# A Comparative Analysis of the Numerals and Counting Systems of Igbo and Igala

Mbah, E. E. (Ph.D)\*<sup>1,</sup> Ndubuisi O. Ahamefula<sup>1,</sup> Monday Ayegba<sup>2</sup>, 1, Department of Linguistics, Igbo and Other Nigerian Languages, University of Nigeria, Nsukka 2, Department of General Studies, Kogi State Polytechnic, Lokoja \*Corresponding authorndubuisi.ahamefula@unn.edu.ng

### Abstract

This paper carries out a comparative study of the numbering systems of the Igbo language and the Igala language. The paper analyzes the counting systems of both languages to find out their similarities and differences. Besides, the paper studies both the cardinal and ordinals of the Igbo language and the Igala language. Again, the paper makes a foray into the counting of days, weeks and months in both Igbo and Igala. Furthermore, the paper looks at how both Igbo and Igala express days ahead of time. The paper adopts the descriptive approach of analysis whereby relevant literatures are consulted for data and analyzed. The paper finds that though there are some areas of differences, there are some striking similarities in the numerals and counting systems of the Igbo language and the Igala language. Worthy of note is the vestiges of vigesimal counting system noticeable in some Nigerian languages. This feature, however, is being eroded to some extent by language planning efforts that tend to embrace the British decimal system. Moreover, both languages have some interesting similarities in their use of concepts for the expression of ordinals. Again, the similar four market days calls for more research into Igbo and Igala to find out where the two languages crossed paths in history.

# **1.0 Introduction**

Languages the world over have their unique ways of numbering and counting. There are traditional vigesimal systems of numbering in both Igala and Igbo but the British decimal system of numbering has almost overthroned the traditional system as a result of language planning to meet international standard. That is why Ndukwe (1995:53) says:

A fairly radical restructuring of Igbo numerals has been carried out. The traditional vigesimal system was considered by the planning agent as being too cumbersome, and riddled with ambiguities, for effective use in the ongoing modernization of Igbo society. An alternative decimal system was substituted and claimed to render the Igbo counting system more amenable to technological use, especially as it relates to mathematics.

Igala has also undergone such restructuring of numerals from the traditional vigesimal to the alternative decimal system for the same purposes as Ndukwe (1995) notes above.

However, Sanusi (1995:13) argues that "the traditional system of counting, in any given speech community, constitutes one of the sociolinguistic factors that make up the distinctness and individuality of that speech community as against other speech communities". It follows, therefore, that the traditional way of numbering or counting is one of the sociolinguistic factors that reveal a particular people's identity. Hence, the traditional vigesimal system cut across dialects of a language, and even to a larger extent across many languages of the world.

The subscription to the decimal system is a threat to the traditional vigestimal system, and this endangers numbering and counting aspects of our indigenous languages. The new generations may in the nearest future lose contact with the traditional numbering system as a result of the fast growing western influence of decimal numbering system. Oyebade (2010:2) observes that: "...African counting system is gradually being eroded by the more dominant decimal system of what are known as world languages".

Igala and Igbo belong to the same language family known as new Benue Congo family of languages. The two languages share a good number of linguistic similarities including their numbering/counting systems which this paper is set to examine comparatively. The paper examines numerals of some Nigerian languages; simultaneously features cardinal and ordinal numbering in the Igala and the Igbo languages; counting of days of the weeks and months of the year in the languages are also examined. Discussion of findings, where the similarities and differences between Igala and Igbo numerals and counting systems, follows. The final segment features conclusion and recommendation.

