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The Prospect Of Easy Learning Of Isoko Numeral System

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Abstract
Every speech community has its own numbering words that are used for counting. This confirms the claim that language permeates every aspect of human activities. The purpose of this paper is to examine the traditional system of counting in Isoko. The existing terms for hundred, thousand and million are used in this paper and new terms are suggested for million, billion and zillion. The paper also discusses the phonological processes of vowel elision and vowel fusion that characterize the derivation of numerals in the language. The use of addition marker 'gbe' which is the only arithmetic operator in deriving compound numerals in the language is also illustrated.

Counting and numbering have a peculiar problem in Isoko language especially when counting and numbering the cardinal involving hundreds, thousands or more. There are Isoko terms for hundred, thousand and million but these expressions are not used frequently. Any counting beyond thousands is regarded as uncountable. This cannot continue in this twenty-first century when technological development has brought civilization to places where nobody would have thought of counting beyond hundreds and thousands.

History of Numerals

According to Spencer (1976:4), "Primitive tribes were able to keep count of sheep and other items by using sticks, stones, fingers, notches in the wood, and knots in a string. Each language has words that are used for counting. Such number words can be written down in the same way other words are written in a language. In his discussion of the history of numerical, Girling (1958:69 – 70), made the assumption that "counting is nearly as old as speech and numerals are as old as writing."

Number Base in Counting

In the early stages of development according to Spencer (1976:42), the counting process became systematized when it was necessary to make more extensive

counts. This was done by arranging the numbers into convenient basic groups, thus the introduction of number bases. Spencer (1976:42) further claimed that

t*oday, some South American tribes count by hands, Base 5. The base 12 was used in pre-historic times, chiefly in relation to measurements. The American Indian and Mayan tribes used a base 20 number system. The ancient Babylonians used a number system based on 60. This system is still used when measuring time and angles in minutes and seconds. A base, then, is the number of distinct required by a system of numeric notation"*

Among the popular types of number bases, Girling (1958:70) recognizes the following:

i. The binary (base two)
ii. The quaternary (base four)
iii. The quinary (base five)
iv. The denary (base twenty)
v. The vigestimal (base twenty)

The decimal system of Arabic numerals (i.e base 10) that we are most familiar with was said to have been introduce into Europe by Adelard of Bath at about 110 AD and by 1600 AD it was almost in universal use (Mitchell, (1976:31).

The Traditional System of Counting In Isoko

Isoko uses the popular decimal system of Arabic numerals base 10 (i e the denary) or multiple of ten as the basis upon which both cardinal and ordinal numerals are derived. For instance, the numeral 'eleven' through nineteen are derived based on ten plus one through nine while twenty is regarded as new unit (ie a multiple of ten). There are specific terms for ten twenty, thirty, forty, sixty, eighty, hundred, etc. But fifty is forty plus ten, seventy is sixty plus ten and ninety is eighty plus ten. In other words, the traditional system of counting in Isoko requires that base ten or a multiple of ten serves as basis through which numerals are derived. The traditional system of counting in the language as it affects both cardinal and ordinal numerals, can be exemplified as (A) and (B) respectively;

A) CardinalNumerals

1 one = ovu
2 two = ive
3 three = ịsa
4 four = ịnị
5 five = isoi
6 six = iziza
7 seven = ihre

8 eight = irii
9 nine = izii
10 ten = ikpe
11 ikpe gbe ovu ……. (ikpegbeive)
Ten # plus # one
12 ikpe gbe ivẹ --------- (Ikpegbivẹ)
Ten # plus # two
13 ikpe gbe ịsa --------- (Ikpegbịsa)
Ten # plus # three
14 Ikpe gbe ịnị ---------- (Ikpegbịnị)
Ten # plus # four
15 Ikpe gbe isoi ---------- (Ikpegbisoi)
Ten # plus # five
16 Ikpe gbe ịzịza ---------- (Ikpegbịzịza)
Ten # plus # six
17 Ikpe gbe ihre ---------- (Ikpegbihrẹ)
Ten # plus # seven
18 Ikpe gbe ịrịị ---------- (Ikpegbịrịị)
Ten # plus # eight
19 Ikpe gbe izii ---------- (Ikpegbizii)
Ten # plus # nine
20 Udhe / Ikpe ivẹ ---------
Twenty / ten two i.e two tens
21 Udhe gbe ọvụ --------- (Udhegbọvụ)
Twenty # plus # one
30 Ọgba / Ikpe ịsa ---------
Thirty ten three i.e. three tens
31 Ọgba gbe ọvụ ----------
Thirty # plus # one
40 Udhuivẹ ---------- Udhuvẹ / ikpe ịnị
Twenty # two ----- two twenties / four tens
41 Udhuvẹ gbe ọvụ ------- (Udhvẹgbọvụ)
Forty # plus # one
50 Udhuvẹ gbe ikpe / ikpe isoi
Forty # plus # ten / five tens
51 Udhuvẹ gbikpogbọvụ
Forty # plus ten plus one
60 Udhe ịsa ------ Udhụsa / ikpẹ ịzịza
Twenty # three three twenties / six tens
61 Udhụsa gbe ọvụ ---------- (Udhụsagbọvụ)
Sixty # plus # one

