

CHAPTER 1

INTRODUCTION

1.1 Background

The present study is an attempt to analyze numeral system in Maithili. Maithili is a New Indo-Aryan language with SOV word order, spoken mainly in the northern part of the Indian state of Bihar and the eastern part of the Terai region of Nepal. There are also minorities in adjoining Indian states like West Bengal, Maharashtra and Madhya Pradesh and the central Nepal Terai (Yadava: 2001 and Grierson: 1968). It is spoken by more than 30 million people as a first language and by many others as a second language in the northeastern part of the Indian state of Bihar and eastern part of Nepal's Terai. It is the language of 12.40% of the total population and figures second in terms of the number of speakers next only to Nepali (Yadava: 2003). It is the 16th largest language of India and it has 40th position of world's language (Jha: 1974).

The symbol for writing a number is numeral. The system to express the numbers using the numeral is generally known as numeral system. The study of primitive language as well as related investigation of extent language has made it abundantly clear that process apparently as simple as counting in fact passed through many stages before it reached a level permitted systematization, which is an essential condition for any mathematical procedure. Similar observations have been made in the study of early writings (Adhikari 2002: 11).

1.2 Statement of the problem

This study tries to analyze the numeral system in Maithili. The general problem of this study is to examine the processes of numeral. The specific problems of the study are as follows:

- i. What are the types of numerals in Maithili?
- ii. How are these types encoded in the language?

1.3 Objectives of the study

The general objective of the present study is to look at the numeral system of the Maithili language. The specific objectives of the study are as follows:

- i. To identify the types of numerals in the Maithili language.
- ii. To analyze these types formally and functionally.

1.4 Review of literature

No attempt has yet been made to examine the phonological, morphological, syntactic, and semantic cardinal numbers but there have been studied types/categories, traditionally. There are a few such studies which include Jha (1958) and Yadav (1997).

Grierson (1903) analyzes the various dialects and sub – dialects of Maithili. He explains speaking area, number of speakers, literature, pronunciation and grammar of Maithili. He does not talk about the numeral system of Maithili.

Jha (1958) discusses the counting concept of numerals. The various categories of numerals in Maithili are : (a) fractional numerals, (b) multiplicative-non-fractional, (c) adjectives derived from numerals, (d) name of the different multiplication tables, (e) different units of counting the collectives,(f) some other terms used in counting, (g) adverbs derived from numerals, (h) ordinals, (i) partitives,(j) approximatives, (k) aggregative, (l) odd and even.

According to Givon (1984) numerals, quantifiers and ordinals are small clauses of noun modifiers that code notations of quantity, extent; number or serial order in minor word classes. He also talks about the numeral ‘one’ as reference marker in referential coherence II: reference and definiteness.

Shopen (1985) deals with noun phrase structure where a brief sketch of the numeral and its two types: cardinals and ordinals numeral has been discussed, numeral words that occur as noun modifiers. One of these cardinal numerals, words that indicate how many referents the noun phrase denotes, as in English three books, where ordinal numerals, as in English the third book. Ordinal numerals are most commonly derived from cardinal numerals. He has described the order of numeral and noun, it is the order of cardinal numeral (e.g. Maithili *ek, du, and tin*) and that is intended, rather than the order of numeral (e.g. *pəhil, dosər, and tesər*) and noun, while ordinal numerals follow the noun.

Nunes (1992) has studied oral and written numerals and concluded that; numeration systems vary across time culture. Some written forms appear to make calculation

easier through column arithmetic whereas others are not useful for counting when the letter type of written numeration system is used, so calculation tends to be carried out by counting. Across culture, individuals defer using concrete manipulative to calculate or by basing calculation on written symbols.

Asher (1994) analyzes that a distinction must be made between ‘numerals’ and ‘numbers’: the former are symbols from a numeric system. The latter are actually abstract concepts of quantity which may be described using different numerals of different numeric systems in order to obtain the number of each construct in these numeric system, one resorts to an intermediate decimal numeric representation, obtaining a final decimal numeric construct the reading of which is the actual value of the construct, that is, the number. He also talks about the Roman numerals and Roman numeric systems, the binary numeric system, the hexadecimal numeric system, and numerical trees.

Payne (1997) deals with those different number systems. Almost all natural number systems are either base five (quintenary) or base ten (decimal). In many parts of the world, different vocabulary is used to express numerical concepts depending on the context.

Yadav (1997) analyzes the counting concept of numerals in Maithili. The various categories of numerals in Maithili are: (i) cardinals, (ii) ordinals, (iii) fractions, (iv) multiplicatives, and (v) aggregative. Cardinals may be divided into the following: (a) base numerals, (b) intermediate numerals, (c) decade numerals, and (d) compound numerals. All these are used as quantifiers, i.e., they give the number of objects. Hundreds and thousands are also formed by placing *sæ/sæe* and *həjar* after a cardinal number. He deals with the examples of Maithili in a syntactic way.

Adhikari (2002) has studied on ‘The development of numeral system of Newar civilization’ and concluded that: (a) all the numerals of Newar civilization were found as developed from of Brahmin numeral. (b) The ciphered numeral system was used in during the Lichchhavi period.

Platts (2002) deals with numeral adjectives, the ordinals numbers, collective numerals, distributive numerals, multiplicative numerals, and fractional numbers. The numeral adverbs once, twice thrice etc. are expressed by adding to the cardinals the word *bar* ‘time’.

Dan (2010) explains the words of language that are used for the purpose of counting are called its cardinal numbers. Cardinal numbers, though they constitute a part of our linguistic and cognitive system, are clearly set off in some way seems from the rest of the linguistic system; their use to involve a different, not simply linguistic type of cognitive activity. This may reflect the fact that number concepts interact with other concepts in a unique way. It studies the different linguistic aspects of the number names of Maithili and point to a particular semantic characteristic, relevant from the view points of socialization and enculturation. He also provides a list of the Bangla Cardinal number names till hundred, as well as focuses on the phonological, morphological, and syntactical behavior of these number names and he also deals with the semantics of number name in Bangla, Oriya, and Assamese of India.

To sum up, there have been carried out several studies on the Maithili language but there exists no detailed and systematic study of its numeral system. Hence, there is a need for a comprehensive study of the numeral system in the light of recent linguistic approaches.

1.5 Significance of the study

This study presents the analysis of numeral in Maithili which is of great significance from different points of view. This study is significant for the interested researchers on the Maithili language. The researcher hopes that this study will have global significance in the field of language and linguistics.

1.6 Research methodology

This study is based on both primary and secondary data. The primary data have been collected from the native speakers of the Maithili with the help of the counting concepts and numeral system (<http://lingweb.eva.mpg.de/numeral/>). The secondary sources of the data have been published texts available in Maithili (i.e. stories, novels, dramas, published grammars, books, internet sites and library as well in the Maithili language). The primary data used in the research are from my own native intuition as myself being the native speaker of Maithili. Diagrams and figures have been used wherever necessary to make the study more systematic and easier to comprehend and analyze the facts. This study presents the phonological, morphological, syntactic and semantic analysis of the numeral system in Maithili.

1.7 Limitations of the study

This study presents a detailed study of numeral system in Maithili. However, it has certain limitations. First, it has been restricted to Maithili spoken in Nepal and it has not been included Maithili spoken in India. Secondly, as it has been primarily based on written texts. It is not feasible to include data from all dialects of Maithili.

1.8 Organization of the study

The present study has been organized into the following four chapters. Chapter 1 presents the research problems, objectives of the study, review of the literature, research methodology, limitations as well as significance of the study. Chapter 2 deals with the concept of conceptual background of the numeral system for Maithili. It also presents types/categories of numerals. Chapter 3 analyzes the numerals types/categories of the Maithili language. It deals with phonological, morphological, syntactic, and semantic analysis of numerals in Maithili. In chapter 4, we present summary and conclusion of the study. Similarly, there are two appendices: appendix A: deals with counting concept of numerals and appendix B: shows the map of Maithili speaking area.

CHAPTER 2

CONCEPTUAL BACKGROUND

2.0 Outline

This chapter presents an overview of the concept of conceptual background of numerals system for Maithili. It consists of three sections. Section 2.1 presents the concept of numeral system. Section 2.2 presents numeral types/categories of numerals. Section 2.3 presents the summary of the chapter.

2.1 The concept of numerals system

Normally, a numeral is a symbol or group of symbols, a word or a figure in a natural language that represents a number, e.g., 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. It is a word which is used to name number. Numerals are also adjectives which indicate number. Numerals can be used either as pronouns, or as determiners. A numeral is word, functioning most typically as an adjective or pronoun that expresses a number and relation to the number in the terms of quality, sequence, frequency, and fraction (http://en.wikipilipinas.org/index.php?title=Numeral_system).

The symbol for writing a number is numeral. The system to express the numbers using the numerals is generally known as numeral system. The study of primitive language as well as related investigation of extent language has made it abundantly clear that process apparently as simple as counting in fact passed through many stages before it reached a level permitted systematization, which is an essential condition for any mathematical procedure. Similar observations have been made in the study of early writings (Adhikari 2002: 11).

The Maithili numerals are the same as those of that Hindi, and are derived from the Sanskrit through the medium of the Prakrit. Like other adjectives they generally precede the noun which may be in the singular or plural.

A system of expressing numbers by means of word arranged in the place-value notation is known as word numeral system. In this system, the numerals are expressed by names of things (beings or concepts). Any system of naming or representing numbers, as the decimal system or the binary system, is also called numeral system (<http://www.answers.com/topic/numeral-system>).

A numeral system (or system of numeration) is a framework where a set of numbers are represented by numerals in a consistent manner. It can be seen as the context that allows the numeral “11” to be interpreted as the binary numeral for three, the decimal numeral for eleven, or other numbers in different bases. A numeral system is a writing system for expressing numbers, which is a mathematical notation for representing numbers of a given set, graphemes or symbols in a consistent manner. A numeral system represents a useful set of numbers (e.g. all integers, or rational numbers), give every number represented a unique representation (or at least a standard representation), and reflect the algebraic and arithmetic structure of the numbers.

The usual decimal representation of whole number gives every whole number a unique representation as a finite sequence of digits. However, decimal representation is used for the rational or real numbers, such numbers in general have an infinite number of representations, for example 2.31 can all be written as 2.310, 2.3100000, 2.309999999.....etc., all which have the same meaning except for some scientific and other contexts where greater precision is implied by a larger number of figures shown.

Numerals differ from numbers just as words differ from the things. A number is an abstract concept while a numeral is a symbol used to express that number. The symbols “three,” “3” and “iii” are different numerals used to express the same number (or the concept of “threeness”). One could say that the difference between a number and its numerals is like the difference between a person and her name (http://simple.wikipedia.org/wiki/Numeral_system).

Numeral systems are sometimes called number systems, but that name is ambiguous, as it could refer to different systems of numbers, such as the system of real numbers, the system of complex numbers, etc. Such systems are not the topic of this article (Source:http://en.wikipilipinas.org/index.php?title=Numeral_system).

Research on numeral system is not only a very interesting topic but also an academically valuable reference resource for those involved in the academic disciplines of Linguistics, Anthropology, Ethnology, History, and Philosophy of Mathematics.

