

The Morphosyntax of Numeral System

Kumari Mamta, Research Scholar, JNU

This paper is an attempt to give an insight of the morphosyntactic structure of numeral system in some of the Indian languages. Languages given in the next paragraph are the ones I have dealt in this present paper. Delving into the intricacies of the Indian numeral system preserving and documenting it for future generations. These number systems are getting lost in translation as time passes often with entire linguistic tribes getting extinct.

Kurukh belongs to a Northern Dravidian language family. **Tangkhul** is a Sino-tibetan language of the Tangkhul branch. **Bodo**, also known as Mech, belongs to the Sino-tibetan language of the Bodo people of the north-eastern India and Nepal. **Khasi** is an Austroasiatic language and is closely related to the Munda branch of the family, which is spoken in east-central India. **Mundari** is also a Munda language of the Austroasiatic family spoken by Munda people,

The numeral system is an integral part of a language and should be described like all other parts of lexicon from the point of view of its syntactic construction and its internal morphology. Numeracy is a very important aspect of any linguistics system. According to Omanchonu (2011:84) "Counting or numbering is an integral and inseparable part of the grammar of any language because there is hardly any meaningful linguistic discourse in a language that does not make reference to quantity, size, time, distance and weight in definite numbers."

I followed the "Questionnaire method" to see the various aspects of this topic. My questionnaire is based on the questionnaire of SJEFF BARBIERS (from Meertens Institute, Netherland), who has worked a lot on numeral system and he also looked this topic from the perspective of cognition and mind.

The typological approach helped me analyze the numeral system at the morphological level. This area of work helped me explore many interesting features of cardinal and ordinal numerals, as well as of multiplicatives, fractions, classifiers and indefinite numerals; like the packing strategy, external ordinal marking circumfixal type, the suppletion (lower numerals) in multiplicatives and ordinals. The behavior of numeral ONE is different from rest of the numerals, likewise numeral 1,2 & 3 are different from rest of the pack. The fascinating base system of numerals in syntactic construction is one to be document. The processes involved are similar but slight variations can be seen, for example, arithmetic operations in the formation of complex numerals, affixation is involved and also compounding. In several other aspects, the lower value numbers behave differently from other numbers. The Num-N interaction is very interesting to look in this paper along with numeral classifier language. Across languages, the lower-value numbers (1-4) tend to behave like adjectives, and the higher value numbers (especially hundred, thousand, million) behave like nouns. And all others are arranged in continuum showing substantival feature.

This paper inferences that the diversity found within Indian numeral system suggests that these systems have an important place in numeral typologies. The numeral system of many languages are becoming endangered even if the languages are not. Many languages loosing their numeral system rapidly as they are not in use and are very much

influenced of the dominant neighbouring language. Same goes with these languages too, the numeral system of TB languages are very less reported, they are in verge of extinction as neighbouring languages are having a huge influence on every aspect of these languages. Many languages are shifting their number systems into the predominantly decimal base or else into the dominant language spoken in the region. Younger generation do not want to use the traditional numeral system and they use the dominant variety so this is now high time for us as a linguist, to preserve the numeral system of the languages. As a result many uncommon systems are quickly vanishing along with the incredible mathematical insights they hold. We need more researches as we have so many lesser known languages in India whose numeral system is about to endangered. Numeral systems provide an insight into the human cognition and along with their socio cultural background, losing them would be losing our history and a way towards our future. This topic has cognitive implications too, acquisition of numeral system is very interesting field for future research.

FIGURES, EXAMPLES AND REFERENCES

TABLES:

Table 1: Numerical features

Features		Bodo	Tangkhul	Kurukh	Khasi	Mu ndari
Base	Decimal	+	+	+	+	+
	Vigesimal	-	+	-	-	+
Arithmetic Operation	Addition	+	+	+	+	+
	Multiplication	+	+	+	+	+
	Subtraction	-	-	-	-	-
	Division	-	-	-	-	-
Ordinals	Affixation	+	+	+	+	+
	First Suppletion	+	+	+	+	+
Multiplicatives	Affixation	+	+	+	+	+
	First Suppletion	-	-	+	-	-
Fractions	Common	-	-	-	+	+
	Transcribed	-	-	-	+	-
Demonstrative Det.	Sg. Proximal	+	+	+	+	+
	Pl. Proximal	+	+	+	-	-
	Sg. Distal	+	+	+	+	+
	Pl. Distal	+	+	+	-	-
Num. Classifier lg.		+	-	-	+	-
Number with Pl marker	[+Human]	+	-	+	+	-
	[- Human]	+	-	-	+	-
Word Order	[Num N]	+	-	+	+	+
Definiteness		-	-	-	-	-
Indefinite Numerals		+	+	+	+	-

Table 2: Two varieties of Kurukh Numeral System

Numerals	Kurukh (Original)	Borrowed from Hindi
One	onḍ/onṭɛ/oroṭṭ	ek
Two	ẽḍ/ḍuɪ	ḍo
Three	munḍ	ṭɪ:n
Four	na:k ^h	ča:r
Five	pənče	pãč
Six	Soj	č ^h e
Seven	sa:j	sa:ṭ
Eight	a:k ^h	a:ṭ ^h
Nine	nəj (9)	nə
Ten	ḍoj	ḍəs