70 Udhụsa gbe ikpe / ikpe ihrẹ
Sixty # plus # ten / seven tens
71 Udhụsa gbikpobọvụ
80 Udhe ịnị ---- U□hụni / ikpe ịrịị
Twenty # four twenties / eight tens
81 Udhụnịgbọvụ
90 Udụnị gbe ikpe / ikpe izii
Eighty # plus # ten – nine tens
91 Udhụnịgb ikpogbọvụ
100 Udhe isoi --------- udhusoi / ẹgba
Twenty # five --------- five twenties
101 Udhsoigbọvụ
200 ịgba ivẹ
300 ịgba ịsa
400 ịgba ịnị
500 ịgba isoi
1000 odu (one thousand)
1000, 000 – Ima, / Imalẹ (One million)
1000, 000, 000 Ibibima (One billion)
1000, 000, 000, 000 Itima (One trillion)
1000, 000, 000, 000, 000 Izizima (One Zillion)

(B) Ordinal Numbers

(i) 1st Ọtụsuọ (Ọsụsuọ)
(ii) 2nd avọ + ivẹ = avivẹ
(iii) 3rd avọ + ịsa = avịsa
(iv) 4th avọ + ịnị = avịnị
(v) 5th avọ + isoi = avisoi
(vi) 6th avọ + ịzịza = avịzịza
(vii) 7th avọ + Ihrẹ = avihrẹ
(viii) 8th avọ + ịrịị = avịrịị
(ix) 9th avọ + izii = avizii
(x) 10th avọ + ikpe = avikpe

As we see from (Bi – Bx) above, apart from the first ordinal number, Ọtụsuọ / Ọsụsuọ, other ordinal numerals in Isoko are formed by adding the positional prefix morpheme 'avọ' which represents the English equivalent of ' nd ' as in 2nd 'rd ' as in 3rd, ' th ' as in 4th to each of the cardinal numerals in (A) above.

Phonological Processes in the Derivation of Numbers in Isoko

There are two phonological processes involved in the derivation of numerals in Isoko. They are Vowel Elision and Vowel Fusion.

Vowel Elision

One of the two vowels that are close to each other when a word follows another is elided while the other is retained to arrive at the new word. In Isoko, the last vowel of the first word is elided and there will be a contraction of the two words to form the new word. To derive a compound numeral, addition marker 'gbe' meaning 'and' is used as an arithmetic operator to add any number to the number base. A rule of vowel elision as formulated by Chumbow (1982) stated below is used.

V ---------- □ / - # V

Prose Statement: The last vowel of a preceding word is elided at the word boundary when it is contagious with the vowel of the following word. The rule applies to the vowel of the addition marker 'gbe' which is elided to derive the output as evident in the following examples:

	Ten and one		Ten and one
	Ikpe gbe ọvụ	or	Ikpe gbe ọvụ
Vowel elision	Ikpe # gb # ọ□vụ		Ikpe # gb # ọvụ
Output	Ikpegbọvụ		Ikpogbọvụ
			Twenty and three
			Udhe gbe ịsa
Vowel elision			Udhe # gbe # ịsa
Output			Udhegbịsa

Vowel Fusion

In vowel elision, one of the vowels in the two words sharing boundary is elided.

