection is valid for synchrony, but it may fail diachronically and therefore not confute the first suggestion. According to this proposal one could suppose that Proto-Daghestanian had a very simple case system with only two cases, direct and oblique. Specific individual oblique cases like genitive, dative, instrumental, etc. would then be later additions, maybe developed from postpositions.



-ru/-ro has been interpreted as an oblique marker that no longer occurs in the absolutive. However, these examples are very rare. In addition, the reverse development plausible, too: what diachronically have been oblique markers in all Tsezic language became part of the stem in the absolutive and all other cases in some languages and remained oblique suffixes in others.

The third analysis is advocated among others by Alekseev (2003: 79) and in various works by Kibrik (1991: 271–272, 2003:101–103, 2008). Alekseev (2003) claims that the original nominal inflection system of Proto–Daghestanian consisted of the nominal stem plus a gender marker functioning as oblique marker. He lists the following consonants that are used in many Daghestanian (including all Tsezic) languages as part of oblique markers: -l–, -r–, -d–/-t–, -m–, -n–. Four of them, -l–, -r–, -m–, and -n–, are also agreement affixes for gender and number in the Tsezic languages. But two of them, namely -l– and -n– occur only in Khwarshi. -d– is an agreement affix in Archi, another Daghestanian language. Vowels were probably also used as OBL markers in Proto–Daghestanian, but they are difficult to reconstruct (Alekseev 2003: 33–34).

Kibrik argues in a similar direction. He claims that the plural and the oblique markers and even the case affixes reflect(ed) the gender system. In fact, some Daghestanian languages have oblique or plural markers that are restricted to certain genders. One example is Chamalal which has a dedicated oblique marker for masculine nouns and several ones for inanimate nouns (Magomedova 2004: 33). In Rutul one plural marker -bir is only used with inanimate nouns (Alekseev 1994: 218). Tsakhur has two different ergative marker: -e/-ez for nouns denoting humans, -n for all other nouns (Kibrik 1999: 54). Kibrik suggests that the modern case inflection must be a later innovation than number and oblique stem marking (it is more regular, especially the spatial cases, and less close to the noun stem).

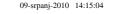
However, despite some similarities between agreement affixes and oblique markers, a significant correlation does not seem to exist. A count of all nouns listed in the Hinuq dictionary of Xalilov & Isakov (2005) and of the Tsez dictionary of Xalilov (1999) gave the following results: nouns taking one of the oblique markers containing /y/ do not fall preferentially in gender II and/or IV, the genders whose agreement marker is y–. Similarly, nouns which have an oblique marker that contains /r/ do not seem to prefer class V, which has the agreement prefix r–. ¹³

Table 18: Genders and oblique markers

gender	I	II	III	IV	V	sum
prefix	Ø-	<i>y</i> –	<i>b</i> –	<i>y</i> –	r-	
Hinuq -ya/-yi		-	9	2	8	19

¹³ Surely, the statistic analysis must be refined. It must be taken into account that nouns are not equally distributed among the genders. For instance, in Hinuq gender I and gender II are almost closed classes because they contain (almost) only nouns referring to humans. Gender III constitutes the biggest class with the most nouns in both Hinuq and Tsez.





^{14 -} means that there are no nouns of the respective gender that take the respective agreement marker. # means that Tsez lacks gender IV, which has been collapsed with gender II.

Hinuq -ra/-ro/-ru	_	-	12	-	13	25	
Tsez -yo/-ya/-ye	10	85	273	#	121	489	
Tsez -ro/-ra/-re	_	3	23	#	12	38	

7.2. Further developments

A number of the oblique and/or plural markers are clearly archaic because they occur with one or two nouns only, and are thus not productive at all. Interestingly, such nouns and markers are often cognates in some or even all Tsezic languages. The same is true for oblique stems formed by ablaut. The following table presents some examples:

Table 19: Rare oblique markers

	Tsez	Hinuq	Khwarshi	Bezhta	Hunzib
ABS SG	buc/i 'moon'	buce 'moon'	bucu 'moon'	boco 'moon'	boc/o 'moon'
	bec-e-s/	bece-s /			
GEN1 SG	buc-e-s	buce-s	bucu– s	bico- s	bic−ə–s
ABS SG	$\tilde{\chi}$ 'e 'malt'	λ'e 'malt'	$\tilde{\chi}$ 'e 'malt'	$\tilde{\chi}$ 'i 'malt'	$\lambda'i$ 'malt'
GEN1 SG	λ'e-ro-s	Ã'e−ro−s	λ'e–s	λ'i–yα–s	λ'i–ro–s
SG	esi/yu 'sibling'	essu 'sibling'	is 'sibling'	is 'brother'	is 'sibling'
		essu-be /			
PL	es-na-bi ¹⁵	ess-ni-(be)	is-na-ba	is-na	is-na