In counting and enumerating, it is common to use a numeral with a noun in the singular, as in *chə kəmiz*, “six shirts,” but the plural may also be used, as in *Pāc joṛā moza*, “five pairs of socks” (Fairbanks et al. 1966: 32).

In all cases, a word preceded by a numeral is always singular in form: *cāri hāthī*; *cāri ghoṛa*, “four elephants”, “four horses”; *pāc dīn*, “five days,” etc. (Jha 1958: 294).

2.2 Numeral types/categories

In the subsection, we deal with numeral type/categories. Cardinal numerals and ordinal numerals are found in most of the languages of the world. They are in Figure 2.1

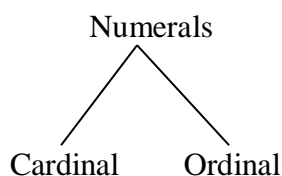


Figure 2.1: Numeral types/categories

2.2.1. Cardinal numerals

The cardinal numerals describe quantity. The numeral one can occur with singular count noun and all other cardinal numerals (one, two, and three.....) only with plural count nouns. Numeral can be used either as pronoun or as determiners. Cardinal numeral also functions as nouns, when they name particular number. For example (playing with dice):

You need a six or two three to win the game.

The English cardinal numerals are shown in Table 2.1

Table 2.1: Cardinal numerals

0	zero
1	one
2	two
3	three
4	four
5	five

6	six
7	seven
8	eight
9	nine
10	ten
11	eleven
12	twelve
13	thirteen
14	fourteen
15	fifteen
16	sixteen
17	seventeen
18	eighteen
19	nineteen
20	twenty
21	twenty-one
22	twenty-two
30	thirty
40	forty
50	fifty
60	sixty
90	ninety
100	hundred
101	a/one hundred and one
102	a/one hundred and two
200	two hundred

201	two hundred and one
1000	a/one thousand
2000	two thousand
100,000	a/one hundred thousand

2.2.2. Ordinal numerals

Ordinal numeral is a numeral belonging to a class whose number designates positions in sequences. The ordinals are normally preceded by another determiner, usually definite article. Ordinal numerals (first, second, third.....) occur only with count nouns usually precede any cardinal numbers in the noun phrase. For example, Anju had spent first three years in Lahan. The English ordinal numerals are given in Table 2.2

Table 2.2: Ordinal numerals

1 st	first
2 nd	second
3 rd	third
4 th	fourth
5 th	fifth
6 th	sixth
7 th	seventh
8 th	eighth
9 th	ninth
10 th	tenth
11 th	eleventh
12 th	twelfth
13 th	thirteenth
14 th	fourteenth
15 th	fifteenth
16 th	sixteenth
17 th	seventeenth

18 th	eighteenth
19 th	nineteenth
20 th	twentieth
21 th	twenty-first
24 th	twenty-fourth
30 th	thirtieth
40 th	fortieth
50 th	fiftieth
60 th	sixtieth
70 th	seventieth
80 th	eightieth
90 th	ninetieth
100 th	hundredth
101 th	hundred and first
102 th	hundred and second
200 th	two hundredth
1000 th	thousandth
2000 th	two thousandth
100,000 th	hundred thousandth

In English texts, alphabetic forms are considerably more common than digit form for numeral lower than ten (one, two, three...ten). Digit forms are more common than alphabetic forms for numeral over ten (11, 12, etc.)

2.3 Summary

In this chapter, we presented the concept of conceptual background of the numerals for Maithili. Normally, a numeral is a symbol or group of symbols, a word or a figure in a natural language that represents a number, e.g., 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 etc. The cardinal numerals (one, two, and three.....) and the ordinal numerals (first, second, and third) are found in most of the languages of the world.

CHAPTER 3

NUMERALS IN MAITHILI

3.0 Outline

This chapter deals with phonological, morphological, syntactic, and semantic analysis of numerals in Maithili. This chapter consists of six sections. Section 3.1 presents numeral types/categories in Maithili. Section 3.2 presents phonology. In section 3.3, we analyze how Maithili cardinal numbers possess a number morphologically. Section 3.4 presents the syntactic analysis of cardinal numbers. Section 3.5 deals with various types of semantic role played by the cardinal numbers in Maithili. Section 3.5 presents the summary of the chapter.

3.1 Numeral types/categories

In the subsection, we deal with numeral types/categories. In Maithili, the term representing numbers can be classified according to their use. Numeral types/categories may be divided into the following. They are shown in figure 3.2.

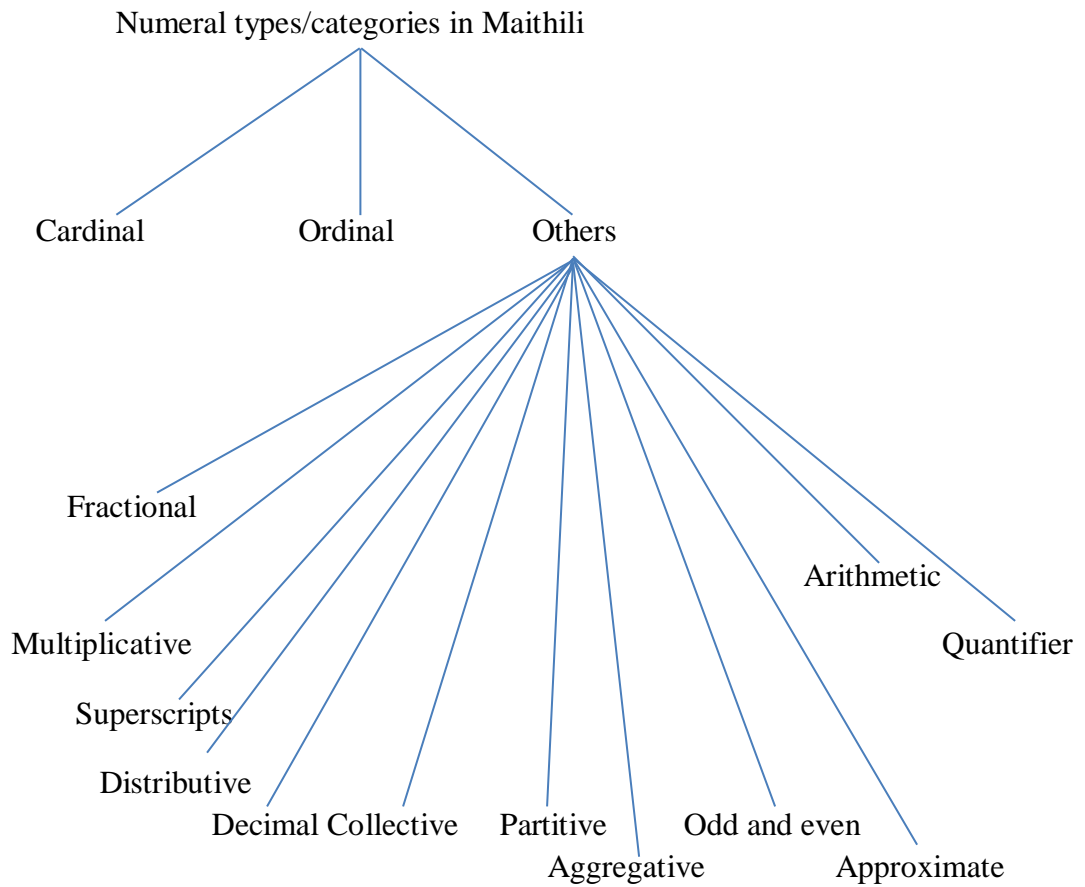


Figure: 3.1: Numeral types/categories in Maithili

3.1.1 Cardinal numerals

The cardinal numerals describe quantity. The numeral one can occur with singular count nouns and all other cardinal numerals (one, two, and three ...) only with plural count nouns. Cardinal numerals also function as nouns. It answers the question: *kətek/kəgoṭ* (*e*) ‘how many?’, and are not inflected (Yadav 1997: 141-145). Cardinals may be divided into the following. They are shown in Figure 3.3.

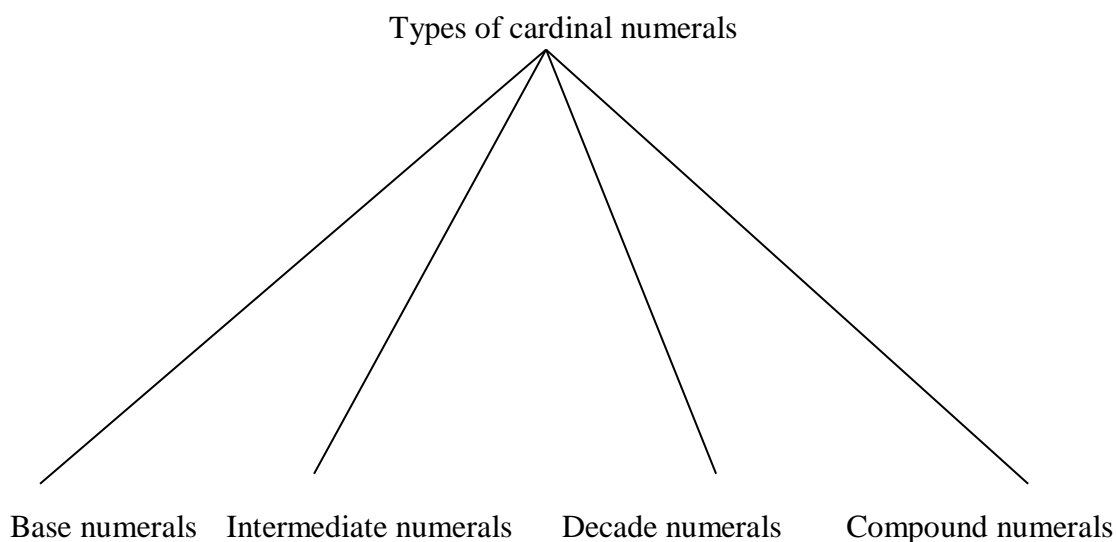


Figure 3.2: Types of cardinal numerals

a. Base numerals

Base numeral is an idea, a fact, a situation, etc. from which something is developed. It has open syllable except *ek*, *tin*, *pāc*, seven, and eight, and they have close syllable.

Table 3.1 presents base numerals in Maithili.

Table 3.1: Base numerals in Maithili

shunya	0
ek	1
du	2
tin	3
cair/cāri	4
pāc	5
chṛ	6

sat	7
aṭh	8
nɔ	9

The following are the examples:

(1)

- a. həm əi nɔ rupəiya leb
həm əi nɔ rupəiya le-b
I today nine rupee take-FUT-(1)
‘I will take nine rupees today.’
- b. o shunya rupəiya bæj delək
o shunya rupəiya bæj de-l-ək
he (H) zero rupee interest give-PST-(3NH)+(1)
‘He gave me zero rupee interest.’

In example (1a) *nɔ* (numeral) is preceded by *rupəiya* (noun) and (1b) *zero* (numeral) is preceded by *rupəiya* (noun).

b. Intermediate numerals

Intermediate numeral is a numeral which has a basic knowledge of something but it has not yet advanced in knowledge. They end with [h], they are shown in Table 3.2.

