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Himalayan Linguistics

The Brokpa lexicon: Notes on selected semantic fields

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ABSTRACT

A selection of semantic fields of the Brokpa lexicon are examined in some detail, focusing on both cross-linguistically salient as well as locally distinct concepts. Kinship terminology reflects traditional marriage customs through conflating in-laws with paternal aunts, maternal uncles and male cross-cousins. Different kinds of livestock such as yaks and cows are crossbred, giving rise to a wide variety of distinctly named hybrid offspring. Domestic animals receive characteristic onomatopoeic renderings of their vocalizations, and specialized summoning calls. A number of body parts are lexically not differentiated, such as hand and arm, foot and leg, finger and toe, while others like hair distinguish numerous types. Honorifics are found for body parts and kinship terms, among others. Finally, numerals mix a decimal with a more archaic vigesimal system.

KEYWORDS

Brokpa, Tibetic languages, lexical semantics, lexical typology, kinship terminology

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The Brokpa lexicon: Notes on selected semantic fields*

Damian Funk, Corinne Mittaz, Sara Rüfenacht, and Sereina Waldis University of Bern

1 Introduction

The following pages collect some notes on selected semantic fields of the Brokpa lexicon which have been investigated more closely. This *tour d'horizon* focuses on cross-linguistically common concepts like kinship, domestic animals, animal onomatopoeia, body parts, honorifics, and numerals, and their distinct local applications.

Kinship terminology represents an Iroquoian-like system where parallel cousins are treated like siblings and (partially) distinguished from cross-cousins, while maternal aunts and paternal uncles are treated like parents. This reflects traditional customs of cross-cousin marriage, which are further reflected by the partial conflation of consanguineal and affinal terms. The language also distinguishes siblings by age, and for certain relatives different terms of reference and address (Section 2).

The Brokpa are traditionally known for their pastoralist way of life, so it is no surprise that one finds a plethora of terms for livestock. This includes different species of cattle including yaks, distinguished by sex ($j\hat{a}$ being the term for the yak bull), as well as up to three generations of crossbreeds, or dzo (Brokpa so) (Section 3).

In the same vein, there are a number of onomatopoeic sounds for the vocalizations of domestic animals, as well as distinct commands for summoning said animals (Section 4).

Some noteworthy features of body part terminology include a number of lexical under- and over-differentiations in the domain of limbs and hair, respectively; and some cases of human and animal body part polysemy (Section 5).

Honorifics cover mostly body parts and kinship terms, but other nouns and some verbs as well (Section 6).

Lastly, numerals above 100 can be formed by both a decimal and a vigesimal system, while some compound numerals still reflect more archaic forms (Section 7).

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¹ For general information about the Brokpa language and the Brokpa Documentation and Description Project as well as for the list of abbreviations and the transliteration of Written Tibetan used in this issue, see Gerber & Grollmann (this issue).

2 Kinship

Brokpa kinship terminology covers consanguineal and affinal kin, not always clearly separating the two. Regarding consanguineal kin, parents are grouped together with their same-sex siblings: apa refers to one's father as well as one's father's brother (paternal uncle), while ama refers to one's mother as well as one's mother's sister (maternal aunt). Maternal uncle (mother's brother) and paternal aunt (father's sister) have dedicated terms, acay and ani. Grandparents are called it 'grandmother' and meme 'grandfather' on either side. There are no distinct terms for generations ascending or descending any further, such as grandchildren or great-grandparents. Siblings are differentiated by age, not and not mo for younger brother and sister, au and aci for older brother and sister; and grouped together with cousins, the exception being male cross-cousins (mother's brother's son or father's sister's son, i.e. sons of ani and acay), which are termed caysin, with no distinct term for female cross-cousins. The terms for one's own children are other's conversely, one is ama 'mother' or apa 'father' to them as well (as described above). Children of different-sex siblings are termed tshother' 'nephew' and tshother' on 'niece', and conversely oneself is either ani 'paternal aunt' or acay 'maternal uncle' to them.

It is also common to differentiate multiple siblings, cousins, aunts and uncles, as well as one's children by age, by postposing *teee* 'older' or *teune* 'younger', e.g. *au teune* 'younger older brother' or *ama teee* 'mother's older sister'.