| 2.0 Numerals in | some Nigerian | Languages |
|-----------------|---------------|-----------|
|-----------------|---------------|-----------|

| Arabic | Bukpe              | Tiv         | Hausa    | Yoruba |
|--------|--------------------|-------------|----------|--------|
| 1.     | Obong              | mom         | daya     | meni   |
| 2.     | ifie               | uhwa        | biyu     | meji   |
| 3.     | itie               | utaa        | uku      | meta   |
| 4.     | ene                | unyii       | hudu     | merin  |
| 5.     | iza                | utaan       | biyar    | marun  |
| 6.     | etietie(3,3)       | aterata     | shida    | mefa   |
| 7.     | izarifie (5 and 2) | utankaauhwa | bakwaii  | meje   |
| 8.     | binebine (4,4)     | anieni      | takwas   | mejo   |
| 9.     | izaribine (5and 4) | utankwunyi  | tara     | mesan  |
| 10.    | rikwe              | pue         | goma     | mewaa  |
| 20.    | risi               | kundu       | ashirin  | ogun   |
| 40.    | asiafie            | akunduhaa   | arbain   | ogoji  |
| 100.   | asiazan            | deri mom    | dari     | ogorun |
| 400.   | asirisi            | deri unyiin | darihudu | irinwo |

(Adapted from Ahamefula, 2011:6)

# 3.0 Igala and Igbo Numerals (Cardinals) Arabic Igala

| 5.0 Igaia and Igbo Ivumerals (Cardinals) |                       |                       |  |  |
|--|-----------------------|-----------------------|--|--|
| Arabic                                   | Igala                 | Igbo                  |  |  |
| 1  | oka                   | otu                   |  |  |
| 2  | eji                   | abuo                  |  |  |
| 3.                                       | eta                   | atọ                   |  |  |
| 4.                                       | ele                   | ane                   |  |  |
| 5  | elu                   | ise                   |  |  |
| 6.                                       | efa                   | isii                  |  |  |
| 7.                                       | ebie                  | asaa                  |  |  |
| 8.                                       | ejo                   | asato                 |  |  |
| 9.                                       | ela                   | itoolu                |  |  |
| 10.                                      | ęgwa                  | iri                   |  |  |
| 11.                                      | egwa oka              | iri na otu            |  |  |
| 18                                       | ęgwa ejo              | iri na asatọ          |  |  |
| 20.                                      | ogwu                  | iri abuo              |  |  |
| 21                                       | ogwu nyi oka          | iri abụọ na otụ       |  |  |
| 28.                                      | ogwu nyi ẹjọ          | iri abụọ na asatọ     |  |  |
| 29.                                      | ogwu nyi ela          | iri abụọ na itoolu    |  |  |
| 30                                       | ogwu nyi egwa         | iri ato               |  |  |
| 40                                       | ogwu meji             | iri ano               |  |  |
| 50                                       | oje                   | iri ise               |  |  |
| 60                                       | oje nyi egwa          | iri isi               |  |  |
| 70                                       | oje nyi ogwu          | iri asaa              |  |  |
| 80                                       | oje nyi ogwu egwa     | iri asato             |  |  |
| 90                                       | oje nyi ogwu meji     | iri itoolu            |  |  |
| 100                                      | ogwo mẹlu             | nari                  |  |  |
| 400                                      | ogwu mẹlu mẹlẹ        | nari ano              |  |  |
| 800                                      | ogwu mẹlu mẹjọ        | nari asato            |  |  |
| 1200                                     | chami nyi ogwoko nyi  | otu puku na nari abuo |  |  |
|  | ogwu mẹlu meji        |                       |  |  |
| 2000                                     | chami nyi ogwoko meji | puku abụọ             |  |  |
| 4000                                     | chami nyi ogwoko mele | puku ano              |  |  |
| 1,000,000                                | chami nyi ogwoko ado  | nde                   |  |  |
|  | chami nyi ogwoko      |                       |  |  |
| 1,000,000,000                            | ijer                  | i                     |  |  |