Table 3.2: Intermediate numerals in Maithili

egarəh	11
barəh	12
terəh	13
cəudəh	14
pəndrəh/pənrəh/pandraha	15
sorəh/soləh	16
sətrəh	17
əṭharəh	18

They are exemplified as follows:

(2)

- a. hām egarəḥṭā bidyarthi ke pəḍhæləu
hām egarəh-ṭā bidyarthi ke pəḍhæ-l-əu
I eleven-CLF student-ACC/DAT teach-PST-(1)
'I taught eleven students.'
- b. əṭharəh admi jau
əṭharəh admi ja-u
eighteen man go-IMP-(2H)
'Go, eighteen people.'

In example (2a-b) numerals (*egarəh*, *əṭharəh*) are preceded by nouns (*bidyarthi*, *admi*).

c. Decade numerals

Decade numeral is a numeral which indicates a period of ten years. It ends with [s] (*dəs - pəcas*), *saiṭh* ends with [ṭh], *sətəir* ends with [əir], *əsi* ends with [si], and *nəbe* ends with [be]. Table 3.3 presents decade numerals in Maithili.

Table 3.3: Decade numerals in Maithili

dəs	10
bis	20
tis	30
calis	40
pəcas	50
saiṭh/sāṭh)	60
sətəir/satəri	70
əsi	80
nəbe	90

The followings are examples:

(3)

a. dəsṭā raja

dəs-ṭā raja
ten-CLF king
'Ten kings'

b. nəbe admi ke bəjau

nəbe admi ke bəja-u
ninety man ACC/DAT call-IMP-(2H)
'Call ninety people.'

In example (3a-b), numerals are preceded by nouns.

d. Compound numerals

Compound numeral is a noun, an adjective or a verb made of two more words or parts of words, written as one or more words or joined by a hyphen (Hornby et. al. 1948: 310). Compound numeral ends with [s] (*unəis - uncas*), *ekabən - ənṭhabən* ends with [n], *unsəith - ərsəith* ends with (ṭh), *unḥətəir - əṭḥḥətəir* ends with [əir], *unasī - nəbasī* ends with [sī], and *ekanbe - ninanbe* ends with [be]. They have close syllable (*unəis - əṭḥḥətəir*) whereas *unasī - ninanbe* has open syllable, they are presented in Table 3.4.

Table 3.4: Compound numerals in Maithili

unəis	19
ekəis	21
bais	22
təis	23
cəubis	24
pəcis	25
chəbis	26
sətəis	27
əṭḥais	28

untis	29
ektis	31
bætis	32
tæētis	33
cōtis	34
pæētis	35
chætis	36
sæētis	37
ærtis/əřtis	38
uncalis	39
ekcalis	41
bialis/byalis/bealis	42
tæētalīs	43
cəualis	44
pæētalīs	45
chialis/chyalis/chealis	46
sæētalīs	47
ərcalis/əřcalis	48
uncas	49
ekabən	51
babən	52
tirpən	53
cəubən	54
pəcpən	55
chəppən	56
səntabən	57

ənthabən	58
unsəith/unasṭhi	59
eksəith	61
basəith	62
tirsəth	63
cəsəith	64
pəēsəith	65
chiasəith/chyasəith/ cheasəith	66
sərsəith/səṛsəith	67
ərsəith/ əṛsəith	68
unhətəir/unhatəri	69
ekhətəir	71
bəhətəir	72
tihətəir	73
cəuhətəir	74
pəchətəir	75
chihətəir	76
səthətəir(sətəhətəri)	77
əṭhhətəir	78
unasi	79
ekasi	81
birasi	82
tirasi	83
cəurasi	84
pəcasi	85
chiasi/chyasi/cheasi	86

sətasi	87
əṭhasi	88
nəbasi	89
ekanbe	91
beranbe/byanbe	92
tiranbe	93
cəuranbe	94
pancanbe	95
chianbe/chyanbe/cheanbe	96
səntanbe	97
əṅṭhanbe	98
ninanbe	99

It is noted that un- is prefixed to all the numerals which designate decades less one, except ‘89’ and ‘99’ which conform to the pattern of other numerals between decades; it is presented in Table 3.5.

Table 3.5: Compound numerals in Maithili

unəis	19
untis	29
uncalis	39
uncas	49
unsəith	59
unhətəir	69
unasi	79
nəbasi	89
ninanbe	99

Let us consider the following examples:

(4)

- a. unəis admi ke həm nəi rakhəb
unəis admi ke həm nəi rakh-əb
nineteen man ACC/DAT I not keep-FUT-(1+3NH)
'I will not hire nineteen people.'
- b. ekabəntā gaike becdiyə
ekabən-ṭā gai ke bec-di-yə
fifty one-CLF cow ACC/DAT sell give-IMP-(2H)
'Sell fifty one cows.'
- c. chətiṣṭā chəura æl
chətiṣ-ṭā chəura æ-l
thirty six-CLF boy come-PST-(3NH)
'Thirty six boys came.'
- d. səthətəirtā lal am
səthətəir-ṭā lal am
seventy seven-CLF red mango
'Seventy seven red mangoes'
- e. pəncanbeṭā chəuri ke bəjau
pəncanbe-ṭā chəuri ke bəja-u
ninety five-CLF girl ACC/DAT call-IMP-(2H)
'Call ninety five girls.'

In example (4a, 4b, 4c, 4e), numerals (*unəis*, *ekabən*, *chətiṣ*, and *pəncanbe*) are preceded by nouns (*admi*, *gai*, *chəura*, and *chəuri*). In (4d), numerals (*səthətəir*) is preceded by adjective (*lal*), noun (*am*).

i. Hundreds

The numeral ‘100’ is *sæ/sæe* (also *sɔ* - probably because of Hindi influence). *Sæ* is preceded by *ek* ‘one’ when counting; otherwise it may be used alone when a noun follows, which is shown in example (5).

(5)

a. du sæ

‘Two hundred’

b. sæ rupəiya delək

sæ rupəiya de-l-ək

hundred rupees give-PST-(3NH+1)

‘He gave me (one) hundred rupees.’

Hundreds are formed by placing *sæ* after a cardinal number (Yadav 1997: 144). Table 3.6 presents hundred in Maithili.

Table 3.6: Hundred in Maithili

ek	sæ	100
du	sæ	200
tin	sæ	300
nɔ	sæ	900
terəh	sæ	1,300 and so on

ii. Thousands

The numeral ‘1,000’ is called *həjar* after a cardinal number in Maithili; it is given in Table 3.7.

Table 3.7: Thousand in Maithili

ek	həjar	1,000
du	həjar	2,000
tin	həjar	3,000
pāc	həjar	5,000
nɔ	həjar	9,000

pəcis	həjar	25,000
unasi	həjar	79,000 and so on.

Some examples are presented below:

(6)

- a. ek həjar
'One thousand'
- b. tin həjar delək
tin həjar de-l-ək
three thousand give-PST-(3NH+1)
'He gave me three thousand rupees.'

In example (6a-b), numerals (*ek* and *tin*) are preceded by noun (*həjar*).

Numerals above a "hundred" and a "thousand" numerals above Tables 3.8 and 3.9 a hundred and a thousand are made syntactically by subjoining the lower numeral to the higher without any intervening conjunctions, as shown in Table 3.8.

Table 3.8: Hundred and thousand in Maithili

The	ek	sæ	100		
	ek	sæ	ek	101	
	pã	sæ	sat	507	
	sat	sæ	untis	729	
	nɔ	sæ	aṭh	908	
	ek	həjar	1,000		
	ek	həjar	ek	1,001	
	pãc	həjar	sat	5,007	
	sat	həjar	untis	7,029	
	aṭh	həjar	du	sæ	ek

numeral 100,000 is *lakh*, and the numeral '10,000,000' is *kəror*. Multiples of these numbers are also made like those of a hundred and a thousand, e.g.,

ek lakh du həjar Pãc sæ untis 102,529

e ^{kl} akh pəcas həjar bəttis	150,032
nə kəror du lakh səntabən həjar sat sə nəbasi	90,257,789, and so on.

The followings are the examples:

(7)

- a. həm amirca tin sə untis sal pəhine ələhũ
həm amirca tin sə untis sal pəhine əe-l-əhũ
I America three hundred twenty nine year before come-PST-(1)
‘I came to America three hundred twenty one years ago.’
- b. ek həjar cairṭā bəkri rəhəith
ek həjar cair-ṭā bəkri rəh-əith
one thousand four-CLF goat be-PST-(3H)
‘There were one thousand four goats.’

In example (7a-b), nouns (*amirca* and *bəkri*) are followed by the numerals (*sat sə untis* and *pāc həjar sat*). The cardinal numerals function as variable adjective in Maithili.

The counting numbers are used to learn in school for children. They are shown in Table 3.9.

Table 3.9: Counting numbers are used to learn for children

ekai	1
dəhai	10
səikṛa	100
həjar	1000
dəs həjar	10000
lakh	100000
dəs lakh	1000000
kəror	10000000
dəs kəror	100000000
ərab	1000000000
dəs ərab	10000000000
khərab	100000000000
dəs khərab	1000000000000
nil	10000000000000
dəs nil	100000000000000
pədəm	1000000000000000
dəs pədəm	10000000000000000
səṅkh	100000000000000000
məhasəṅkh	1000000000000000000

Look at the examples:

(8)

- a. tin həjar delək
tin həjar de-l-ək
three thousand give-PST-(3NH+1)
'He gave me three thousand rupees.'
- b. ərəb rupəiya diə
ərəb rupəiya diə
1000000000 rupee give-IMP-(2H)
'Give (me) 1000000000 rupies.'

In example (9a-b), numerals are preceded by nouns.

3.1.2 Fraction numerals

A division of a number is called fractional numerals. *Tekuri* may have some connection with Sanskrit. Table 3.10 presents fractional numerals in Maithili.

Table 3.10: Fraction numerals in Maithili

pə/pəo/pəuā/ cəuthai	$\frac{1}{4}$ (a quarter)
tehai/tesəri/tiya/tekuri/tihai	$\frac{1}{3}$ (a third)
pəune/pəun	$\frac{3}{4}$ ("minus $\frac{1}{4}$ ") / (one quarter less)
ədha	$\frac{1}{2}$ (half)
səba/səwā	$1\frac{1}{4}$ ("plus $\frac{1}{4}$ ") / (a quarter more)
ḍerh/ḍerh	$1\frac{1}{2}$ (one and a half)
ərhai/ərhai	$2\frac{1}{2}$ (two and a half)
sarhe/sarhe	plus $\frac{1}{2}$ (used for numerals '3' and above) / (one half more)

It is noted that all of the fractions which are presented as Table 2.9 behave as adjectives. For instance, a few of them may combine with genitive forms of the NPs, in which case they are more like nouns than adjectives, as exemplified in (9).