The terms for affinal kin include *makpa* and *nama* for brother-in-law and sister-in-law, as well as son-in-law and daughter-in-law (the latter have no other distinct terms). Additionally, *eansin* 'male cross-cousin' also covers brother-in-law, reflecting traditional marriage customs whereby cross-cousins but not parallel cousins may marry each other: one may marry a *eansin*, but not an *au* (older parallel cousin) or a *no*: (younger parallel cousin), which are named like one's own brothers. ² Similarily, *ani* 'paternal aunt' and *aean* 'maternal uncle', the parents of *eansin*, are also the regular terms for mother-in-law and father-in-law. Finally, there are terms for step-father and step-mother, *aku* and *asim*. They might also be used to refer to paternal uncles and maternal aunts instead of *apa* 'father' and *ama* 'mother', in that case expressing a socially more distant relationship. ³ Otherwise, aunts and uncles by marriage are not differentiated from those related by blood, so a pair of *ani* and *aean* may refer to a paternal aunt and her husband or a maternal uncle and his wife; and a pair of *ama* and *apa* may refer, in addition to one's parents, to a maternal aunt and her husband as well as a paternal uncle and his wife.

Some terms are also used for unrelated people. Old people might be called *i:* 'grandmother' or *meme* 'grandfather'. People younger than oneself can be called *o:* 'son' or *bomo* 'daughter'; conversely, people older than oneself can be called *au* 'older brother' and *aei* 'older sister' (people of the same age bracket may be called *do:* 'friend'). This usage does not depend on absolute age, but relative age differences. Thus, one may be called *o:* 'son' or *bomo* 'daughter' whether one is ten or fifty years old, if the speaker is significantly older than oneself. Lastly, one might jokingly call unrelated people *cansin* ('male cross-cousin'/ 'brother-in-law') to tease them by implying that one would marry them or their

² Moreover, *eaysin* might also refer to the father of one's son-in-law or daughter-in-law (though there is no equivalent term for their mother), who otherwise has no dedicated term.

 $^{^{3}}$ In the case of fraternal polyandry, *aku* is not used — one might not know who one's father is, so all brothers are called *apa*, in this case especially.

sister; or *ani* ('paternal aunt' / 'mother-in-law') or *acay* ('maternal uncle' / 'father-in-law'), thus implying that one might be married to their son or daughter.

There are also some honorific terms: *jap* 'father' (HON) and *jum* 'mother' (HON) for parents and *se*: 'son' (HON) and *se*:mo 'daughter' (HON) for children. These are not used for one's own relatives (the effect seems to be comical), but exclusively to refer to the relatives of high status people, such as monks or nuns, who themselves are addressed and referred to by their respective titles.

A full list is given in Table 1.

	Brokpa	Translation	
Consanguineal terms	ара	'father' / 'paternal uncle'	
-	ama	'mother' / 'maternal aunt'	
	аи	'older brother' / 'older male parallel cousin'	
	аєі	'older sister' / 'older female cousin'	
	no:	'younger brother' / 'younger male parallel cousin'	
	по:то	'younger sister' / 'younger female cousin'	
	0.	'son' / 'nephew' (same-sex sibling's son)	
	bomo	'daughter' / 'niece' (same-sex sibling's daughter)	
	асаŋ	'maternal uncle' / 'father-in-law'	
	ani	'paternal aunt' / 'mother-in-law'	
	eansin	'male cross cousin' / 'brother-in-law'	
	tsho:	'nephew' (different-sex sibling's son)	
	ts ^h o:mo	'niece' (different-sex sibling's daughter)	
	тете	'grandfather'	
	i:	'grandmother'	
Affinal terms	такра	'brother-in-law' / 'son-in-law'	
	пата	'sister-in-law' / 'daughter-in-law'	
	aku	'step-father' / 'paternal uncle'	
	asim	'step-mother' / 'maternal aunt'	
Honorific terms	jap	'father' (HON)	
	jum	'mother' (HON)	
	se:	'son' (HON)	
	se:mo	'daughter' (HON)	

Table 1. Kinship terms

Some of the terms discussed above function only as terms of reference, and are replaced by other established terms when addressing the respective person. Generally, more distant kin are addressed like closer kin. Specifically, cousins younger than oneself (no:, no:mo), the children of one's different-sex siblings (tsho:, tsho:mo), as well as sons and daughters-in-law (makpa, nama), are all

⁴ Thus the distinction between the children from one's same-sex and one's different-sex siblings is dissolved, though the converse is not the case: *tsho*: and *tsho*:mo still call their paternal aunts and maternal uncles *ani* and *aeaŋ*, not *ama* and *apa*.

