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Language in India www.languageinindia.com**ISSN 1930-2940 Vol. 22:11 November 2022**
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Numeral System in Dukpa

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Abstract

The purpose of this work is to discuss some of the morpho-syntactic features of Dukpa numerals (mainly focus on the language spoken in Kalchini block of Alipurduar district of West Bengal, India). The numeral system is exclusively decimal. In terms of structure, there are seven main categories of numerals in the language: (i) cardinal numerals, (ii) ordinal numerals, (iii) fractional numerals, (iv) multiplicative numerals, (v) distributive numerals, (vi) restricted numerals and (vii) approximate numerals. As in other SOV languages, the numerals often come after the head nouns in this language.

Keywords: Dukpa, Tibeto-Burman, Alipurduar, West Bengal, Numerals System.

1.Introduction

The Dukpas are considered to be significant ethnic community in West Bengal's Alipurduar District. The Tibetan word Drugpa is where the word Dukpa first appeared. Drug denotes a "dragon", and pa denotes a "resident", therefore defining the phrase "the resident of the dragon country", in literary terms. Despite various changes in socio-political and religious factors, this group of people has lived in the middle of Nepali and Bengali people for many years, preserving their traditional socio-cultural traits unaffected. The word Dukpa is used to refer to both the community's name and its language. Dukpa is a member TB (Tibeto-Burman) language family's Central Bodish group (Bradley, 1997:5). According to the 2011 census in Kalchini block, there were 1951 Dukpas living in the Buxa hill forest of the Alipurduar district of West Bengal. They are a small and less well-known tribe.

2. Objectives

The major goal of this study is to investigate the nominal morphological component of numerals system in Dukpa, a language spoken primarily in the Kalchini block of Alipurduar district (West Bengal).

3. Methodology

Data were collected from both the primary and secondary sources. Primary data were categorized based on literacy, age group, dwelling places, etc. Extensive field work was conducted for data collection and it was mainly done in the Buxa hill forest area of Alipurduar district, West Bengal, India where majority of Dukpa population inhabits. For primary data collection, interview and observation method were applied. Interview of the

informants were conducted and for this purpose questionnaires were prepared in advance. For primary collection of data, voice recorder was used and recorded the data. The collected data were further analyzed. For secondary sources of data, books, magazine, journals, and other available literary works were used.

4. Numerals

The numeral is a term that denotes a number (e.g. forty-two in English). In human languages, numbers plays an important role. In Dukpa, numerals are a subcategory of nouns, and their primary function is to alter a noun. The decimal system is used to represent numbers. The majority of the numerical roots are monosyllabic. Compounding is highly useful in the Dukpa numeral system for forming higher numerals. The following is a list of Dukpa numeral classifications:

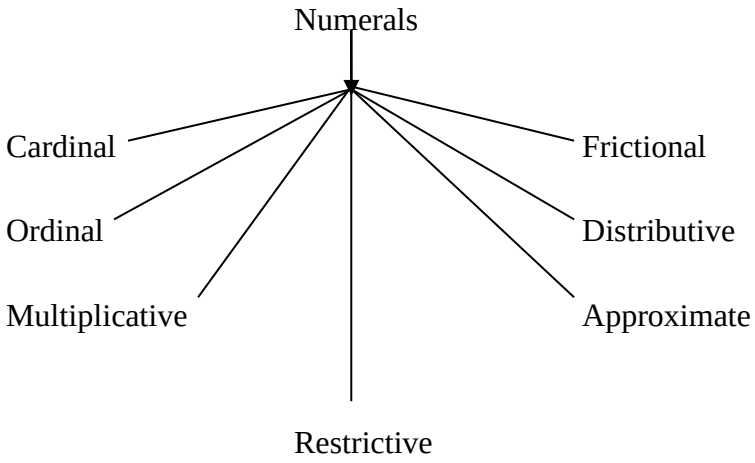

Chart 1: Types on Numeral

4.1. Cardinal Numeral

There are two types of cardinal numeral i.e., (i) Basic cardinal numerals and (ii) compound numerals.