(9)

- a. ekər ədha diə
ek-ər ədha di-ə

- this- GEN half give-IMP-(2H)
 ‘Give (me) half of it.’
- b. calisæk səba kətek hoetəik?
 calis-ək səba kətek hoe-t-əik?
 forty-GEN 1^{1/4} how much be-FUT-(3NH)
 ‘What will be the 1^{1/4} of forty?’
- c. ədha kilo am diə
 ədha kilo am di-ə
 half kilo mango give-IMP-(2H)
 ‘Give (me) half a kilos of mangoes.’
- d. əṛhai ser tərkarī təuləh
 əṛhai ser tərkarī təul-əh
 2^{1/2} seer vegetable weigh-IMP-(2MH)
 ‘Weigh (for me) 2^{1/2} seers of vegetables.’
- e. sarhe dəs kilo tel chəl
 sarhe dəs kilo tel ch-əl
 plus ^{1/2} ten kilo oil be-PST-(3NH)
 ‘The oil weighed 10^{1/2} kilo.’
- f. ek pəo cini labəh
 ek pəo cini lab-əh
 one ^{1/4} sugar bring-IMP-(2MH)
 ‘Bring (me) ^{1/4} of sugar.’

Most of the fractions, however, can occur as adjectives, numerals are preceded by fractions and nouns.

These fractions always precede the numeral or the noun with they are used; and the unit employed in using them is 1, from 1 to 99 inclusive, 100, from 100 to 999 inclusive, and so on: e.g. *pəune bis* = 20 - ^{1/4} of 1 = 19^{3/4}, *səwā unəis* = 19 + ^{1/4} = 19^{1/4}; but *pəune sə/səu* = 100 - ^{1/4} of 100 = 75; *səwā du səw/sæ* = 200 + ^{1/4} of 100 = 225; *səwā həjar* = 1000 + ^{1/4} of 1000 = 1250; *pəune du həjar* = 2000 ^{1/4} of 1000 = 1750.

Pəun, differs from *pəune*, in as much as it is generally used with units only; as *pəune rupəiya*, ‘a rupee minus a quarter,’ i. e. ^{3/4} of a rupee; *pəun gəz*, ^{3/4} of a yard.’

The other way of expressing fraction to take sixteen as a whole and divide the same in *ana*/ $1/16$ and *pao/pa* ‘one fourth of *ana*’ i.e. $1/16$. The following are the examples:

- (10) dhan aṭhe əna ubjəl
dhan aṭhe əna ubj-əl
paddy $1/2$ yield-PST-(3NH)
‘Paddy yielded only half.’

In playing cards the numerals are used. All are open syllable; it is shown in Table 3.11.

Table 3.11: Playing cards in Maithili

eka	Card indicating number	1
dugi	Card indicating number	2
tigi	Card indicating number	3
cəuka	Card indicating number	4
pənja	Card indicating number	5
chəka	Card indicating number	6
səta	Card indicating number	7
əṭha	Card indicating number	8
nəhəla	Card indicating number	9
dəhəla	Card indicating number	10, and so on.

3.1.3 Multiplicative numerals

A multiplicative numeral is a numeral that expresses how many folds or how many times or describes repetition. It is formed by suffixing *-/guna/*, */gun/* and */ber/* ‘times’ to the cardinal numerals (Yadav 1997: 147). They are presented in Table 3.12.

Table 3.12: Multiplicative numerals in Maithili

kāna	‘once’
duguna/dunna	‘twice’

tinguna/tiā/teguna	‘thrice’
cairguna/cəuguna/cəukkā	‘four times’
pācguna/pace	‘five times’
chɔguna/chəkā	‘six times’
satguna/sətguna/satā/sate	‘seven times’
aṭhguna/əṭhguna/aṭhe	‘eight times’
nɔguna/nɔbāñi	‘nine times’
dəsguna/dəhāñi	‘ten times’

Normally, these terms *kāna*, *tiā/teguna*, *cəukkā*, *pace*, *chəkā*, *sətā/səte*, *aṭhā/aṭhe*, *nɔbāñi*, *dəhāñi*, etc are used in Brahmin community in Nepal and India.

It is worth nothing that the multiplicative suffix may also be added to a few of the fractional numerals. But *paoguna* ‘ $1/4$ times’, *sarheguna* ‘plus $1/2$ times’ are not possible in Maithili, they are given in Table 3.13.

Table 3.13: Multiplicative numerals in Maithili

sæguna	‘hundred times’
səbaguna	‘ $1\frac{1}{4}$ times’
ədhaguna	‘ $1/2$ times’
pənguna	‘ $3/4$ times’
ḍeṛhguna	‘ $1\frac{1}{2}$ times’
əṛhaiguna	‘ $2\frac{1}{2}$ times’
*pəoguna	‘ $1/4$ times’
*sarheguna	‘plus $1/2$ times’

The multiplicatives are formed the cardinals: (1) by adding to them the word *guna* (female *guni*), ‘time,’ ‘fold;’ as *doguna* or *duguna*, (where by contraction, *dugna*, and, by elision of g, the more common *duna*), ‘two-fold;’ *tinguna* or *tiguna*, ‘threefold;’

chauguna, ‘fourfold.’ (2) by adding the termination *hara* or *ahara*; as *ekahra*, ‘single;’ *dohara* or *dohra*, ‘double,’ ‘twofold;’ *tehara* or *tehra*, ‘triple,’ ‘threefold.’

In example (11), /*gun*/ or /*guna*/ may be compounded with numbers. They are exemplified as follows:

(11)

- a. o tin guna dam maṅlak
 o tin guna dam maṅ-l-ək
 he three time price charge-FUT-(3NH+1)
 ‘He will charge price three times.’

- b. tin bər dam ke detahu
 tin bər dam ke detah-u
 three time price who pay-FUT-(3NH)
 ‘Who will pay three times?’

a. Numeral adverbs

The numeral adverbs once, twice, thrice, etc. are expressed by adding to the cardinals the word *ber*, ‘time’, or one of the synonymous Maithili words *dafa*, *martaba* as *ek ber* or *ek dafa* or *ek martaba*, ‘once;’ *du ber*, *du martaba*, etc., ‘twice;’ *tin ber*, or *tin dafa*, etc., ‘thrice’ (Platts 2002: 55).

Some other multiplicative numerals are used in Maithili as shown in Table 3.14.

Table 3.14: Other multiplicative numerals in Maithili

ekai,	the multiplication table in which the multiplier is	1
donāi ,	the multiplication table in which the multiplier is	2
tihai,	the multiplication table in which the multiplier is	3
cauthai,	the multiplication table in which the multiplier is	4, and so on.

The Maithili idiom is illustrated in such phrases as the following, viz.: *du sate = chəudha*, ‘two sevens, fourteen’; *tin pāce = pāndrah*, ‘three fives, fifteen; which correspond to the English idiom, ‘twice seven is fourteen,’ and ‘three times five is fifteen’. Numbers thus used may be termed denominative numerals.

3.1.4 Distributive numerals

The distributives are expressed by repeating the cardinal numbers once: e. g. *ek ek*, ‘one at a time,’ ‘single,’ ‘one apiece;’ *du du*, ‘by twos,’ ‘two apiece.’

3.1.5 Collective numerals

Collective numerals describe groups composed of several individual entities. Collective numerals may be formed by adding to the cardinals the adjective terminations a, i, as *bisu*, ‘a score;’ *calisa*, ‘an aggregate of forty;’ *bətisi*, ‘an aggregate of thirty-two.’ The following nouns are used as collective numerals. Table 3.15 presents collective numerals in Maithili.

Table 3.15: Collective numerals in Maithili

2	dua, jorā, jori, jorā 'a pair,' 'couple'
3	tia
4	gəndā/cəuka 'a quaternion,' mostly applied to four cowries'
5	gāhī/pənjā 'an aggregate of five'
6	choka
7	səta
8	əṭha
9	ncha
10	dəhəñi
12	dərjən
16	sōṛəhē
20	bīsə, bisu also korī, koli
25	pəcisi
30	tisi
32	bətisi
40	calisa
100	saikṛa 'a hundred'
256	sōṛəhā, i.e. 16 sōṛahis
kəuṛi	'a score'

Let us examine the following examples:

(12)

- a. *joṛā gai nāi kinəb*
 joṛā gai nāi kin-əb
 pair cow not buy-FUT-(1)
 ‘I will not buy a/the pair of cows.’
- b. *ek gəṇḍā puri diə*
 ek gəṇḍā puri di-ə
 one four bread give-IMP-(2H)
 ‘please (you) give (me) four slice breads.’

In example (12a-b), nouns (*gai* and *puri*) are followed by the numerals (*joṛā* and *ek gəṇḍā*). The cardinal numbers are often used as collectives without any change of form.

Some other terms are used in counting, these terms are not universal and used on particular occasions, and they are given in Table 3.16.

Table 3.16: Some other counting in Maithili

1	ram
2	dukhī
3	tinəkhī
4	charikhi
5	pācəkhī

The other terms are also used in counting while weighing the grains. Table 3.17 presents weighting the grains for counting in Maithili.

Table 3.17: weighting the grains for counting in Maithili

1	ram
2	dhin
3	tin, and so on.

3.1.6 Ordinal numerals

An ordinal numeral is a numeral belonging to a class whose number designates positions in sequence. The ordinals are normally preceded by another determiner, usually the definite article. Ordinal numerals (first, second, third, etc.) occur only with count nouns usually precede any cardinal numbers in the noun phrase: Anju had spent the first three years in Rajbiraj. The ordinal numerals answer the question; *kon* ‘which one?’ (or strictly speaking, ‘the how many- eth?’). Ordinals are adjectives which are formed by suffixation of -m to a cardinal form -except in case of ordinals of *ek* ‘one’, *du* ‘two’, and *tin* ‘three’ (Yadav 1997: 145-146). The ordinals numerals are given in Table 3.18.

Table 3.18: Ordinal numerals in Maithili

pəhil/pəhila/pəhili	1 st
dosər/dosəra/dosəri/dusəra	2 nd
tesər/tesəra/tesari/tisəra	3 rd
carim/cārima/cəuṭha	4 th
pācem/pācim/pācəma	5 th
chəəm/chəṭhem/chəṭhā	6 th
dəsəm/dəsəm	10 th
bisma	20 th
unsəiṭhəm	59 th
səəm/səama	100 th
ek sə untisəm	129 th , and so on.

The first three (*pəhil/pəhila/pəhili*, *dosər/dosəra/dosəri/dusəra*, *tesər/tesəra/tesari/tisəra*) of the series are regularly derived from the Prakrit. The

remaining ordinals are formed from the cardinals, by adding the termination *əm*. As in English, in numbers above a hundred, the last part of the compound takes the form of the ordinal; as *ek sæ bisma*, ‘the one hundred (and) twentieth.’

The followings are the examples:

(13)

- a. *dosər chōuri ke bəjau*
 dosər chōuri ke bəja-u
 second girl ACC/DAT call-IMP-(2H)
 ‘call the second girl/another girl.’
- b. *bisma bərəd nāi kinəb*
 bisma bərəd nāi kin-əb
 twenty ox not buy-FUT-(1)
 ‘I will not buy for the twentieth number ox.’

These Sanskrit words are used by Maithili educated people for counting to the ordinal numerals. The following table shows the ordinal numerals in Maithili.