#### 3.1 Igala and Igbo Numerals (Ordinals)

| Igala       | Igbo         | Gloss                  |
|-------------|--------------|------------------------|
| ejuodudu    | nke mbụ      | $1^{st}$               |
| keji        | nke abuo     | $2^{nd}$               |
| eketa       | nke ato      | 3 <sup>rd</sup>        |
| ekele       | nke ano      | $4^{\text{th}}$        |
| ekelu       | nke ise      | $5^{\text{th}}$        |
| ekefa       | nke isii     | 6 <sup>th</sup>        |
| ekebie      | nke asaa     | $7^{\text{th}}$        |
| ekejo       | nke asato    | 8 <sup>th</sup>        |
| ekela       | nke itoolu   | $9^{\text{th}}$        |
| ekegwa      | nke iri      | $10^{\text{th}}$       |
| ekogwu      | nke iri abuo | $20^{\text{th}}$       |
| ekoje       | nke iri ise  | $50^{\text{th}}$       |
| ekogwu melu | nke nari     | $100^{\text{th}}$ etc. |

# 3.2 Igala and Igbo Counting of Days of the Week and Months of the Year

Counting of days of the week and months of the year in both Igala and Igbo differ, in a great measure, from those of English. There are four (4) market days which traditionally represent a four-day week in Igala and Igbo respectively. 'Aladi' (Sunday) and izu uka' (week Sunday) are used to refer to week in Igala and Igbo. 'Ochu' (moon) and 'Onwa' (moon) are used for months of the year traditionally in these languages. **3.2.0 Counting of Days of the Week** 

| 5.2.0 Counting of Days of the Week |      |                   |  |
|------------------------------------|------|-------------------|--|
| Igala                              | Igbo | Gloss             |  |
| Eke                                | Eke  | first market day  |  |
| Ędę                                | Orie | second market day |  |
| Afọ                                | Afọ  | third market day  |  |
| Ukwọ                               | Nkwọ | fourth market day |  |
|                                    |      |                   |  |

Since counting of days of the week are done using market days in these two languages, the days do not correspond with those of English such as: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday. While Igala and Igbo have four (4) cyclic market days representing a four-day traditional week, English has seven (7) cyclic days for a week. It is, therefore, impossible to correspond the Igala and Igbo traditional days to those of English as we have seen from the above.

Other concepts worthy of note here are the traditional ways of referring to 'yesterday' 'tomorrow' etc. Below are such concepts:

| <b>Igala</b><br>onale<br>engini<br>ona   | <b>Igbo</b><br>unyau<br>taa<br>echi   | Gloss<br>yesterday<br>today<br>tomorrow |
|--|---|---|
| oto + ona →otona<br>branch tomorrow "branch<br>of tomorrow"<br>ele+engini→elengini | nwa + nne+echi→nwanechi<br>child mother tomorrow<br>"tomorrow's brother or sister"<br>tontoro+nwa+nne echi→ | the day after tomorrow                  |
| four today "four days to come"   | tontoro nwannechi<br>senior child mother tomorrow<br>"The day that seniors the day after<br>tomorrow"       | four days to come                       |

The concepts used for 'the day after tomorrow' as in 'otona' (branch of tomorrow) in Igala and 'nwannechi' (child of tomorrow's mother) in Igbo are those of extension and relationship. Also, the concepts for 'four days to come' as in 'elengini' (four days from today) in Igala and 'tontoro nwannechi' in Igbo are those of extension and seniority respectively. The tontoro notion is got from the idea of seniority - ito (to senior) in Igbo. With this tontoro concept, we can keep on counting days till infinity in Igbo (Ahamefula: 2011). Also, with 'engini'(today) concept, counting of days in Igala can keep on extending.