4.2. Basic Cardinal Numerals Form

The following are the cardinal numerals:

Table No 1: Basic Cardinal Numerals

Value	Numerals	Gloss
1	ci	‘one’
2	ni	‘two’
3	sum	‘three’
4	zi	‘four’
5	ŋa	‘five’
6	dru	‘six’
7	duen	‘seven’

8	ge	‘eight’
9	gu	‘nine’
10	cu	‘ten’
100	za	‘hundred’
1000	t^{h}on	‘thousand’

4.3. Compound Cardinal Numerals Forms

Compound cardinal numerals are divided into three categories. They are as follows:

(i) Additive compound numerals

(ii) Multiplicative compound numerals

(iii) Additive cum Multiplicative numerals

4.4. Additive Compound Numerals

From eleven/11 through nineteen/19 the numerals are additive. They are created by adding fundamental cardinal numerals to the decade root cu ‘ten,’ as seen below:

Table No 2: Additive Compound Numerals

Additive rule	Dukpa	Gloss
[10+1=11]	cu-ci	‘eleven’
[10+2=12]	cu-ni	‘twelve’
[10+3=13]	cu-sum	‘thirteen’
[10+4=14]	cu-zi	‘fourteen’
[10+5=15]	cu-ŋa	‘fifteen’
[10+6=16]	cu-dru	‘sixteen’
[10+7=17]	cu-duen	‘seventeen’
[10+8=18]	cu-ge	‘eighteen’
[10+9=19]	cu-gu	‘nineteen’

4.5. Multiplicative Compound Numerals

The twenty, thirty, forty, fifty, sixty, seventy, eighty and ninety are the multiplicative numbers in Dukpa. They are created by multiplying fundamental cardinal numerals by the decade root of ten.

Table No 3: Multiplicative Compound Numerals

Multiplicative rule	Dukpa	Gloss
[2X10=20]	ni-cu	‘twenty’
[3X10=30]	sum-cu	‘thirty’
[4X10=20]	zi-cu	‘forty’
[5X10=50]	ŋa-cu	‘fifty’

[6X10=60]	dru-cu	‘sixty’
[7X10=70]	duen-cu	‘seventy’
[8X10=80]	ge-cu	‘eighty’
[9X10=90]	gu-cu	‘ninety’

4.6. Additive-cum-Multiplicative Numerals

Numerals ranging from ‘twenty-one’ to ‘twenty-nine’, ‘thirty-one’ to thirty-nine’, ‘forty-one’ to ‘forty-nine’, ‘fifty-one’ to fifty-nine’, ‘sixty-one’ to ‘sixty-nine’. They are made up of the first two numerals multiplied by the numeral formative suffixes *–ca, -so, -se, -na, -re* and *–ko* with the addition of the third one, as seen below:

Table No 4: Additive-cum-Multiplicative Numerals

Additive cum Multiplicative rule	Dukpa	Gloss
[2X10-ca(+)1=21]	ni-cu-ca-ci	‘twenty one’
[2X10-ca (+) 5=25]	ni-cu-ca-ŋa	‘twenty five’
[2X10-ca (+) 9=29]	ni-cu-ca-gu	‘twenty nine’
[3X10-so (+) 1=31]	sum-cu-so-ci	‘thirty one’
[3X10-so (+) 5=35]	sum-cu-so-ŋa	‘thirty five’
[3X10-so (+) 9=39]	sum-cu-so-gu	‘thirty nine’
[4X10 -se (+) 1=41]	zi-cu-se-ci	‘forty one’
[4X10 -se (+) 5=45]	zi-cu-se-ŋa	‘forty five’
[4X10 -se (+) 9=49]	zi-cu-se-gu	‘forty nine’
[5X10-na (+) 1=51]	ŋa-cu-na-ci	‘fifty one’
[5X10-na (+) 5=55]	ŋa-cu-na-ŋa	‘fifty five’
[5X10-na (+) 9=59]	ŋa-cu-na-gu	‘fifty nine’
[6X10 -re (+) 1=61]	dru-cu-re-ci	‘sixty one’
[6X10 -re (+) 5=65]	dru-cu-re-ŋa	‘sixty five’
[6X10 -re (+) 9=69]	dru-cu-re-gu	‘sixty nine’
[7X10 -re (+) 1=71]	duen-cu-re-ci	‘seventy one’
[7X10 -re (+) 5=75]	duen-cu-re-ŋa	‘seventy five’
[7X10 -re (+) 9=79]	duen-cu-re-gu	‘seventy nine’
[8X10-ca (+) 1=81]	ge-cu-ca-ci	‘eighty one’
[8X10-ca (+) 5=85]	ge-cu-ca-ŋa	‘eighty five’
[8X10-ca (+) 9=89]	ge-cu-ca-gu	‘eighty nine’
[9X10-ko (+) 1=91]	gu-cu-ko-ci	‘ninety one’
[9X10-ko (+) 5=95]	gu-cu-ko-ŋa	‘ninety five’
[9X10-ko (+) 9=99]	gu-cu-ko-gu	‘ninety nine’