Table 3.19: Ordinal numerals in Maithili

Sanskrit	Maithili
<i>prātham</i>	<i>pəhil</i>
<i>duitiyā</i>	<i>dosər</i>
<i>tirtiya</i>	<i>tesər</i>
<i>caturthī</i>	<i>carim</i>
<i>duṣṭasī</i>	<i>dəsəm and so on.</i>

The ordinals may also be formed by the suffixation of an additional low central vowel [a] (and after the suffix-*m* in those ordinals which have it), and so on (Yadav 1997: 145–146). The following forms of the ordinal numerals in Maithili, as in Table 3.20.

Table 3.20: Ordinal numerals in Maithili

<i>pəhil</i>	<i>pəhila</i>	1 st
<i>dosər</i>	<i>dosra</i>	2 nd

tesər	tesra	3 rd
carim	cəirma(carimā)	4 th
dəsəm	dəsma	10 th
unsəiṭhəm	unsəiṭhəma	59 th
səəm	səəm	100 th
ek sə untisəm	ek sə untisəm	129 th and so on.

The a- ending ordinals usually correspond to the rural and colloquial style of speech, while the consonant-ending ordinals are typically used among the educated people.

Definite adjectives (which change for gender) may be made by suffixation of *-ka* (masculine) and *-ki* (feminine) to the ordinals *pəhil*, *dosər*, and *tesər* (i.e. ‘1st’, ‘2nd’, and ‘3rd’), and by the suffixation of *-a* (masculine) and *-i* (feminine) to the rest of the ordinals (Yadav 1997: 146). Table 3.21 presents the ordinal numerals in Maithili.

Table 3.21: Ordinal numerals in Maithili

masculine		feminine
pəhil- ka	‘the first one’	pəhil- ki
dosər- ka	‘the second one’	dosər- ki
tesər- ka	‘the third one’	tesər- ki
cairm- a (carimā)	‘the fourth one’	carim- i (carim- i)
dəsəm- a	‘the tenth one’	dəsəm- i
pəcasm- a	‘the fifth one’	pəcasm- i
səm- a	‘the hundred one’	səm- i
ek sə untisəm- a	‘the one hundred and twenty-ninth one’	ek sə untisəm- i, and so on.

It is noted that the definite adjectives are translated as NPs; however, they can modify a noun, as shown in the following examples.

(14)

- a. pəhilka choura bəḍ cəlak chəik
 pəhil-ka choura bəḍ cəlak ch-əik
 first-DEF(M) boy very clever be-PRS-(3NH)
 ‘The first boy is very clever.’
- b. dosərki məugi ke bəjao
 dosər-ki məugi ke bəja- o
 second- DEF (F) woman ACC/DAT call-IMP-(2NH)
 ‘Call the second woman.’

A few ordinals have been recently imported from English. The following ordinal numerals in Maithili are presented in Table 3.22.

Table 3.22: Ordinal numerals in Maithili

phəṣṭa	1 st
sekəṇḍə	2 nd
thəṛ, thəṛ	3 rd
phorthə	4 th
eiṭhə	8 th etc.

The names of a number of days of a fortnight of lunar month are given in Table 3.23.

Table 3.23: Ordinal numerals: a fortnight of lunar month in Maithili

Maithili	Sanskrit
paṛība, pəirbā	pratipadā
dutiā, dutia	duitīyā
tirətiā	tirtīyā
cəuṭhi, cauṭha	cəturthī
sətəmi	səptəmi
ncumī	ncumī
ekāsī	ekādəsī
doāsī	duādəsī
trodəsī, terasi	trayodəsī
cəudəsī	cəturdəsī

3.1.7 Partitive numerals

A partitive numeral is a numeral that expresses division into fractions. *ədhiyā* ¹/₂’ ends with [yā], *tekuri* ¹/₃’ - *solhəni* ¹⁶/₁₆’ ends with [i]. They are shown in Table 3.24.

Table 3.24: Partitive numerals in Maithili

	¹ / ₂	ədhiya		
They are connected <i>cārimə, āṭhəmə</i> , etc. unknown origin. as follows. (15) a.	¹ / ₃	tekuri	to the ordinals, like but <i>tekuri</i> is of They are exemplified <i>ədhiyā diə</i>	
	¹ / ₄	carīmi		
	¹ / ₆	chəṭhəmi		
	¹ / ₇	sətəmi		
	¹ / ₈	aṭhəmi		
	¹⁶ / ₁₆	sorhənī/solhəni		
	əkər ek-ər			
	ədhiyā di-ə			
	this GEN	half	give-IMP-(2H)	
	‘Give (me) half of it.’			

- b. ekər tekuri kətek hoetəik
 ek-ər tekuri kətek hoe-t-əik
 this GEN $\frac{1}{3}$ how much be-FUT-(3NH)
 ‘What will be the $\frac{1}{3}$ of it?’

3.1.8 Aggregative numerals

Aggregative numeral is a total number or amount made up of smaller amount that are collected together. The aggregative forms of cardinal numerals in Maithili end in *-u*. They are presented in Table 3.25.

Table 3.25: Aggregative numerals in Maithili

dunu/duo	‘both’
tinu	‘all three’
caru	‘all four’

The following is the example:

(16)

- a. tinu choura ke am diəuk
 tinu choura ke am di-əuk
 all three boy ACC/DAT mango give-IMP-(2H+3NH)
 ‘Give mango to all three boys.’
- b. caru chouri ke kela diəuk
 caru chouri ke kela di-əuk
 all the four girl ACC/DAT banana give-IMP-(2H+3NH)
 ‘Give banana to all the four girls.’

The aggregative forms of cardinal numerals in Maithili end in *-o*. They are presented in Table 3.26.

Table 3.26: Aggregative numerals in Maithili

pāco	‘all five’
chobo	‘all six’
sato	‘all seven’

aṭho	‘all eight’
nɔbo	‘all nine’
dəso	‘all ten’
egarəho	‘all eleven’
pəcaso	‘all fifty’, and so on.

The following are some more examples:

(17)

- a. nɔbo məugi jau
 nɔbo məugi ja-u
 all nine woman go-IMP-(2H)
 ‘Go, all nine of women.’
- b. sato məhis hera gel
 sato məhis hera ge-l
 all seven buffalo lose go-PST-(3NH)
 ‘All the seven buffaloes were lost.’

- c. pāco sadhu ke khiau
 pāco sadhu ke khi-a-u
 all five hermit ACC/DAT eat-CAUS I-IMP-(2H)
 ‘Feed all the five hermits.’

3.1.9 Approximative numerals

Approximative numerals are used to show that something is almost, but not completely, accurate or correct. In early Maithili the approximatives were formed by placing a numeral after the definitive word, e. g., *jəna dui*, “nearly two persons,” *jəna dəs*, “nearly ten persons,” *jəna cair*, “approximately four persons”.

3.1.10 Quantifier numerals

A quantifier is a determiner that expresses a referent’s definite or indefinite number or amount. A quantifier functions as a modifier of a noun, or pronoun. Most of quantifiers in Maithili come from pronouns such as *kətek* ‘how much’, *kətek* ‘how many’ *kətni* ‘how few/ how little’, *kətbe* ‘how many’ and *kətne* ‘how few or how little’. The last one is quite informal and has semblance of slang, which is shown in Table 3.27. (<http://www.lisindia.net/Maithili/Maith-struct.html>). They are presented in Table 3.27.

Table 3.27: Quantifier numerals in Maithili

bəhut	‘much’
thoḍ	‘less’, ‘little’
ədhik	‘much’, ‘more’
kəm	‘less’
ḍher	‘ample’, ‘bulk’
pərya:ptə	‘sufficient’
bəhut ədhik	‘much more’
bəhut kəm	‘much less’
ḍhəkie ḍhəkiya	‘many many basketful’

Some examples presented below.

(18)

- a. bəhʊt log æl
 bəhʊt log æ-l
 many people come-PST-(3NH)
 ‘Many people came.’
- b. dhan kəme ubjəl
 dhan kəme ubj-əl
 paddy less yield-PST-(3NH)
 ‘Paddy yielded very less.’

3.1.11 Odd and Even numerals

Odd (no comparative or superlative) (of numbers) that cannot be divided exactly by number two: 1, 3, 5, and 7 are odd numbers (Hornby et al. 1948: 1050). Even that can be divided exactly by two: 4, 6, 8, and 10 are all even numbers (Hornby et al. 1948: 522). In Maithili, odd and even are given in Table 3.28.

Table 3.28: Odd and even numerals in Maithili

Odd	Even
ek	du
tin	cair
pāc	chɔ
sat	aṭh
nɔ	dəs

The following is the example:

- (19) ekṭā raja rəhəith
ek-ṭā raja rəh-əith
one-CLF king be-PST-(3NH)
'(Once) there was a king.'

In example (19), noun (*raja*) follows the classifier and numeral (*ekṭā*).

The following is the example:

- (20) duṭā pahun əelah
du-ṭā pahun əe-l-ah
two-CLF guest come-PST-(3H)
'Two guests came.'

In example (20), numeral and classifier (*duṭā*) precedes the noun (*pahun*).

Some other numeral categories are used by the educated people in the Maithili community. Let us consider the following categories of numeral in Maithili:

3.1.12 Decimal numerals

A fraction (a number less than one) that is shown as a dot or point followed by the number of tenths, hundredths, etc. (Hornby et al. 1948: 395).

- 0.9 shunyə dəsəmləb nɔ
 'zero point nine'
2.5 shunyə dəsəmləb pāc
 'two point five'
1.0 ek dəsəmləb shunyə
 'one point zero'

3.1.13 Arithmetic numerals

The type of mathematics that deals with the adding, multiplying, etc. of numbers: (Hornby et al. 1948: 68).

- 4 + 4 = 8 cair joḍ cair bərabər aṭh
 ‘four plus four equal eight’
- 5 x 2 = 10 pāc guna du bərabər dəs
 ‘five multiply two equal ten’
- 6 ÷ 2 = 3 chə bhəga du bərabər tin
 ‘six divide two equal three’

3.1.14 Superscripts numerals

- 10² dəs ke yəskwair
 ‘ten squared’
- 10³ dəs ke kiyub
 ‘ten cubed’
- 10⁴ dəs ke cair
 ‘ten to the power of four’

3.2 Phonology of numerals

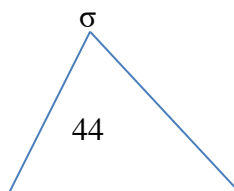
Maithili cardinal numbers respond to the vowel-raising rule of generative phonology that rises a mid-low or a mid-high vowel one notch up (viz. E, O, e, and O → e, o, i, and u respectively) which is followed by a high vowel (viz. i or u) in the immediately following syllable² (Dan 2010: 61). For example, Ek ‘1’, *Egarəh* ‘11’, *Ekanbe* ‘91’, but *ekəis* ‘21’, *ektis* ‘31’; *Ektā* ‘1 - CLF’.

The phonological strategy of conjunct simplification by means of epenthetic i is found in the from *tis* to *ərtis/əṛtis* i. e. from 30 to 38.