We have earlier established that 'Aladi' (Sunday) in Igala and Izu Uka (Week Sunday) in Igbo are used in the two languages to refer to the English 'Week'. Let us see how they are used:

| Igala          | Igbo              | Gloss       |
|----------------|-------------------|-------------|
| Aladi ka       | otų izu           | one week    |
| Aladi ejuodudu | izu uka mbu       | first week  |
| Aladi mele     | izu uka ano       | four weeks  |
| Aladi ekele    | izu uka nke ano   | fourth week |
| Aladi mejo     | izu uka asato     | eight weeks |
| Aladi ekejo    | izu uka nke asato | eighth week |
| Aladi yi       | izu uka a         | this week   |
| Aladi ojele    | izu uka ikpeazu   | last week   |
| Aladi omune    | izu uka ozo       | next week   |
| •              |                   |             |

#### **3.2.1** Counting of Months of the Year

Both Igala and Igbo traditionally count moon in place of months of the year. A traditional year of the two languages comprises twelve (12) moons. And one moon has a life cycle of twenty – eight (28) days 'moon is called 'ochu' in Igala, while it is called 'onwa' in Igbo:

| Igala           | Igbo                 | Gloss         | Equivalent  |
|-----------------|----------------------|---------------|-------------|
| Ochu inyẹ       | Ọnwa mbụ             | first moon    | "January"   |
| Ochu ekeji      | Ọnwa nke abụọ        | second moon   | "February"  |
| Ochu eketa      | Qnwa nke ato         | third moon    | "March"     |
| Ochu ekele      | Ọnwa nke anọ         | fourth moon   | "April"     |
| Ochu ekelu      | Qnwa nke ise         | fifth moon    | "May"       |
| Ochu ekefa      | Qnwa nke isii        | sixth moon    | "June"      |
| Ochu ekebie     | Qnwa nke asaa        | seventh moon  | "July"      |
| Ochu ekejo      | Onwa nke asato       | eighth moon   | "August"    |
| Ochu ekela      | Qnwa nke itoolu      | nineth moon   | "September" |
| Ochu ekegwa     | Qnwa nke iri         | tenth moon    | "October"   |
| Ochu ekegwa oka | Qnwa nke iri na otu  | eleventh moon | "November"  |
| Ochu ekegwa eji | Qnwa nke iri na abuo | twelfth moon  | "December"  |

#### 4.0 Discussion of Findings

This section discusses the similarities and differences between Igala and Igbo numerals and counting systems.

#### 4.1 Similarities

The two languages (Igala and Igbo) have areas of similarities in their numerals. They both, for instance, have same pattern of numbering from numerals 1-10, where one word is used to represent a numeral in the languages (refer to 3.0).

On counting of days of the week, both languages have four cyclic market days representing a four-day week traditionally. Note also that 'Eke' (first market day) and 'Afo' (third market day) have same spelling, pronunciation and meaning in Igala and Igbo. The languages have the same 'one word' pattern of referring to 'yesterday', 'today' and 'tomorrow' (see 3.2.0). Furthermore, the concept of counting of moon to representing months of the year is adopted by both languages. A traditional year in Igala and Igbo comprises twelve (12) moons, where each moon has a twenty-eight (28) day life cycle.

### 4.2 Differences

The similarities between Igala and Igbo numerals and counting systems notwithstanding, there are a good number of differences between them.

This study finds out that the numbering patterns of the two languages starting from numeral '11' (eleven) take different directions entirely. Igala uses two words to describe 11, 12, 13, 14, 15, 16, 17, 18 and 19 (e.g. 'egwa oka' 10, 1 meaning 11). But Igbo uses three words for them (e.g. ' iri na otu' 10 and 1 meaning 11). Again, while Igala has one word for 20 'ogwu', Igbo has two words for it 'iri abuo. However, in the old Igbo counting system we have 'ogu' for 20. Igala also has one word for 50 'oje', but Igbo does not. But while Igbo has one word for 100 'nari', 1,000 'puku', 1,000,000 'nde' and 1,000,000,000 'ijeri, Igala uses more than one word to describe them. More so, Igala does not have any native name or numeral representing 1,000,000,000 but Igbo does have as we can see above.