⁵ One can still distinguish one's son-in-law and daughter-in-law from one's own children by addressing them by the compound terms *o: makpa* 'son-in-law' or *bom nama* 'daughter-in-law'.

addressed like one's own children (o:, bomo); and one's siblings-in-law (also makpa, nama) are addressed like one's own siblings (au, no: or aci, no:mo, depending on their age). The full breakdown is given in Table 2.

Kinship term	Reference	Address
'younger male parallel cousin'	no:	o: 'son'
'younger female cousin'	по:то	bomo 'daughter'
'nephew' (different-sex sibling's son)	tsho:	o: 'son'
'niece' (different-sex sibling's daughter)	tsho:mo	bomo 'daughter'
'son-in-law'	makpa	o: 'son'
'daughter-in-law'	nama	bomo 'daughter'
'brother-in-law'	makpa	au 'older brother',
		no: 'younger brother'
'sister-in-law'	nama	aei 'older sister',
		no:mo 'younger sister'

Table 2. Terms of reference and terms of address

Figure 1 shows a color-coded kinship chart. The example reflects a male ego for the descending generation and depicts the terms of reference; in-laws are excluded for reasons of space.

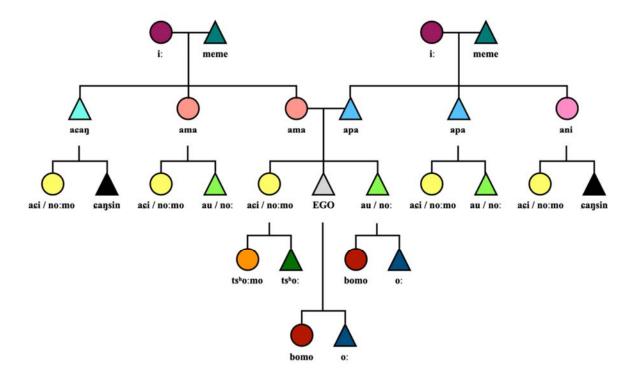


Figure 1. Kinship system

3 Yaks and crossbreeding

Traditionally, the Brokpa led a semi-nomadic lifestyle of which yak herding was an important part. They produced various goods such as mar 'yak butter' or clothing, for example the εam , a hat made from yak wool. The present section will present a short overview of the collected terminology related to yaks and their crossbreeding.

The Brokpa use different species for crossbreeding. These are basically yaks and two kinds of cattle, with specific terms for males and females. The first type of cattle is called *toka* for males and *pa* for females. The second type, which is a smaller type of cattle, is called *golen* for males and *golenma* for females.

Sometimes crossbreeds are used for further crossbreeding. See Table 3 for the terms of yak and cattle types which form the basis for crossbreeding. The distinct terms for male and female yaks and cattle already show the frequent use of these terms and the need to specify biological sex. Other animal terms are usually generic, but if in need for specification, the unmarked word will signify male sex, ⁶ female sex will be marked with the form *mo*, sometimes *ma*. The word *goleŋ* for example denotes a type of bull, while the cow is called *goleŋma*. It seems that the form *mo* is more common than *ma*. The forms with *ma* might represent more lexicalized instances, while *mo* seems to be used as a productive form when a generic reference to the animal is not enough.

