A descriptive study of the Etulo numeral system

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Abstract

This paper is based on an ongoing study on Etulo. It has identified the basic numerals and the processes involved in deriving the secondary or higher numerals from the basic ones. The paper goes to describe the processes of computation. The processes are found to be cumbersome, as opposed to the decimal system which has been adopted in Igbo. The paper therefore suggests the adoption of the decimal counting system.

1.0 Introduction

Etulo is a member of the Idomoid group of the Benue-Congo family (Gordon, 2005). According to Project (2009), Etulo has about 16,000 speakers, located in Benue and Taraba States of Nigeria. The language is spoken in two council wards in Benue State – Etulo council ward and Kastina-Ala central ward. Such languages like Tiv, Idoma, Igede and Hausa are also spoken in these two council wards. In Taraba State, Etulo is spoken in Wukari. The Etulo are bilinguals, they speak Etulo, their L1 and Tiv, their L2. Tiv has come to acquire the status of a predator language, as many of the younger ones tend to use Tiv rather than Etulo. In other words, Etulo is endangererd. We hereby call for some intervention measures to salvage the language from endangerment.

This paper is based on an ongoing study on Etulo. The paper focuses particularly on the numeral system of the language. Cross linguistically, every human society makes use of words in its counting system. The set of words used in counting is referred to as numerals. The term 'numeral' refers to the representation of the symbols and figures which are long lasting and are usually accepted and recognized within the language group where they are developed. This paper, in addition to other things, highlights such representation as it applies to Etulo.

The next section shows a list of the basic numerals and the processes of computing the secondary or derived numerals from the basic ones. The following section is on the distributive and multiplicative numerals. The last section is conclusion.

2.1 Basic numerals

Numerals are used to express numbers. A number is a conventional symbol that represents an amount or quantity. In English for instance, *five* is the numeral which expresses the number 5, and *fifteen hundred* or *one thousand and five hundred* are different numerals which express the number *1,500.* In addition to each number having a unique representation, a numeral system has also a set of formation or computation rules for deriving other numerals from the basic ones. There are thirteen numerals which have been identified as basic. They are said to be basic in that all the other numerals are derived from them by means of computation rules. The basic numerals are listed as follows:

1 /oɲiī/ 'one'	8 /èʤata/ 'eight'
2 /èfā/ ''two'	9 /èʤaānè/ 'nine'
3 /èta/ 'three'	10 /ijwo/ 'ten'
4 /ènè/ 'four'	20 /òsù/ or /ɔŋwusē/ 'twenty'
5 èda/ 'five'	100 /dèri/ 'hundred'
6 /èʤi/ 'six'	1000 /dugu/ 'thousand'
7 /èʤafā/ 'seven'	

The basic numerals are made up of *one* through *ten*, *twenty*, *hundred* and *thousand*. The secondary or non basic numerals are derived by computation involving addition or multiplication, and even the combination of addition and multiplication. A similar computation process has been observed in Koring (Anagbogu, 2006).

2.2 Derivation of secondary numerals

The process of deriving the secondary numerals is done by means of the following formation rules.

i. addition
ii. multiplication
iii. combination of addition and multiplication

2.2.1 Derivation through addition

The set of numerals from *eleven* to *nineteen*, and *twenty one* through *thirty* is derived by a single additive process. For the numerals *thirty one* to *thirty nine*, addition is done twice. The numeral /òsù/ *twenty* does not feature beyond *thirty nine*, the variant /ɔŋwusē/ is used instead.

For the purpose of illustration and economy of space the first and last numerals in each set will be listed, leaving out the intervening numerals, since they share the same derivational process.

/ijwo do oɲiī/ eleven
10 + 1 = 11

/ijwo do èʤaānè / nineteen
10 + 9 = 19

/òsù do oɲiī/ twenty-one
20 + 1 = 21

/òsù do ıjwo do oɲiī/ thirty-one
20 + 10 + 1 = 31

/òsù do ìjwo do èʤaānè / thirty-nine
20 + 10 + 9 = 39

In the examples above, the sandwiched lexeme *do* marks addition and it is roughly glossed as *plus*. For instance, the numerals *thirty* is the sum of *twenty* plus *ten*. Similarly *thirty one* is the sum of *twenty* plus *ten* plus *one* or *thirty* plus *one*.

2.2.2 Derivation by multiplication

Multiplication here is by concatenation, a morphological process which involves a linear ordering of elements (Lobner, 2002). In the examples that follow there is a linear placement of the multiplicand and the multiplier. There is no overt marker of multiplication, as is found in addition (sec 2.2.1).

/ɔŋwusē èfà/ forty
20 X 2 = 40

/ɔŋwusē èta/ sixty
20 X 3 = 60

/ɔŋwusē ènè/ eighty
20 X 4 = 80

/dèri		èfà/	two hundred
100	X	2 =	200
/dèri		èta/	three hundred
100	X	3 =	300
/dèri		ènè/	four hundred
100	X	4 =	400
/dèri		èda/	five hundred
100	X	5 =	500
/dèri		èʤi/	six hundred
100	X	6 =	600
/dèri		èʤafà/	seven hundred
100	X	7 =	700
/dèri		èʤatá/	eight hundred
100	X	8 =	800
/dèri		èʤaānè/	nine hundred
100	X	9 =	900
/dugu		èfà/	two thousand
1000	X	2 =	2000
/dugu		ijwo/	ten thousand
1000	X	10 =	10,000

To illustrate the examples above, let us consider the composite /ɔŋwusē èfà/ *forty*. This is interpreted literally as *twenty* multiplied by *two* (20 X 2). It is to be observed that the multiplicand, the first member of the composite, usually denotes a higher numeral than the multiplier.