There is a concept of 'nyi' meaning 'to wear' in the numerals: 21 'ogwu nyi oka', 28 'ogwu nyi ejo etc. in Igala. That is to say, for instance, that '20 wears 1' meaning 21. In Igbo, on the other hand, the concept of 'na' meaning 'and' is used. This can be observed in the numerals: 18 'iri na asato', 21 'iri' abuo na otu' etc. meaning (10 and 8), (10 in 2 places and 1).

Again, there are differences in the spelling and pronunciation of second market day 'Ede' (Igala), 'Orie'

(Igbo); but they have same meaning: the second market day. The fourth market day 'Ukwo' (Igala) 'Nkwo (Igbo) have different spellings, similar pronunciation, but same meaning.

Other different concepts which the two languages adopt are those of 'extension' and 'relationship' for 'the day after tomorrow': 'oto ona' – branch of tomorrow (Igala) and 'nwa nne echi' – tomorrow's brother or sister (Igbo). Igbo also uses the concept of seniority - ito (to senior) in referring to days ahead, such as 'tontoro nwannechi' meaning 'four days to come (see 3.2.0).

### 5.0 Conclusion and Recommendation

The British decimal system of numbering has, today, overshadowed the Igala and Igbo traditional vigesimal systems; speakers (especially the younger ones) of these languages rarely make use of the traditional numbering and counting systems of these languages. Some speakers of Igala and Igbo in the present time do not have a full-fledged knowledge of the numerals, counting of the traditional market days of the week and moons of the year in the two languages; they have been totally influenced by the modern ways of doing these.

The danger of the foregoing is language endangerment and /or extinction; if the young generations and speakers of these languages are not encouraged to embrace the traditional system of numbering and counting in the languages, we will have a different story to tell in the nearest future. It is on this ground that the following recommendations are made:

- i. Parents and relevant stakeholders should always encourage children and/or students to embrace the culture of speaking their native languages both at home and in the school. Today, children of most educated people in our society do not speak their native language(s); and their parents especially contribute a lot to this 'deficiency'.
- ii. Government should set up a body that will be monitoring teaching and learning of Nigerian indigenous languages in schools and colleges to ensure that every Nigerian child picks interest in learning his/her native language. For this to be properly executed, government should first of all make sure that all Nigerian indigenous languages are standardized, elevating them to acquire a status in which they can be taught and learnt formally.
- iii. Finally, and more importantly, children should be obliged to learn the traditional numbering and counting systems of their indigenous languages even as they continue to use the decimal system for pedagogical purposes.

#### References

- Ahamefula, N.O. (2011). "Igbo Numerals, Counting and Measurement Systems in Pedagogy". A Paper Presented to the International Conference Organized by Institute of African Studies, University of Nigeria, Nsukka (UNN). Held from 8-10 June, 2011.
- Ndukwe, P. (1995). "Language Planning and Language Change: Some Evidence from Igbo". In Nigerian Language Studies. No. 3, Pp. 53 57.
- Oyebade, F.O. (2010). "The Imperative of Documenting Counting Systems in African Languages: A Window into the Cognitive Process of Computation".
- Sanusi, I. O. (1995). "Counting in Base Five: The Derivation of Numerals in Bàtònū". In Nigerian Language Studies. No 3, Pp, 13 19.

# **Primary Sources**

Interview Conducted with F.I. Atadoga, Head of Department, Igala Language and Culture, Kogi State College of Education, Ankpa, Aged 47, Native of Igala, on 15/08/2011.

Interview Conducted with Sabastine Okolo, Aged, 33, Native of Igala, Kogi State, Nigeria, MA Student of Mass Communication, UNN, on 20/08/2011.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage: <u>http://www.iiste.org</u>

# CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** <u>http://www.iiste.org/journals/</u> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

# MORE RESOURCES

Book publication information: <u>http://www.iiste.org/book/</u>

# **IISTE Knowledge Sharing Partners**

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library, NewJour, Google Scholar