Brokpa	Translation
jâ	'yak bull'
teux	'yak cow'
toka	'bull'
pa	'cow'
goleŋ	'small type of bull'
goleŋma	'small type of cow'

Table 3. Species used for crossbreeding

The most generic terms for crossbreeds are so and its female counterpart somo. These are one part yak and one part cattle. It is not specified whether the female or male parent was yak or cattle. The three types primso, paso and golenmaso are subtypes of so, but here the term indicates which of the parents was yak and which cattle. A primso for example is a crossbreed from a bull, golen, and a yak cow, teux. Table 4 shows the terms of all the crossbreeds, with both the generic/male variants and the female forms given.

While the first generation crossbreed terms *paso* and *goleymaso* are very transparent, the same can not be said for *primso*. A *paso* and *goleymaso* are simply crossbreeds, meaning *so*, with a *pa* or a *golengma* respectively as female parent. By analogy, *prim* in *primso* should denote a female yak, a *teux*. However, the form *prim* has so far not been attested as an independent word.

⁶ However, the form p^ho is sometimes used instead of the unmarked form to denote male sex. Compare p^hakpa 'pig' to p^hakpap^ho 'male pig'.

	Offspring	Female parent	Male parent
1st generation	primso / primsomo	teux	goleŋ
	paso / pasomo	pa	jâ
	goleŋmaso / goleŋmasomo	goleŋma	jâ
2nd generation	tú:	somo	jâ
	kwe	somo	goleŋ
3rd generation	tú:so / tú:somo	tú:	goleŋ
	kweso / kwesomo	kwe	jâ

Table 4. Different crossbreeds

As can be seen in Table 4, some crossbreeds are used for further crossbreeding. However, our informant stated that so are mostly used for transportation purposes, while $j\hat{a}$ and goley are mostly used for crossbreeding. While in the first generation of crossbreeding the term of the offspring still shows what type of cattle or yak the male and female parent were, this is not the case anymore in second or third generation crossbreeding. Only information about the male parent is given with the terms of the second or third generation. A $t\hat{u}$: and a kwe for example are both second generation crossbreeds. They both have some kind of yak-cattle crossbreed female parent of unspecified type. But the lexeme $t\hat{u}$: specifies that the male parent was a $j\hat{a}$ and the term kwe specifies that the male parent was a goley. Female forms for second generation crossbreeds are so far not attested.

Specific terms are used for young yaks with regard to their age. These are listed in Table 5. These terms are only used for yaks, not for cattle or other types of domestic animals in Brokpa. There are supposedly more terms for yaks at older stages, but these were not known to our informant.

Brokpa	Translation
pju	'yak in its first year'
jerma	'yak in its second year'
janjer	'yak in its third year'
t ^h oŋjer	'yak in its fourth year'

Table 5. Terms for yaks by age

The terms for a yak in its second to fourth year all share the sequence *jer*. It was however not attested as an independent word and it is not clear if *jer* can be analyzed as a morpheme of its own in a synchronic perspective.

4 Animal sounds and commands

Animals play an important part in traditional Brokpa lifestyle. There are a number of conventionalized ways of imitating vocalizations of domestic animals in the language, and they have been elicited using the following frame.

(1) Carrier phrase used for recording animal sounds

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A full list is given in Table 6. The transcription is purely segmental, not marking any pitch or length phenomena (segments which might be repeated indeterminately are given three times).

Animal	Sound
cimi 'cat'	тјаи
kí 'dog'	hau hau
teamo 'chicken'	kwẽ kwẽ kwẽ
teadon 'rooster'	ko ko le ko
pa / toka 'cow'	mbã
<i>jâ / tɛux</i> 'yak'	ur ur
so / somo 'yak hybrid'	m
tá 'horse'	e he he he
puŋba 'donkey', te: 'mule'	kãŋki kãŋki
ra 'goat'	<i>lε lε</i>
luk 'sheep'	$b\varepsilon$
phak 'pig'	wus wus wus

Table 6. Animal sounds

Unsurprising for pastoralists, there are also conventionalized commands for summoning some of these animals. These are given in Table 7. The transcription is again fairly broad, and repeatable segments are given three times.