However, these unproductive markers are being replaced by productive ones. As already mentioned, many nouns take more than one oblique marker, where one of them is usually productive. Productive markers (that is, default markers or markers that follow morphophonological rules) are also used for borrowings. In addition, among the alternatives is not only the use of more productive markers, but also dispensing with markers altogether. For instance, in Khwarshi about 42% of the nouns do not take oblique markers, but form the oblique stem by stress shift alone, and 38% take only epenthetic vowels (Zaira Xalilova, p.c.). In Hunzib 7% of all nouns have no oblique markers. In this manner the stem formation system becomes reduced over time.

8. Conclusion

To sum up, the Daghestanian languages including the five Tsezic languages treated in this paper have an cross–linguistically unusual system of stem formation that is, however, typical for the Daghestanian languages. Outside the Caucasus only South Dravidian languages seem to have a similar system, but to a much lesser extent. For instance, Tamil has two obligatory oblique markers that occur before case suffixes of some nouns (but after number suf-

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¹⁵ This noun behaves similarly in all languages, but the meaning of the suffix -na/-ni is unclear for all Tsezic languages except Hunzib where it is an unproductive plural marker.



fixes); their occurrences are to a great extent phonologically conditioned. Tamil has also two optional oblique markers, whose occurrences are not predictable from the phonological structure of a word (Lehmann 1993: 14–23). Toda, another South Dravidian language, has only one oblique suffix that is used with most nouns. It is added to the nominal stem before all case suffixes except Nominative and Accusative. In a very few nouns this suffix is directly added to the stem. But usually it replaces a stem–final segment, or the stem–final segment is modified in some way before adding the oblique suffix (Emeneau 1984: 70–75).

The Tsezic stem formation system is highly complex with its ten patterns of stem formation. This paper has done two important things: give a consistent comparative description of noun stem formation in Tsezic, and show that gender affixes are not an important source of oblique and/or plural formatives, or at least seriously counterindicate one of the claims in the literature. It has also shown that there are problems with all proposed diachronic analyses and some proposed synchronic ones. The stem formation of Tsezic system originated in Proto–Daghestanian and Proto–Nakh–Daghestanian, but unfortunately there are no widely accepted reconstructions of it, so the topic deserves further research.

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Varijacija u tvorbi osnove u cezskim jezicima

Cezski jezici čine grupu od pet međusobno povezanih jezika koji tvore podgranu unutar nahsko-dagestanske jezične porodice te ih dijelimo na istočne cezske jezike, hunzipski i bešta, i zapadne cezske jezike, hvarški, cezski i hinuski. Cezskim jezicima govore stanovnici Dagestana, na jugu Rusije. Po svojoj morfologiji cezski jezici su ergativni, SOV je najčešći poredak riječi u rečenici, a imenice u cezskim jezicima imaju svoj rod i broj. Kao i u ostalim dagestanskim jezicima, i u cezskima je tvorba po padežima jednostavna i pravilna. Najveća je teškoća na koju nailazimo u imeničkoj tvorbi u cezskim jezicima tvorba osnove kosih padeža. U ovome članku prvo je detaljno opisana tvorba osnove, a zatim se pokazuje da afiksi roda nisu bitan element u tvorbi kosih padeža i množine. U zaključku je istaknuto da dagestanski jezici, zajedno s pet cezskih jezika iz članka, imaju unakrsno neobičan sustav tvorbe osnova, a koji jest tipičan za navedene dagestanske jezike. Izvan kavkaskog područja samo južnodravidski jezici imaju sličan sustav, ali u manjem opsegu. Sustav tvorbe osnova u cezskim jezicima vrlo je složen i sadrži deset načina na koje se tvori osnova. U članku su također spomenuti problemi na koje nailazimo u korištenoj dijakronijskoj analizi i nekim sinkronijskim analizama. Tvorba osnova u sustavu cezskih jezika potječe od proto-dagestanskog i proto-nahsko-dagestanskog, no nažalost ne postoje općeprihvaćene rekonstrukcije navedenih jezika i tema zasigurno zaslužuje daljnja istraživanja.

 $\textbf{Key words:} \ \text{word formation, stem formation, Tsezic languages, Didoian lanugages, Dagestanian languages}$

Ključne riječi: tvorba riječi, tvorba osnove, cezski jezici, didojski jezici, dagestanski jezici