The permissible syllable cannon in Maithili numeral is C₀₋₂ V C₀₋₁ / CCVC. With these cannon there are several possibilities. Following words are the examples of the different possibilities of syllable structures in Maithili:

- | | | |
|------|---|---------|
| CV | - | du |
| VC | - | ek |
| CVC | - | pāc |
| CCVC | - | byan-be |

These examples show that there is possibility of both open and close syllables in Maithili numerals. It can be illustrated in the following figures



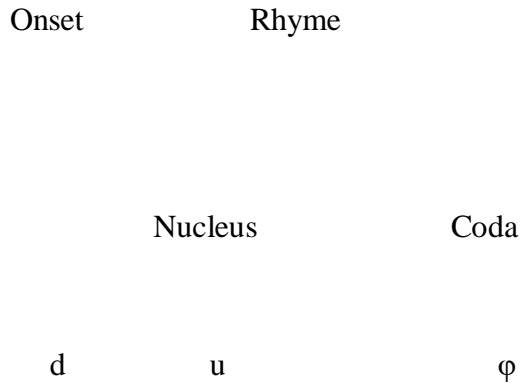


Figure 3.3: Open syllable of numeral system in Maithili

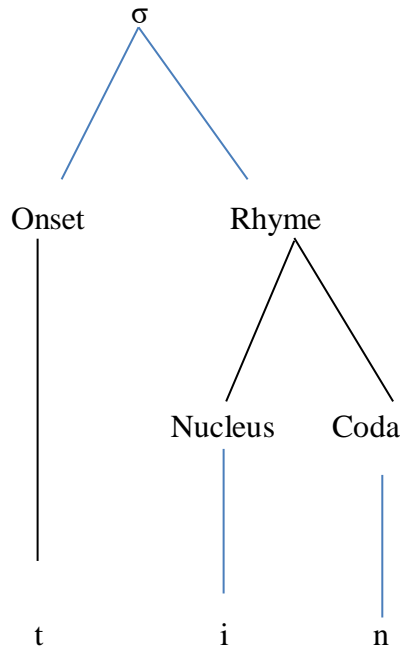


Figure 3.4: Close syllable of numeral system in Maithili

3.3 Morphology of numerals

Maithili cardinal numbers too possess a number of morphologically conditioned allomorphs and constructions formed with them. For example, the morpheme for 2 is realized as *du - ba - bə - bi* as in *du* '2', *barəh* '12', *bətis* '32', *biyalis* '42'; 3 is realized as *ti - te - tə - ti* as in *tin* '3', *terəh* '13', *təis* '23', *tirpən* '53'; 4 is realized as *ca - cəu - cəu - cət - cəũ* as in *cair* '4', *cəudəh* '14', *cəubis* '24', *cəũtis* '34', *cəualis* '44' and so on.

With respect to morphological processes the cardinal and ordinal numbers in Maithili can be classified into two categories, viz. basic and derived. The basic category

includes the cardinal numbers from 1 to 10, 20, 100, 1,000, 1, 00,000, and 1, 00, 00,000. These numbers do not display any morphological processes. The rest of the numbers, both cardinal and ordinal belong to the derived category as they are derived from the basic numbers by compounding and other morphological processes, e.g. *sə̃talis* ‘47’ (*sat* ‘7’ added to *calis* ‘40’, compounding), *sə̃ntanbe* ‘97’ (*sat* ‘7’ added to *nə̃bbe* ‘90’ compounding and vowel addition), *sə̃thə̃ttə̃ir* ‘77’ (*sat* ‘7’ added to *sə̃ttə̃ir* ‘70’ compounding and syllable deletion), and ordinal derivation like *satəm* ‘7th’, *ãthəm* ‘8th’, *nə̃bəm* ‘9th’ etc.

3.3.1 Classifiers

A classifier is a word used in some cases with numeral-noun combinations and in other cases with certain types of verbs, which assigns entities to common categories on the basis of shared characteristics. The main function of the classifiers is to classify certain group of nouns according to their quality. The numeral classifiers form a fairly extensive class of morpheme which occurs directly before one of the common quantifiers.

There are two classifiers - *-tā* and *-got* in the Maithili language. They are used interchangeably with numerals to show the number of noun. They take a numeral prefix to form a word, which functions as an adjective to the noun that follows it. Thus, classifiers suffixed with numeral always precede nouns. The main function of the classifier is to classify certain group of nouns according to their number. The numeral follows the classifiers. For examples,

(21)

- a. *həm duṭā am khə̃lə̃hu*
həm du-ṭā am khə̃e-l-ə̃hu
 I two-CLF mango eat-PST-(1)
 ‘I ate two mangoes.’

- b. to pācgot admi dekhlē
to pāc-got admi dekh-l-ē
you (NH) five-CLF man see-PST-(2NH)
‘You saw five men.’
- c. hēmra duṭā beta chahi
hēmra du-ṭā beta cha-hi
my two-CLF son want-PRS-(1)
‘I want two sons.’

Three classifiers have the same meaning and are used interchangeably with all the countable nouns-human or nonhuman, animate or inanimate. But they are not used with uncountable nouns. For examples,

(22)

- a. dəsṭā lərka
dəs-ṭā lərka
ten-CLF boy
‘Ten boys’
- b. saṭā gāi
saṭ-ṭā gāi
seven-CLF cow
‘Seven cows’
- c. cairṭā kursi
cair-ṭā kursi
four-CLF chair
‘Four chairs’

The classifiers along with their numeral prefixes may work independently in reference. That is to say, when the context is clear, they function without the noun that follows them. For examples,

(23)

- a. kaeṭā laddu leb
kae-ṭā laddu le-b
how-CLF laddu take-FUT-(2H)
'How many laddus would you take?'
- b. tinṭā diə
tin-ṭā di-ə
three-CLF give-IMP-(2H)
'Please, give me three (laddus).'

Classifiers also work as pseudo-classifiers, which don't appear on the surface; they are just understood. Their presence, however, is realized. For examples,

(24)

- a. eko gilās pain pi-u
ek-o gilās pain pi-u
one glass water drink-IMP-(2H)
Please, drink one glass of water.'
- b. pāco kilo am kinlahu
pāc-o kilo am kin-l-ahu
five kg mango buy-PST-(1)
'I bought five kg of mangoes.'

In examples (24a-b), the classifiers *-ṭā* and *-got* don't appear, they are just understood. Here, they work as pseudo-classifiers.

Phonologically, both classifiers are monophthongs. They contain a single vowel. From the morphological point of view, they are bound morphemes which don't have any independent meaning. They give meanings only when they are used with numerals.

In some contexts, classifiers *-ṭā/ -got* are also used with pronouns. But it is restricted to very few situations. Generally, classifier is not used with pronouns. Some examples of pronouns with classifier are given below:

(25)

a. ekṭā o chaith je bhəir din roit chaith

ek-ṭā o chaith je bhəir din roit
one-CLF he(H) AUX-PRS-(3H) REL whole day cry-IMPER
chaith
AUX-PRS-(3H)

‘He is the one who has been crying the whole day.’

b. ekṭā tu nāi aelē

ek-ṭā tu nāi ae-l-ē
one-CLF you(NH) not come-PST-(2NH)
‘Only you did not come?’

c. ekgot uheṭā hero əich

ek-got u-he ṭā hero əi-ch
one-CLF he(NH) EMPT hero AUX-PRS-(3NH)
‘Only he is the hero.’

In example (25a-c), it is noticed that when a classifier is used with a pronoun, it takes the numeral *ek* ‘one’, not other numeral. Generally, a classifier is used with a pronoun to emphasize the latter (pronoun).

Numeral can be used by literate or illiterate people in Maithili community. Table 3.29 presents numerals in Maithili.

Table 3.29: Numerals in Maithili

kənma	$1/16$
ser	seer
pəseri	5 kilos
ek khuṭe/bərbəir	equal (1 = 1)
du khuṭe	1 = 2
tin khuṭe	1 = 3
ədha pa/pə	$1/8$
ədha mən	20 kilos

ek mən	40 kilos
ek bora	80 kilos
ek bhəir	16 əna
pāc lal	1 əna
ek kəṭha	20 dhur
ek bigha	20 kəṭha

16 kənma = 1 seer (almost 900 grams), 1 seer = not 1 kilo (1000 grams), *ser* is known as *kəci* and kilo is known as *pəki* in Maithili. Traditionally, *ser* has been replaced by kilo.

(26)

- a. ek pəseri dhan kinəb
ek pəseri dhan kin-əb
one five kilo paddy buy-FUT-(1)
‘I will buy five kilos paddy.’
- b. ek kənma cini diə
ek kənma cini di-ə
one ¹/₁₆ sugar give-IMP-(2H)
‘Please (you) give (me) ¹/₁₆ sugar.’

In example (26a-b), numerals (*ek*), (*pəseri*, *kənma* are measuring numerals) precede the nouns (*dhan*, *cini*).

a. The functional range of numeral classifiers

There are two different operations of quantification, i. e. counting and measuring. The operation of measuring puts a given entity into a unit of measure which makes it countable enumerable, i. e. discrete. The process of measuring must be applied for quantification of semantically unbounded mass noun such as water, wine, etc. (Bhatt 2005: 70-71). The followings are the examples:

(27)

- a. duṭā muhə bhəir bhat
 du-ṭā muhə bhəir bhat
 two-CLF mouth full rice
 ‘Two mouthful food’
- b. ekṭā ghot daru
 ek-ṭā ghot daru
 one-CLF sip wine
 ‘A sip of wine’

In example (27a-b), both noun rice and wine are semantically unbounded that make it countable.

Although boundedness as defined by Langacker (1987: 189-213) with its properties of homogeneity, expansibility and replicability is a category inherent to a given entity which cannot be derived exclusively from linguistic context it is possible to override it by discourse pragmatics. For that reason, count nouns, which are semantically, bounded, such as man, stone, etc. can also be quantified by the process of measuring (a group of men, a cartload of stones), and the operation of counting can be applied almost exclusively to semantically bounded entities. This is due to the fact that bounded entities have delimitation and are thereby replicable (Bhatt 2005: 70 – 71). Let us examine the following examples.

(28)

- a. ekṭā bārədke səmuḥə
ek-ṭā bārəd ke səmuḥə
One-CLF ox ACC/DAT group
'A group of oxen'
- b. duṭā logke səmuḥə
du-ṭā log ke səmuḥə
Two-CLF man ACC/DAT group
'Two groups of people'

In example (28a-b), we can understand that even the mass noun can also be counted by the use of classifiers.