Animal	Summons
simi 'cat'	nim nim nim ja
kí 'dog'	jou jou jou
teamo 'chicken'	tu tu tu ja
pa / toka 'cow', so / somo 'yak hybrid'	wau ja / kwe ja ja
jâ / tɛux 'yak'	o pi so so so
golen 'small type of bull'	ri ri ri ja
tá 'horse', puŋba 'donkey', te: 'mule'	<i>вов ја</i>
luk 'sheep'	o ja

Table 7. Animal commands

Most summons end with the form ja, which otherwise functions as a presentative particle, used when presenting someone with something (e.g. tc^hu ja (water PREST) when offering a glass of water). One of the summons for pa and so seems to include the word kwe for the crossbreed between

somo and *goleŋ*. The summons for horses, donkeys, or mules might be based on the imperative of the verb 'come', $\epsilon \acute{o}$.

There are no specialized commands for shooing animals, only a paralinguistic *tet*, which can be used for all animals.

5 Body parts

Table 8 lists some known body part terms.⁷

	Brokpa	Translation	Brokpa	Translation
Head	ko	'head'	şa	'head hair'
	latpa	'brain'		
Face	doŋba	'face'	t¢é	'tongue'
	<i>t</i> ^h otpa	'forehead'	teydr	'lip'
	mik	'eye'	só	'tooth'
	na	'nose'	tamba	'cheek'
	патєо	'ear'	megam	'chin'
	k^ha	'mouth'		
Neck / Throat	єiŋba	'neck'	orthon	'throat'
Torso	preanga	'chest'	duŋşuk	'spine'
	tsima	ʻrib'	cetpa	'waist'
	púŋbaŋ	'shoulder'	sip ^h a	'belly'
	пита	'breast'	té:	'navel,
				umbilical cord'
	сар	'back'	mê	'buttocks'
Limbs	lakpa	'arm, hand'	k ^h olokpa	'knee'
	dumu	'elbow'	ŋardoŋ	'shin'
	kaŋba	'leg, foot'	leniŋ	'calf'
	ре:	'thigh'	tiŋbaŋ	'heel'
Digits	premo	'finger, toe'	senmo	'nail'
Diffuse organs	janda	'beard'	ruspa	'bone'
	pú	'body hair'	nâm	'muscle'
	pap ^h a	'skin'	ts ^h ikp ^h a	'joint'
Internal organs	ló:	'lung'	aŋko	'bladder'
	niŋ	'heart'	totpa	'stomach'
	паŋєа	'entrails'	сита	'intestines'
	tsemba	'liver'	tuptoŋ	'anus'
Reproductive	бе	'penis'	tú	'vagina'
system	likpa	'testicle'	móŋ	'pubic hair'

Table 8. Body part terms

⁷ The classification and ordering of terms follows the STEDT questionnaire on body parts (Matisoff 2013).

As in many Bhutanese languages, Brokpa does not lexically differentiate certain common pairs of body parts, summarized in Table 9.8

Term	Semantic extension	Definition
lakpa	arm, hand	upper limb
kaŋba	leg, foot	lower limb
premo	finger, toe	digit

Table 9. Lack of lexical differentiation in body part terms

At the same time, Brokpa shows lexical differentiation of various kinds of hair. It distinguishes head hair ($\mathfrak{s}a$) from facial hair ($\mathfrak{s}a$) from pubic hair ($\mathfrak{m}\acute{o}\eta$) from hair on the rest of the body ($p\acute{u}$).

Many body part terms are also used to refer to equivalent body parts of animals (Table 10).

Term	Human body part	Animal body part
teydr	'lip'	'beak'
senmo	'nail'	'claw'
janda	'beard'	'whiskers'
şа	'head hair'	'mane'
pú	'body hair'	'fur'
пита	'breast'	'udder'
k^ha	'mouth'	'snout'
kaŋba	'leg, foot'	'paw'

Table 10. Polysemous human and animal body part terms

Other animal body parts have dedicated terms (Table 11).9

Brokpa	Translation
ru	'horn'
mikpa	'hoof'
euma	'tail'
pa:	'wool'
<i>çokpa</i>	'wing, fin'
pulu	'feather'
sakpiliŋ	'fish scale'
sukla	'insect limb'

Table 11. Animal body part terms

⁸ A further case is *té*:, which refers to both the navel and the umbilical cord.