Table 3: Suppletive form of FIRST in Khasi

	Predicted forms of FIRST	Existing forms of FIRST
Khasi	bavəɪ	nɪkəŋ

EXAMPLES:

1. Kurukh has three allomorphs for numeral ONE:

/onḍ/ - cardinal number

/oroṭṭ/ - used when ONE modifies the noun in a phrase [+human]

/onṭɛ/ - used when ONE modifies the noun in a phrase [-human]

2. Khasi has 2 Sortal classifiers : /ɲut/ and /tɪllɪ/. /ɲut/ occurs with [+Human] and /tɪllɪ/ with [-Human] feature. These classifiers follows the numerals that is followed by noun. They are obligatory with numerals used with the noun, their deletion results in ungrammatical sentence. In terms of the inherent properties of the noun like animacy or shape, these classifiers categorizes. They do not have specific meaning of their own. They are used with quantifiers too. The word order is like: [Numeral-Classifier-Noun].

a:r ɲut kɪ-kənt^həɪ [+Human] * a:r kɪ-kənt^həɪ

Two CL Pl.girl

“Two girls.”

. šao tɪllɪ kɪ-kalɪ [-Human] * šao kɪ-kalɪ
Four CL Pl.car
“Four cars.”

Numeral ONE doesn't take any classifier.

ɪ:-vɛɪ ɪ: kʰon

N.Sg-one N.Sg-child

“One child.”

3. Tangkhul uses conjunctive marker /tə/ for the formation of complex numerals instead of using arithmetic operation.

tʰəra-tə-kʰənɪ = 12

10 - CONJ - 2 = 12

4. Bodo is the also Numeral Classifier Language

Sortal classifiers:

/mən/ - General classifier

/ša/- General classifier

/ma/- classifier for animals. [+Animate]

/pʰãg/- classifier for tree

/kʰəŋɪ/ - Mensural classifier

REFERENCES

Barbiers, S. (2005). Variation in the morphosyntax of ONE. *The Journal of Comparative Germanic Linguistics*, 8(3), 159-183.

- Barbiers, S. (2007). Indefinite numerals one and many and the cause of ordinal suppletion. *Lingua*, 117(5), 859-880.
- Barbiers, S., Koenenman, O., & Lekakou, M. (2010). Syntactic doubling and the structure of wh-chains. *Journal of Linguistics*, 46(01), 1-46.
- Comrie, Bernard. (1992). Balto-Slavonic. In Jadranka Gvozdanović (ed.), *Indo-European numerals (Trends in Linguistics 57)*, 717–833. Berlin: Mouton de Gruyter.
- Comrie, Bernard.(2005a). Endangered numeral systems. In Jan Wohlgemuth &
- Comrie, Bernard.(2005b). Numeral bases. In Martin Haspelmath, Matthew S. Dryer, Bernard Comrie & David Gil (eds.), *World atlas of language structures*, 530–533. Oxford: Oxford University Press.
- Dehaene, S.(1997). *The Number Sense*. Oxford University Press, Oxford.
- Donohue, Mark. (2008). Complexities with restricted numeral systems. *Linguistic Typology* 12. 423–429.
- Evans, Nicholas. (2009). Two plus one makes thirteen: senary numerals in the morehead-maró region. *Linguistic Typology* 13. 321–335.
- Feigenson, L., Dehaene, S., & Spelke, E. (2004). Core systems of number. *Trends in cognitive sciences*, 8(7), 307-314.
- Hammarstrom, Harold. (2009). Rarities in Numeral system. In WOHLgemuth, Jan & Cysouw, Michael (eds.) *Rethinking Universals: How rarities affect Universals*, De Gruyter Mouton. Germany.
- Greenberg, J. H. (1972). Numeral Classifiers and Substantival Number: Problems in the Genesis of a Linguistic Type. *Working Papers on Language Universals*, No. 9.
- Greenberg, J. H. (1978). Generalizations about numeral systems. *Universals of human language*, 3, 249-295.
- Grierson, G. A. (1929). *Linguistic Survey of India*, Vol. I, Part I.

- Grozdanović, J. ed. (1992) . Indo-European numerals. (Trends in Linguistics: Studies and Monographs 57.) Berlin: Mouton de Gruyter.
- Hurford, J.R.(1975). *The Linguistic Theory of Numerals*. Cambridge University Press, Cambridge.
- Hurford, J.R.(1987). *Language and Number: The Emergence of a Cognitive System*. Basil Blackwell, Oxford.
- Omachonu, G. S. (2011). Derivational processes in Igala numeral system: Some universal considerations. *Journal of universal language* 12/2: 81–101.
- Omachonu, G. S. (2013). Comparative analysis of the numeral systems of Igala, Yoruba, German and English. *Linguistik online*, 55(5).
- Schapper, A., & Klamer, M. (2014). Numeral systems in the Alor-Pantar languages. *The Alor-Pantar languages*, 285.-336.
- Sidwell, P. (1999). and typological perspective. *Numeral types and changes worldwide*, 118, 253.
- Von Mengden, F. (2010). *Cardinal numerals: Old English from a cross-linguistic perspective* (Vol. 67). Walter de Gruyter.
- Zide, N. H. (1978). *Studies in the Munda Numerals* (Vol. 2). Central Institute of Indian Languages.