3.3.2 Clitics

Clitics are those words, which cannot be alone; that word must be attached to some words in a sentence. Most languages - very possibly, all except for the most rigidly, isolated type - have morphemes that present analytic difficulties because they are neither clearly independent words nor clearly affixes (Katamba 1993: 245). Unlike other particles, they are always attached to the word to be emphasized. Yet they are neither suffix nor post-position, but a clitic of emphasis. (Yadav 1997: 262)

ek 'one'
ek - e
ek - o
du 'two'
du - e
du - o
tin 'three'
tin - e
tin - o
pəcas 'fifty'
Pəcas - e
pəcas - o
sæ 'hundred'
sæ - e

sæ - o

In Maithili, there are two clitics: *-e* and *-o*. Both mark a kind of emphasis. Clitics: *-e* and *-o* cannot be used at the same place because it changes the meaning, some examples are given below:

(29)

- a. tine ser cini diə
tin-e ser cini di-ə
three-CLT seer ugar give-IMP (2H)
'Give (me) three seer of sugar.'
- b. tino ser cini diə
tin-o ser cini di-ə
three-CLT seer sugar give-IMP (2H)
'Give (me) more or less three seer of sugar.'
- c. eke sæ rupəiya delək
ek-e sæ rupəiya de-l-ək
one-CLT hundred rupees give-PST (3NH+1)
'He gave me one hundred rupees.'
- d. eko sæ rupəiya delək
ek-o sæ rupəiya de-l-ək
one-CLT hundred rupees give-PST(3NH+1)
'He gave me more or less one hundred rupees.'

Their placing seems to be idiosyncratic. Usually, they are placed after nouns, pronouns and adjectives, but not after particles or case endings, they are placed by *-əhi/ -əhu*. The followings are the examples:

(30)

- a. hərie jetaħ
həri-e je-taħ
hari-CLT go-FUT-(3H)
'Only Hari will go.' (nobody else)
- b. hərio jetaħ
həri-o je-taħ
hari -CLT go-FUT-(3H)

‘Hari will also go’. (along with others)

c. o gamhi or gaməhi me chətəhi

o gam-hi or gam-əhi me chət-əhi

he village-CLT or village-CLT LOC be-PRS-(3H)

‘He is in his native village itself.’

a. Enclitic as definitizer

The inclusive emphatic enclitic *-e* optionally accompanied with the classifier *ṭā* conveys the notions of definiteness/specificity in Maithili. Some examples are given in (31).

(31)

a. hām ghəreṭā becəb

hām ghər-e ṭā bec-əb

I house-EMPH CLF sell-FUT-(1)

‘I will sell only the house.’(not my land)

b. hunkeṭā diəunh

hunk-e ṭā di-əunh

he(H)-ACC/DAT-EMPH CLF give-IMP-(2H+3H)

‘Give (it) only to him.’(and not to others)

3.4 Syntax of numerals

The Maithili in/definiteness constructions involves cardinal numbers classifiers and nominal and their order reversal in terms of a three-point in/definiteness scale, viz. definiteness, indefiniteness, and antidefiniteness. In NP, numeral follows the classifiers, and numeral is in initial position (Dan 2010: 62). Syntactic order [NUMERAL+ CLF + N = NP]. Examples are as follows:

(32)

- a. duṭā chata diə
 du-ṭā chata di-ə
 two-CLF umbrella give-IMP-(2H)
 ‘Give me two umbrellas.’ (Indefiniteness)
- b. chata duṭā diə
 chata du-ṭā di-ə
 umbrella two-CLF give-IMP-(2H)
 ‘Give me those two umbrellas.’ (Definiteness)

(33)

- a. pācṭā kitab hērarəhələich
 pāc-ṭā kitab hēra-rəhəl-əich
 ive-CLF book miss-PROG-AUX-PRS-(3NH)
 ‘Five books are missing.’ (Indefiniteness)
- d. kitab pācṭā hērarəhələich
 kitab pāc-ṭā hēra-rəhəl-əich
 book five-CLF miss-PROG-AUX-PRS-(3NH)
 ‘Those five books are missing.’ (Definiteness)

(34)

- a. tinṭā chatra nacət
 tin-ṭā chatra nac-ət
 three-CLF student-girl dance-FUT-(3NH)
 ‘Three girl students will dance.’ (Indefiniteness)
- b. tinekṭā chatra nacət
 tin-ek-ṭā chatra nac-ət
 three-one-CLF student-girl dance-FUT-(3NH)

‘More or less three girl students will dance.’ (Antidefiniteness)

(35)

- a. *sattā thari kinəb*
sat-ṭā thari kin-əb
seven-CLF plate buy-FUT-(1)
‘I’ll buy seven plates’ (Indefiniteness)
- b. *satekṭā thari kinəb*
sat-ek-ṭā thari kin-əb
even-one-CLF plate buy-FUT-(1)
‘I’ll buy more or less seven plates’ (Antidefiniteness)

The cardinal numbers *ek* seems to be syntactically more relevant than others as it is used in three ways. Firstly, like any other cardinal numbers it, with or without classifier, may frame phrases. The followings are the examples:

(36)

- a. *ekṭā din*
ek-ṭā din
one-CLF day
‘One specific day’
- b. *ek din*
ek-din
one-day
‘One day’
- c. *din ṭā*
din-ṭā
day-CLF (from underlying *din ek-ṭā* “din one-CLF”)
‘the day’

In example (35c), *ek* is deleted.

3.5 Semantics of cardinal numbers

In Maithili cardinal numbers are also exploited to express other senses, than just discrete numerical ones while the lexicon in terms of linguistic universals can only account for their numerical values but not for their extended semantic roles. The present subsection focuses on various types of semantic roles played by the cardinal

numbers in Maithili (Dan 2010: 64). In Maithili cardinal numbers express three types of concepts. The followings are the examples:

- i. Exact quantification, e.g. *sat* '7' and *ninanbe* '99'.
- ii. approximate quantification, e.g. *du-ek* (2-1) 'few', *bis-tis* (20-30) 'something between 20 and 30', and
- iii. non quantification, e.g. *nə-cho* (9-6) 'squandering away and *chə-pāc* "6th-5th" 'to play tricks'.

3.5.1 Exact quantification

The exact quantificational semantic aspect of the cardinal numbers is judged as linguistic universal and is available in all languages. So in Maithili the exact quantification may be considered as the primary semantic function of cardinal numbers available in Maithili. For example, *pāc* '5', *sat* '7', *pəcas* '50', and *ninanbe* '99' etc. As the exact quantification is quite obvious in the language.

3.5.2 Approximate quantification

The second concept, viz. the approximate quantification, is an interesting domain where approximation is expressed in more than one way as follows. There are a few 'magic' cardinal numbers that also express approximation depending on the syntactic context, e.g. *ek* '1' in Maithili in the following constructions. The followings are the examples:

(37)

a. ek '1'

A: i. ektā bat bolu

e-tā bat bol-u

One-CLF talk say-FUT-(1)

'Shall I say something?'

ii. hām ektā bat kəhbə

hām ek-tā bat kəhbə

I one-CLF talk say-may-FUT-(1)

'May I say something?'

Here, *ek* never stands for one word or one sentence or even one idea. It is definitely more than one with an open-ended upper limit. Other such numbers are *du*, *pāc*, *sat*, *dəs*, *bis*, *pəcas*, *ek sə* and *həjar*. In this category Maithili allows a high degree of mutual semantic intelligibility. Look at the examples:

(38) du '2'

A: i. duṭā bhat

du-ṭā bhat

two-CLF rice

'Little rice'

ii. duṭā bhat diə

du-ṭā bhat di-ə

two-CLF rice give-IMP-(2H)

'Give me little rice'

(39) pāc '5'

A: i. pāc log

five-people

'Some people'

ii. pācṭā log bolarəhələich

pāc-ṭā log bola-rəhəl-əich

five-CLF people call-PROG-AUX-PRS-(3H)

'Some people are calling.'

(40) i. sat '7'

sato-purkha

- sa-to-purkha
 “7 generation”
 ‘A few generations’
- (41) dəs ‘10’
 A: i. dəsṭā
 dəs-ṭā
 ten-CLF
 ‘Many jointly’
 ii. dəs mili kərab kaj
 ten together do work
 ‘Many of us work together’
- (42) pəcas ‘50’
 A: i. pəcasber
 Pəcas-ber
 Fifty-time
 ‘Several times’
- (43) ek-sæ ‘100’
 A: i. ek sæber
 ek sæ-ber
 hundred time
 ‘Many times’
 ii. sæmūh
 sæ-mūh
 hundred mouth-LOC
 ‘Endlessly’
- (44) bis ‘20’
 A: i. bisber
 bis-ber
 twenty-time
 ‘Quite a few times’
 ii. bisber boləli
 bis-ber bo-ləli
 twenty-time tell-PST-(1+3NH)

- ‘I told him quite a few times.’
- (45) həjar ‘1000’
 həjarber
 həjar-ber
 thousand-time
 ‘Endless times’

Approximation is also expressed by a pair of cardinal numbers with a permissible gap of 1 or 2 between them. Pairs with a gap of one are quite regular while those with a gap of two are restricted to lower numbers only. They are presented in example (45).

- (46)
- i. dutinṭā
 du-tin-ṭā
 2-3-CLF
 ‘2 or 3’
- ii. ducair din
 du-cair din
 2-4 day
 ‘Something between 2 and 4 days’,
- iii. barəh cəudəh
 barəh-cəudəh
 12-14
 ‘Between 12 and 14’
- iv. du pāc
 du-pāc
 2-5
 ‘Between 2 and 5’, and so on.

Number name pairs with a gap of one are very regular in Maithili. The following are the examples:

- (47)
- i. ek-du
 “1-2”
 ‘1 or 2’

- ii. du-tin
“2-3”
‘2 or 3’
- iii. tin-cair
“3-4”
‘3 or 4’
- iv. cair-pāc
“4-5”
‘4 or 5’
- v. nɔ-dəs
“9-10”
‘9 or 10’

One interesting point about Maithili is that expression for 1 or 2 is *du-ek-ṭā* “2-1-CLF” with an order reversal.

A restricted number of pairs with a range of ten are also available in Maithili. Look at the examples:

(48)

- i. dəs-bis
“10-20”
‘Between 10 and 20’
- ii. bis-tis
“20-30”
‘Between 20 and 30’
- iii. calis-pəcas
“40-50”
‘Between 40-50’
- iv. pəcas-sāṭhi
“50-60”
‘Between 50 and 60’

- v. əsi-nəbbe
 “80-90”
 ‘Between 80 and 90’, and so on.

3.5.3 Non-quantification

The third concept, viz. non-quantification, is also an interesting domain where Maithili appears to be quite rich. In this type cardinal numbers do not express any quantification whatsoever; rather they signify some sense, which are by no means connected to their universal lexicalization. Such non-quantificational cardinal numbers generally occur in idiomatic set expressions (Dan 2010: 67). This category also presents two types in terms of their opacity as follows:

For some set expressions some sort of semantic explanation in terms of metaphor may be offered and hence they may be considered little less than absolutely opaque. For example, *unəis-bis* “19-20” = ‘a negligible difference’. In counting there is minimum possible difference, a difference of 1, between 19 and 20. This fact may serve as a plausible semantic explanation behind the non-quantificational reading of the cardinal numbers. Consider the following examples:

- (49) du nəmbər
 du-nəmbər
 “2-numbered” [duplicate / not original] ‘fake’
- (50) nɔumase caumase
 nɔu-mase-cau- mase
 “9- monthly- in-4 monthly in” [in 9 or 4 months] ‘very rarely’
- (51)
- i. soləho ana
 soləho-ana
 “16-anna” [16 annas of a rupee] ‘entire’
- ii. soləh ni
 soləh-ni
 “16-anna” [16 annas of a rupee] ‘entire’
- (52) sat khun maph
 “7-murder condone” [to condone 7 murders] ‘undue indulgence’
- (53)
- i. chɔ-pāc bujəhai-chəi

- chɔ-pãc bujəhai-chəi
 “6th-5th understanding” ‘to play tricks’
- ii. chɔ pãc
 chɔ-pãc
 “6th-5th” ‘to play tricks’

In this absolutely opaque type of set expressions no semantic or metaphoric link between the universal semantics of cardinal numbers and their actual sense in the language is possible.