 $^{^9}$ A further case concerns yak hair, where one differentiates the short hair on the top and sides ($p\acute{u}$, the general term for the body hair of all animals as well as humans) from the long down hair (tsitpa) and the tail hair (yama).

A number of body part terms may be formed through compounding various other body part lexemes with the genitive enclitic =gi. Among other things, this allows to distinguish fingers and toes (Table 12).

Compound term	Gloss	Translation
lakpa=gi premo	arm/hand=GEN finger/toe	'finger' ('upper limb's digit')
kaŋba=gi premo	leg/foot=GEN finger/toe	'toe' ('lower limb's digit')
numa=gi ko	breast=GEN head	'nipple' ('breast's head')

Table 12. Compound body part terms

There are also honorific terms for some major body parts (Table 13); see Section 6 below for a comparison of honorific and non-honorific terms.

Brokpa	Translation
u	'head' (HON)
uta	'head hair' (HON)
сеl	'face' (HON)
tsen	'eye' (HON)
eaŋ	'nose' (HON)
nén	'ear' (HON)
se:	'mouth' (HON)
$t e^h \hat{a}$	'arm, hand' (HON)
<i>çap</i>	'leg, foot' (HON)

Table 13. Body part honorifics

6 Honorifics

Brokpa has a number of honorific terms. These are basically addressee honorifics employed in speaking with people of high social status like lamas, monks, or nuns. The neutral lexemes are then replaced by honorifics. The honorific and the neutral form seem not to be morphologically related. Many nominal honorifics are terms for body parts (cf. Table 13), but there are also some for kinship terms. As explained in Section 2, the latter are not used for one's own relatives, but only to refer to the relatives of a high status person.

As for verbs, the honorific verb *cuk* is for example used as a polite imperative form to the neutral equivalent *to* 'sit!' (lit. 'stay'). Honorific forms are also attested for other verbs like 'give', 'rise', or 'say'.

Table 14 illustrates a few nominal and verbal honorific forms with their neutral counterparts.

	Honorific	Neutral form	Translation
Body parts	и	ko	'head'
	uta	şа	'head hair'
	сеl	doŋba	'face'
	tsen	mik	'eye'
	eaŋ	na	'nose'
	nén	патєо	'ear'
	se:	k^ha	'mouth'
	$t \varepsilon^h \hat{a}$	lakpa	'arm, hand'
	<i>çap</i>	kaŋba	'leg, foot'
Kinship terms	jap	ата	'father'
_	jum	apa	'mother'
	se:	0.	'son'
	se:mo	bomo	'daughter'
Other nouns	namsa	kolam	'clothes'
	kusuk	luspa	'body'
	kupur	ro	'corpse'
	$t^h\hat{u}$	sem	'mind'
	<i>t</i> ^h <i>uta</i>	то	'astrologer'
Verbs	сик	to	'stay'
	p^hu : $/$ nay	ter	'give'
	<i>cean</i>	laŋ	'rise'
	suŋ	lap	'say'

Table 14. Honorifics

7 Numerals

Most Tibetic languages use a single numeral system which is purely decimal, that is, it uses the base ten (Mazaudon 1982: 1). In contrast, Brokpa uses both a decimal and a vigesimal system, just like the national language of Bhutan, Dzongkha (Tshering and van Driem 2019: 140-155). Up until 100, there is only one set of numerals in Brokpa, whereas for numbers higher than 100, two variants exist: a more innovative form based on a decimal system and an archaic form based on a vigesimal system, which uses 20 as its base number. For this, the word k^ha : 'score' (etymologically unrelated to k^ha : 'snow') is used. However, the numbers from 10 to 19 are clearly formed according to a decimal system, as they are compounds based on the base word for tens, teu. The Brokpa numerals from 1 to 20 are given in Table 15.