The result is that one of the two vowels will be retained. But there are cases when the output gives us a vowel entirely different from the two that are sharing boundary, this is what Bamgbose (1990) referred to as vowel fusion.
The rule is stated below

$V_1 + V_2$ -------- V_3

This is evident in the output of the following compound numerals

	Eighty (80)	Forty (40)
	Udhe ịnị	Udhe ivẹ
Vowel fusion	ụ	u
Output	Udhụnị	Udhuvẹ
		One Hundred (100)
		Udhe isoi

Vowel/fusion	u
Output	Ụdhusoi

On the Simplicity of Learning Derivation of Numerals in Isoko

If simplicity of structure, rather than complexity, could be assumed to aid any form of learning, we consider the simple number base as well as the simple method of deriving compound numerals in Isoko an advantage for learners.

A comparison between the traditional systems of counting in a neighbouring language like Yoruba and Isoko will reveal the simplicity and ease with which numerals are derived in Isoko. For instance, in his discussion of the numerals in Yoruba, Awobuluyi (1994:33) shows the complexity involved in deriving numerals in the language as follows:

Most of the numerals in the language are derived, and they are derived in an often very cumbersome and complicated manner involving multiplication, addition and substraction. Thus, in traditional Yoruba counting, seventy – one, for instance, is ookanlelaadọrin lit. 'one plus four twenties minus ten, i.e 1+ (20 × 4) - 10]

In other words, while three arithmetic operations – addition, multiplication and subtraction are involved in the derivation of a number like seventy-one, as rightly observed by Awobuluyi (1994), only a single operation (i.e addition) is required to derive the same number in Isoko. The addition marker in Isoko – (gbe) is used to derive seventy-one as in the following:

Udusa # gbe # ikpe # gbe # ọvụ	(Udhụsagbikpegbọvụ)
Sixty and ten and one	(i.e. 60 + 10 + 1 = 71)
or	
Ikpe ihre # gbe # ọvụ	
Seven tens and one =	i.e. 70 + 1 = 71)

It has been observed that, unlike in Yoruba, Isoko does not use more than one arithmetic operator in derivation of a particular number. In some cases, addition has to be done twice to drive the desired number just like the example given.

Conclusions

The significance of traditional numerals within the linguistic and pedagogical development of a language calls for the need in this paper to briefly discuss the universality of the use of 'number words' as manifested in the counting systems among human languages, both written and unwritten. The history of numerals was reviewed. The paper went further to examine the concept of 'number base' and uses its practical application to explain the phenomenon of 'base ten' or a multiple of ten in the

traditional system of counting in Isoko as it affects both cardinal and ordinal numerals. With the aid of the two phonological processes of Vowel Elision and vowel fusion as well as the use of addition marker gbe, the paper illustrates how compound numerals are derived in Isoko.

Finally, based on the use of simple numeral (i.e. base ten) and the simple way in which compound numerals are derived in Isoko, this paper is of the view that potential learners of Isoko, as a first or second language, will face little or no problem in learning the traditional numerals in the language.

References

Awobuluyi, O. (1994). "The development of Standard Yoruba" In Istvan fodor / Claude Hagege (eds.) *Language Reform: History and Future.* Hamburg: Helmut Buske Verlag. VI. 25 – 42

Bamgbose, Ayo (1990). *Fonoloji ati Girama Yoruba.* Ibadan: University Press Limited

Chumbow, B.S. (1982) .Consonant Delete and Vowel Elision in Bariba Paper delivered at the 3rd annual conference of the linguistic association of Nigeria, University of Ilorin, Ilorin, Nigeria.

Girling, D.A. (1958) (ed.) *Everyman's Encyclopedia* (sixth Edition in twelve volumes) London: J.M. Dent & Sons Ltd 69 – 70.

Iduhe, P.A. (1990). *A Handbook on Isoko Grammar and Lexis for Schools and Colleges.* Warri: Endu-chuks Ltd. 166 – 180.

Isoko Language Dictionary (ụfụtọ ịmị Isoko) (2009) Warri: Macony Nig. Ltd. 106-108.

Mitchell, J. (1976) (ed.) *Science and the Universe:* The Joy of knowledge Encyclopedia. London: Mitchell Beazley Encyclopaedia Ltd. 31

Spencer, D.D (1976). *Computer Science Mathematics. Columbus*: Charles E. Merill Publishing Company. 4, 42.