3.6 Summary

The third chapter dealt with regarding numbers these can be classified according to their use in Maithili. There are fourteen types/categories of numerals- cardinal numerals describe quantity. Cardinal numerals are four types- basic (*ek, du, tin*), intermediate (*egarəh, barəh, terəh*), decade (*dəs, bis, tis*), and compound (*unəis, ekəis, bais*). The counting numbers are used to learn in school for children (*ekai, dəhai, səikrə*, and *həjar*). The fractions are: (*pəo, pɔn, ədha, dərɪ*). Multiplicative are formed by suffixing-*/guna/*, */gun/*, and */ber/* ‘times’ to the cardinal numerals. Distributive numerals (*ek ek*, ‘one at a time,’ ‘single,’ ‘one apiece’ and *du du*, ‘by twos,’ ‘two apiece.’) Collective numerals describe groups, e.g. (*jōr ā, gənda*, and *gahi/pənja*). The ordinal numerals answer the questions: *kon* ‘which one?’ (*pəhil, dəsər*, and *tesər*). A partitive numeral expresses division into fractions (*ədhiya, tekuri*, and *carimi*). Most aggregative forms of cardinal numerals in Maithili end in –*o*, except those of the cardinals 2, 3, and 4 (*dunu, tinu, and caru*) (which end in –*u*) (*pãco, chɔbo*, and *sato*). Approximative (*jəna dui, jəna dəs*, and *jəna cair*). Most of the quantifiers in Maithili come from pronouns such as *kətek, kətni, kəibe*, and *kətne*. In Maithili, odd (*ek, tin, pãc, sat*, and *nɔ*) and even: (*du, cair, chɔ*, and *aṭh*). Arithmetic (*cair joḍ cair bərabər aṭh* and *pãc guna du bərabər dəs*), Decimal (*shuna dəsəmləb nɔ* and *du dəsəmləb pãc*), Suoverscripts (*dəs ke yəskwair, dəs ke kiɪyub*, and *dəs ke cair*). It also dealt with various phonological, morphological, syntactical, and semantically analysis of Maithili. The Maithili cardinal numbers respond to the vowel-raising rule of generative phonology that raises a mid-low or a mid-high vowel one notch up (viz. E, O, e and o → e, o, I and u respectively) which is followed by a high vowel (viz. i or u) in the immediately following syllable. The

permissible syllable canon in Maithili numeral is CCVC. The Maithili morphology is classified into two categories-basic and derived. The basic category includes the cardinal numbers from 1 to 10, 20, and 100, both cardinal and ordinal are derived from the basic numbers by compounding and other morphological processes, e.g. *sə̃etalis* “47” (*sat* ‘7’ added to *calis* ‘40’, compounding). There are two classifiers: *-ṭā* and *got*, in the Maithili language. The cardinal numeral *ek* ‘one’ followed by the classifier *-ṭā* is used to denote indefinite (but specific) objects. In some contexts, classifiers *-ṭā/got* are also used with pronouns. There are two clitics: *-e* and *-o* (*ek-e*, *ek-o*, *du-e*, *du-o*, *tin-e*, and *tin-o*). The Maithili syntactic in/definiteness construction involving cardinal number, classifiers and numerals and their order reversal in terms of a three points in/definiteness scale, viz. definiteness, antidefiniteness, and indefiniteness. In Maithili, the semantic of cardinal numbers expresses three types of concept, viz. (i) exact quantification, e.g. *sat* ‘7’, and *ninanbe* ‘99’, (ii) approximate quantification, e.g. *du-ek* (2-1) ‘few’, and *bis-tis* (20-30) ‘something between 20 and 30’. (iii) non quantification, e.g. *no-cho* (9-6) ‘squandering away’ and *chə-pāc* “6th-5th” ‘to play tricks’.

CHAPTER 4

SUMMARY AND CONCLUSION

Maithili is a New Indo-Aryan language with SOV word order. It is spoken by a total of about 30 million people in the eastern and northern regions of the Bihar state of northern India and south eastern plains, known as the Tarai of Nepal. The main focus of the study is to analyze the numeral system in Maithili– types/categories of numerals as well as phonological, morphological, syntactic, and semantic analysis in the Maithili language, which mainly comprises Morang, Sunsari, Saptari, Siraha, Dhanusha, Mahottari, Sarlahi and eastern part of Rauthat districts. The whole thesis is divided into four chapters which can be summarized as below:

The first chapter is the general introductory part of the whole study. It gives the background of the Maithili language, review of the literature, major objectives of the study, methodology, statement of the problem, significance of the study, and the organization of the study. This chapter has shown the outline of this research work as whole.

In the second chapter, we presented the concept of conceptual background of the numerals for Maithili. Normally, a numeral is a symbol or group of symbols, a word or a figure in a natural language that represents a number, e.g., 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The cardinal numerals (one, two, and three.....) and the ordinal numerals (first, second, and third) are found in most of the languages of the world.

The third chapter is main chapter of this work. This part is the centre of the study in which the numerals in the Maithili language have been presented in detail. It dealt with regarding numbers; these can be classified according to their use in Maithili. There are fourteen types of numerals– cardinal numerals describe quantity. Cardinal numerals are four types-basic (*ek*, *du*, and *tin*), intermediate (*egarəh*, *barəh*, and *terəh*), decade (*dəs*, *bis*, and *tis*), and compound (*unəis*, *ekəis*, and *bais*). The counting numbers are used to learn in school for children (*ekai*, *dəhai*, *səikṛa*, and *həjar*). The fractions are: *pəo*, *pən*, *ədha*, and *ḍerh*. Multiplicative are formed by suffixing – */guna/*, */gun/*, and */ber/* ‘times’ to the cardinal numerals. Distributive numerals (*ek ek*, ‘one at a time,’ ‘single,’ ‘one apiece’ and *du du*, ‘by twos,’ ‘two apiece.’ Collective numerals describe groups, generally women count up to 20 e.g. *jōrā*, *gənda*, and *gāhi /pənjā*. The ordinal numerals answer the questions: *kon* ‘which

one?' (*pəhil*, *dosər*, and *tesər*). A partitive numeral expresses division into fractions (*ədhiya*, *tekuri*, and *carimi*). Most aggregative forms of cardinal numerals in Maithili end in *-o*, except those of the cardinals 2, 3, and 4 (*dunu*, *tinu*, and *caru*) (which end in *-u*) (*pāco*, *chəbo*, and *sato*). Approximative (*jəna dui*, *jəna dəs*, and *jəna cair*). Most of the quantifiers in Maithili come from pronouns such as *kətek*, *Kətni*, *kətbe*, and *kətnə*. In Maithili, odd (*ek*, *tin*, *pāc*, *sat*, and *nə*) and even: (*du*, *cair*, *chə*, and *aṭh*). Arithmetic (*cair joḍ cair bərabər aṭh* and *pāc guna du bərabər dəs*), Decimal (*shuna dəsəmləb nə* and *du dəsəmləb pāc*), Suoverscripts (*dəs ke yəskwair*, *dəs ke kiyub* and *dəs ke cair*). It dealt with various phonological, morphological, syntactic, and semantics rules, a fact that attests their linguistic identity. The Maithili cardinal numbers respond to the vowel-raising rule of generative phonology that raises a mid-low or a mid-high vowel one notch up (viz. E, O, e and o → e, o, i and u respectively) which followed by a high vowel (viz. i or u) in the immediately following syllable. The permissible syllable cannon in Maithili numeral is CCVC. The Maithili morphology is classified into two categories-basic and derived. The basic category includes the cardinal numbers from 1 to 10, 20, and 100, both cardinal and ordinal are derived from the basic numbers by compounding and other morphological processes, e.g. *səṭəlis* "47" (sat '7' added to *calis* '40', compounding). There are two classifiers: *-ṭā* and *got*, in the Maithili language. The cardinal numeral *ek* 'one' followed by the classifier *-ṭā* is used to denote indefinite (but specific) objects. In some contexts, classifiers *-ṭā/got* are also used with pronouns. There are two clitics: *-e* and *-o* (*ek-e*, *ek-o*, *du-e*, *du-o*, *tin-e*, and *tin-o*). The Maithili syntactic in/definiteness construction involves cardinal number, classifiers and numerals and their order reversal in terms of a three points in/definiteness scale, viz. definiteness, antidefiniteness, and indefiniteness. In Maithili, the semantic of cardinal numbers expresses three types of concept, viz. (i) exact quantification, e.g. *sat* '7', and *ninanbe* '99', (ii) approximate quantification, e.g. *du-ek* (2-1) 'few', *bis-tis* (20-30) 'something between 20 and 30', and (iii) non quantification, e.g. *nə-chə* (9-6) 'squandering away' and *chə-pāc* "6th-5th" 'to play tricks'.

To conclude, a numeral is a symbol or group of symbols, or a word in a natural language that represents a number. This study is a preliminary attempt to analyze the types/categories of numeral in Maithili. Phonological, morphological, syntactic, and

semantic cardinal numbers in Maithili are equally interesting fields for the further researchers. Maithili also shows influence of many other languages on it. In this reference, sociolinguistic research of Maithili is interesting and challenging as well. Although this work itself is very small, limited and has not covered what is needed in this area, it will certainly, as I hope, be helpful for further works in Maithili.

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APPENDICES

Appendix: A

Counting concepts and numeral systems project

The following questionnaire has been given for cardinal numerals system, used in general counting in Maithili, which is presented in following Table.

Table: Counting concepts and numeral systems in Maithili

1. ek	21. ekəis
2. du	22. bais
3. tin	23. təis
4. cair/cāri	24. cəubis
5. pāc	25. pəcis
6. chə	26. chəbis
7. sat	27. sətəis
8. aṭh	28. əṭhəis
9. nɔ	29. untis
10. dɔs/dəs	30. tis
11. egarəh	40. calis
12. barəh	50. pəcas
13. terəh	60. saṭh/sāṭhi
14. cəudəh	70. sətəir/satari
15. pəndrəh/pənrəh	80. əsi
16. sorəh/soləh	90. nəbe
17. sətrəh	100. sə/sɔ (ek sə)
18. əṭharəh	200. du sə

19. unəis	1000. həjar (ek həjar)
20. bis	2000. du həjar

This primary data has been collected from the native speakers of the Maithili with the help of the counting concepts and numerals system (<http://lingweb.eva.mpg.de/numeral/>). It has both open syllable and closed syllable.

Appendix: B



Source: Ethnologue (in progress)