Numeral	Brokpa	Numeral	Brokpa
1	t¢ik	11	tsuksik
2	рî	12	teuŋnî
3	sum	13	teuksum
4	сi	14	teuei
5	ŋá	15	tseŋá
6	tuk	16	teytuk
7	dyn	17	teupdyn
8	је	18	tєир <i>ј</i> е
9	gu	19	teurgu
10	teut ^h amba	20	k ^h a¢ik

Table 15. Numerals 1-20

It can be observed that the base word for tens, teu, shows some variation depending on the following element. The comparison with Written Tibetan sheds light on this for most, although not all, the variants: Consonants at the beginning of the numerals, which were present in an earlier stage of the language have been retained in these constructions but lost elsewhere. As such, technically it is the numeral for the one-digit which varies. Thus, teukeik 'eleven' retained but devoiced the initial plosive which is visible in Written Tibetan Tibetan

Table 16 shows the Brokpa numerals from 11 to 19 next to the corresponding one-digit from Written Tibetan according to Jäschke (1883: 28-29) for comparison.

Brokpa		Writ	Written Tibetan	
11	tsuksik	1	ग्रुचा gcig	
12	teuŋnî	2	ব্যন্তিষা gnyis	
13	teuksum	3	বাধ্যুষ্য gsum	
14	teuei	4	ସନ୍ତି bzhi	
15	tseŋá	5	ਝੂ lnga	
16	teytuk	6	र्जुण drug	
17	teupdyn	7	ন্5্ৰ bdun	
18	tєирје	8	ਹਜੂਨ੍ brgyad	
19	teurgu	9	८्गुः dgu	

Table 16. Brokpa 11-19 and Written Tibetan 1-9

Younger Brokpa speakers tend to count in Dzongkha or English for numbers over 20, although some older speakers still use the vigesimal system up to 200. For numbers over 200, the vigesimal system has completely gone out of use. Historically, the word $p^humbaeik$ for 400 is attested

as a form which has been used by older generations, with p^humba presumably being the base word for twenty scores (thus, $p^humbacik$ would be literally translated as 'one twenty-score'). Nowadays, however, the equivalent term from the decimal system, paci (lit. 'four hundreds'), is used for 400 instead.

For the vigesimal system multiples of 20 are formed with the base word k^ha : 'score' followed by the appropriate multiplier – just as any quantifier follows the referent it quantifies, such as 'eight dogs' ki je with ki meaning 'dog'. Thus, the word for 40 is $k^han\hat{i}$, which literally means 'two scores'. Finer distinctions are made by adding a number with dan 'and', such as in 30 k^hacik dan $teut^hamba$ (lit. 'one score and ten') and 73 k^hasum dan teuksum (lit. 'three scores and thirteen').

The full tens up to 200 are usually formed in the vigesimal system, although the decimal system with the base word $t\epsilon u$ 'ten' can be used as well. Thus, 120 might be formed both as the vigesimal $k^{\mu}a\mu k$ (lit. 'six scores') or the decimal $\mu a\epsilon ik dan k^{\mu}a\epsilon ik$ (lit. 'one hundred and one score').

Table 17 gives the full tens in Brokpa from 10 to 200 in the vigesimal system. Note that for full hundreds the vigesimal form, while still understood, has gone out of use. This is reflected in Table 17, where 100 is not noted as vigesimal khayá (lit. 'five scores') but decimal yacik (lit. 'one hundred') and 200 is decimal as well (yayıî, lit. 'two hundreds'). On the other hand, while for 110 the decimal form, yacik day teuthamba (lit. 'one hundred and ten'), is more prevalent, the vigesimal variant khayá day teuthamba (lit. 'five scores and ten') is in use as well.

Numeral	Brokpa	Numeral	Brokpa
10	teut ^h amba	110	kʰaŋá daŋ tɕutʰamba
20	k ^h a¢ik	120	k ^h atuk
30	kʰaɛik daŋ tɛutʰamba	130	kʰaṭuk daŋ tɛutʰamba
40	k^h anî	140	k^h adyn
50	kʰaɲî daŋ tɛutʰamba	150	kʰadyn daŋ tɛutʰamba
60	k ^h asum	160	k ^h aje
70	k ^h asum daŋ teut ^h amba	170	kʰaje daŋ tɛutʰamba
80	k ^h asi	180	k ^h agu
90	kʰaɛi daŋ tɛutʰamba	190	kʰagu daŋ tɛutʰamba
100	jasik	200	janî