5. Ordinal Numerals

The ordinal numeral *daŋ-pa* 'first' the ordinal numerals in Dukpa are produced from the cardinal numerals by suffixing *–pa* to the basic cardinal numerals. It is important to understand that the *daŋ* is not a cardinal numeral signifying 'one' but rather a verb that means 'to begin.' When the suffix *–pa* is added to the verb *daŋ,* the result is *daŋ-pa,* which means 'first'. Ordinal numerals can be seen in the following examples:

Table No 5: Ordinal Numerals

Value	Dukpa	Gloss
1st	daŋ-pa	'first'
2nd	ni-pa	'second'
3rd	sum-pa	'third'
4th	zi-pa	'fourth'
5th	ŋa-pa	'fifth'
6th	dru-pa	'sixth'
7th	duen-pa	'seventh'
8th	ge-pa	eighth'
9th	gu-pa	'ninth'
10th	cu-pa	'tenth'

6. Multiplicative Numerals

The multiplicative are created by prefixing the basic cardinal numbers with the prefix *'tʰen-'*. The multiplicative numeral examples are given below:

Table No 6: Multiplicative Numerals

Dukpa	Gloss
tʰen-ci	'once'
tʰen-ni	'twice'
tʰen-sum	'thrice'
tʰen-zi	'four times'
tʰen-ŋa	'five times'
tʰen-dru	'six times'
tʰen-duen	'seven times'
tʰen-ge	'eight times'
tʰen-gu	'nine times'
tʰen-cu	'ten times'

7. Fractional Numerals

In Dukpa, frictional numerals are *cekʰa* 'half'. It is the sole frictional numeral in the language that plays a key role in generating other frictional numerals, as seen in the following examples:

Table No 7: Fractional Numerals

Dukpa	Gloss
cek^{h}a	'half'
ci da cek^{h}a	'one and half'
ni da cek^{h}a	'two and half'
sum da cek^{h}a	'three and half'
cek^{h}a-gi-cek^{h}a	'quarter'

8. Distributive Numerals

The basic cardinal numerals are repeated to generate the distributive numerals in the language. The distributive numerals in Dukpa are seen in the examples below:

Table No 8: Distributive Numerals

Dukpa	Gloss
ci-ci	'one each'
ni-ni	'two each'
sum-sum	'three each'
zi-zi	'four each'
ŋa-ŋa	'five each'
dru-dru	'six each'
duen-duen	'seven each'
ge-ge	'eight each'
gu-gu	'nine each'
cu-cu	'ten each'

9. Restrictive Numerals

The restrictive numerals in Dukpa formed by suffixation of *camci-* 'only' to the cardinal numerals. The restrictive numerals as seen below the table:

Table No 9: Restrictive Numerals

Dukpa	Gloss
ci-camci	'only one'
ni-camci	'only two'
sum-camci	'only three'
zi-camci	'only four'
ŋa-camci	'only five'
dru-camci	'only six'

duen-camci	‘only seven’
ge-camci	‘only eight’
gu-camci	‘only nine’
cu-camci	‘only ten’

10. Approximate Numerals

The term approximate numerals refer to numbers that are close but not exact. These forms of numerals are created by prefixing *p^{h}udo-* to the languages basic cardinal numerals, as seen below the table:

Table No 10: Approximate Numerals

Dukpa	Gloss
p^{h}udo-ci	‘about one’
p^{h}udo-ni	‘about two’
p^{h}udo-sum	‘about three’
p^{h}udo-zi	‘about four’
p^{h}udo-ŋa	‘about five’
p^{h}udo-dru	‘about six’
p^{h}udo-duen	‘about seven’
p^{h}udo-ge	‘about eight’
p^{h}udo-gu	‘about nine’
p^{h}udo-cu	‘about ten’

11. A Summary of Dukpa’sTypology

(a) Dukpa is a tonal language, like many of the TB languages.
(b) The presence of */ŋ/* in the first position of a word has also been noted in the language.
(c) The majority of the words in the language are monosyllabic, but there are some di-syllabic and tri-syllabic terms as well.
(d) In Dukpa, the gender distinction is natural.
(e) Dukpa has common plural suffix *–disu*. The suffix *–disu* is used to pluralise animate nouns and inanimate nouns in the language.
(f) The SOV word order is followed by the Dukpa language.
(g) In language, the numerals come after the head noun.

12. Conclusions

Based on the above analysis, it may be determined that Dukpa numerals are mostly decimal in nature. There is no vigesimal numeral system in the language. As in *amsuk^{h}uli ci* 'one mango,' the numerals in the language follow the head noun. The majority of the numerals are monosyllabic. Dukpa uses compounding to create higher form of numerals in the language. The development of ordinal is the most significant element. The ordinal numerals in Dukpa are created by appending *–pa* to the cardinal numerals. Finally, it can be

observed that all of the numerals listed above are commonly used in everyday communication.

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