2.2.3 Derivation by multiplication and addition

The category of numerals derived through the processes of multiplication and addition can be grouped into two. The first group involves the processes of adding once and multiplying once. The second is derived by a combination of a series of multiplication and addition. The following set is derived by multiplying once and adding once: *forty one* to *fifty, sixty one* to *seventy* and *eighty one* to *ninety.*

/ɔŋwusē		èfà	do	ɔɲiī/	forty-one	
20	X	2	+	1	= 41	

/ɔŋwusē		èfà	do	ijwo/		fifty	
20	X	2	+	10	=	50	
/ɔŋwusē		èta	do	oɲiī/		sixty-one	
20	X	3	+	1	=	61	
/ɔŋwusē		èta	do	ijwo/		seventy	
20	X	3	+	10	=	70	
/ɔŋwusē		ènè	do	oɲiī/		eighty-one	
20	X	4	+	1	=	81	
/ɔŋwusē		ènè	do	ijwo/		ninety	
20	X	4	+	10	=	90	

In each of the examples above, the derived numeral is computed by adding the product of the multiplication process to the value of the numeral that follows. In the examples that follow, multiplication applies once and addition twice. The numerals from this set are *fifty one* to *fifty nine, seventy one* to *seventy nine* and *ninety one* to *ninety nine.*

/ɔŋwusē		èfà	do	ijwo	do	oɲiī/		fifty-one	
20	X	2	+	10	+	1	=	51	
/ɔŋwusē		èfà	do	ijwo	do	èʤaānè/		fifty-nine	
20	X	2	+	10	+	9	=	59	
/ɔŋwusē		èta	do	ijwo	do	oɲiī /		seventy-one	
20	X	3	+	10	+	1	=	71	
/ɔŋwusē		èta	do	ijwo	do	èʤaānè/		seventy-nine	
20	X	3	+	10	+	9	=	79	
/ɔŋwusē		ènè	do	ijwo	do	oɲiī /		ninety-one	
20	X	4	+	10	+	1	=	91	
/ɔŋwusē		ènè	do	ijwo	do	èʤaānè /		ninety-nine	
20	X	4	+	10	+	9	=	99	

To account for the derived numerals, the product of the multiplication process is added to the individual value of the subsequent numerals.

2.2.4 Derivation through multiplication, addition and multiplication

The numerals which belong to this category are derived by adding the product of the pair of composites made up of a multiplicand and multiplier. The following examples are illustrative.

/dèri	èfà	do	ɔŋwusē	èfà/	two hundred and forty
100 X	2	+	20	2 =	240
/dèri	ènè	do	ɔŋwusē	ènè/	four hundred and eighty
100 X	4	+	20	4 =	480
/dugu	oŋiī	dọ	dèri	ènè/	one thousand and four hundred
1000 X	1	+	100	4 =	1,400
/dugu	èta	do	dèri	èda/	three thousand and five hundred
1000 X	3	+	100	5 =	3,500
/dugu	èʤi	do	dèri	èʤi/	six thousand and six hundred
1000 X	6	+	100	6 =	6,600

2.2.5 Derivation by multiplication, addition, multiplication, addition, and addition

The numerals *nine hundred and ninety one* to *nine hundred and ninety nine* represent the set of numerals derived by multiplication, addition, multiplication, addition, and addition. Observe the following:

/dèri	èʤaānè	do	ɔŋwusē	ènè do ijwo do oɲiī/	nine hundred and ninety-one			
100 X	9	+	20	X	4	+ 10	+ 1 =	991
/dèri	èʤaānè	do	ɔŋwusē	ènè do ijwo do èʤaānè/	nine hundred and ninety-nine			
100 X	9	+	20	X	4	+ 1	+ 9 =	999

Take for instance the number 991. It is derived by adding the product of each of the adjoining composites, which is then added to the values of the subsequent numerals.

3.1 Distributive numerals

Distributive numerals are used to ascribe a property to individuals rather than to a group. This set of numerals is derived by reduplicating any of the basic numerals.

/oɲiī	oɲiī/	
one	one	one each (individually)
/èfà	èfà/	
two	two	two each (in pairs)
/ènè	ènè/	
four	four	four each
/ijwo	ijwo/	
ten	ten	ten each

3.2 Multiplicative numerals

A multiplicative numeral is used to express the number of folds, or how many times something happens or is done. Such numerals in the language are derived by a construction involving the word /àkwo/, glossed as *time*, and any of the basic numerals. Examples include the following

/àkwo	oɲiī/	
time	one	once
/àkwo	èfà/	
time	two	twice
/àkwo	èʤaānè/	
time	nine	nine times

4.0 Conclusion

The paper has described the counting system in Etulo. Like most traditional counting systems, counting in Etulo appears to be cumbersome. In particular, the non-basic numerals are usually polymorphemic. In addition, they are derived by series of addition and multiplication processes. The adoption of the decimal counting system will make counting in Etulo to be less cumbersome.

Notes

1. Low ['] and step [-] tones are fully marked, while high tone is unmarked.
2. There is no orthography for Etulo, hence the presentation of data in phonemic transcription.
3. The following Etulo informants are hereby acknowledged: Messers Clement Agyo, Peter Nyebe and Samuel Ando.

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