Table 17. Vigesimal tens 10-200

For higher powers of ten, the Dzongkha words such as toŋ 'one thousand' and teiteʰi 'ten thousand' are used. Additionally for full hundreds, thousands, and ten thousands, the order of the base word and the multiplier is not relevant. Thus 200 might be formed both as japî or pŷa without any change in meaning. A list of both variants of all hundreds in the decimal system is given in Table 18. In the second variant, where the base-word for 100, ja, is final, a connecting consonant p appears whenever the numeral before ends in a vowel. Thus, the combination of ei 'four' and ja leads to eipja. This can be explained etymologically, since Written Tibetan sp brgya 'hundred' (Jäschke 1883: 30) shows that an initial plosive was present in the base-word for hundreds at an earlier stage of the language. It can be assumed that the prefixed plosive has been retained after open syllables in these constructions, similar to the prefixed plosive of the one-digit in the numbers eleven to nineteen.

The numerals for $200 \, n\hat{y}a$ and $800 \, jeja$ are exceptions to this rule. However, $n\hat{i}$ 'two' bears a contour tone, arisen due to the loss of a final consonant (see Funk, this issue) and the same might be

possible for *ye* 'eight'. Thus, it can be assumed that the loss of intermedial *p* after number-words with closed syllables preceded the loss of the final consonant and subsequent emergence of a contour tone in some words.

Numeral	Brokpa	
100	jacik	єікза
200	запî	лŷа
300	<i>jasum</i>	sumja
400	јаві	<i>є</i> ір <i></i>
500	заŋá	ŋápֈa
600	заtиk	tukja
700	заdyn	dynja
800	јаје	јеја
900	јади	дирја

Table 18. Decimal hundres 100-900

Ordinal numbers are formed by adding the now unproductive suffix *-pa* deriving nouns to the cardinal numeral. Only the word for 'first' *tanpa* is not consistent with this rule. Table 19 gives a short overview over some Brokpa ordinal numbers.

Numeral	Brokpa	Numeral	Brokpa
first	taŋpa	tenth	tєира
second	лîра	eleventh	teueipa
third	sumpa	twelfth	teuŋnîpa

Table 19. Ordinal numbers

Approximate numbers are given by adding the word *tsam* 'nearby, around' after the numeral, as can be seen in (2). Instead of *tsam*, the suffix -s after the numeral can be used as well, as seen in (3). Uncertainty regarding the exact number might also be marked through lengthening and a rising intonation of the word instead of morphological marking.

- (2) khol jâ jacik tsam jedən
 kho=la jâ jacik tsam jedən
 3SG.M=DAT yak hundred around COP.EX.EPI
 'He has maybe around a hundred yaks.'
- unla nam lo nîtəŋ daŋ nîtəŋteiks фal tsul jinuŋ (3) nam nî-ton dan previously sky two-thousand and year ηî-toη-teik-s pha=la tsu=la jinuŋ two-thousand-one-APPROX there=DAT here=DAT COP.EQ.EPI 'It was maybe around the year 2000 or 2001.' [LS]

Frequentative numerals are formed with the bound base $k^{\mu}u\varepsilon$ 'times' preceding the numeral and the appropriate cardinal numeral, as demonstrated in (4).

(4) ne ki k^huesum duŋφe
 ne ki k^hue-sum duŋ-pe
 1SG.AGT dog times-three beat-NMLZ.PST
 'I hit the dog three times.'

If a number of things are distributed, this can be expressed by reduplicating the appropriate numeral, as in example (5).

(5) ki kanjoje kiruk tuktuk cesən ki kanjo=je ki-ruk tuk-tuk ce-son dog all=AGT dog-young.animal six-six give.birth-PST.SEN 'Each dog gave birth to six puppies.'

An exception to this is when exactly one token is distributed, in which case a construction with -re 'each' is used. For this, both the beneficiary and the theme are marked. This is demonstrated in (6), where both the child $p^h rugu$ and the gift ce: are marked with -re.

(6) p^hrugurel ce:re t^hoφsɔŋ
p^hrugu-re=la ce:-re t^hop-soŋ
child-each=DAT gift-each achieve-PST.SEN
'Each child received a gift.'

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