

Numeral systems in Olùkùmi and Òwò dialects of Yorùbá, evidence of Yorùbá Affinity

Received : 19.01.2024
Accepted : 16.06.2024
Published : 30.08.2024
DOI: <https://doi.org/10.5281/zenodo.13756184>

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Abstract

This study investigates the numerals of Olùkùmi and Òwò dialects of Yorùbá to identify some basic and derived forms of the numeral systems in the two Yorùbá dialects. The data for this study were drawn from structured interviews using purposive sampling of ten (10) native speakers of Olùkùmi and another ten (10) native speakers of Òwò dialects. Thirty-seven varying numbers from the two dialects generated from Ibadan four hundred basic wordlists were subjected to descriptive and comparative analyses. The results of this investigation using the Weak Lexicalist Approach (WLA) show that there are linguistic convergences and divergences in the numeral systems of Olùkùmi and Òwò dialects. Counting numbers from one to ten is considered basic in Olùkùmi and Òwò dialects. The results of the two dialects subscribe to the subtraction method in the mathematical approach. In addition, the Òwò dialect has a basic numeral system for two hundred ('ugba'); whereas the Olùkùmi dialect, on the other hand, employs a derived decimal approach as two hundred ('orumezi'). The Olùkùmi dialect of Yorùbá was seen to be in favor of the additive numeral system rather than the subtractive and multiplication methods that are common in Òwò numeral system. More so, Olùkùmi uniquely attests to clipping. Finally, it was generally discovered that the change in space, time, and distance account for the linguistic variations observed in the numeral systems of the two dialects (Olùkùmi and Òwò). This study, therefore, provides an insight into how Olùkùmi and Òwò dialects of the Yorùbá are spoken within and outside Yorùbá communities, as well as how their numeral systems are being derived.

Keywords Numeral system, native speakers, Olùkùmi dialect, Òwò dialect, standard Yorùbá.

1. Introduction

Some languages of the world are gradually going into extinction (Akinola, 2014; Nettle & Ronaine, 2000; Owolabi, 2007; Oyebade, 2014; Maikanti, Chukwu, Odibah, & Ogu, 2021) due to factors such as poor language attitude and the embrace for the foreign cultures. With these, some aspects of indigenous languages are said to be endangered due to dropping mother tongues for imported (foreign) languages in the name of Western civilization. However, it is important to note that language and culture are intertwined, and the relationship between language, culture, and mathematics in human existence cannot be quantified. This is because

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when a language dies, the culture of the affected language is also affected, (Bunza, 2006; Maikanti, 2014). Fasehun (2023, p. 40) also adds that culture as a living and dynamic body of knowledge needs to be carefully nurtured, kept alive and healthy, otherwise, it may degenerate, atrophy, die, and petrify. The rationale behind this is the depravity and decadence of cultural heritage, moral and socio-economic values, and norms that are naturally enshrined in the indigenous languages. Such an unhealthy attitude of Africans not being able to think and express themselves in their native languages is what can be regarded as linguistic suicide (linguicide). When such a threat continues, issues such as the numeral system as they affect the dialects of a particular language will not be spared. Awobuluyi (1988) opines that there are issues (numerals) related to the dialect of a language that can be studied in their own right and thereby be preserved in the written record for posterity. This is because such issues of dialects have further potential of helping to clarify some points that are likely otherwise obscured in the standard variety of the language.

A numeral is a universal phenomenon attested in all human languages. The numerals are used in day-to-day socio-economic and sociolinguistic activities across the globe. The numeral system of a particular language may be different from the numeral system of another language. As a Yorùbá for instance, which is a Niger-Congo language spoken in West Africa, it was observed to be having a base-20 system in its numeral or counting system (Oyebade, 2014). The numeral system of a language could be vigesimal whereby counting is done in multiples of twenty (base 20), decimal (base 10), and base five. Vigesimal numerals could be categorized into two; closed and open numerals. Closed numerals are known as basic. These are not derived; rather, they serve as bases or roots to other numeral derivatives, whereas open numerals, on the other hand, are limitless in number. They are derived from the basic or closed numerals through mathematical and grammatical processes. Maria (2014), Mbal and Uzgoigwe (2013), Mengden (2010), and Dixon (2002) observe that numerals comprise simple and complex expressions of how numbers are utilized in a language, and it has mono-phonemic forms with arbitrary phonological shapes. To express that a number exceeds 10, the language devices a way of adapting a complex numeral system, simply because, complex numerals are considered as the numbers that express morpho-syntactic constituents of simple numerals.

Since numeral is regarded as the sociolinguistic identity of any given speech community, Sanusi (1995, p. 13) adds that “the traditional system of counting in any given community constitutes one of the sociolinguistic factors that make up the distinctness and individuality of that speech community as against other communities”. This implies that a given speech community could be distinguished or identified by its numeral system as they are not prone to borrowing. It is a sub-generic and natural linguistic endowment of any given speech community. Maria (2014) says that several studies, especially in African languages reveal that numerals as an aspect of language are not borrowed. But when the need for new numerals arises, they are derived from the existing ones, using mathematical and morphological processes. In the same vein, Omachonu (2011) opines that counting or numbering is an integral and inseparable part of the grammar of any language because there is hardly any meaningful linguistic discourse in a language that does not make reference to quality, size, time, distance and weight in definite numbers or numerals.

The fact that the numeral system of standard Yorùbá (SY), including the Olùkùmi and Òwò dialects is done in base 10, such vigesimal numeral system seems to be gradually fading out among the youth and children of the affected speech communities in Yorùbá land (Fasehun, 2014). This is because it has been observed that the numbers are cumbersome and they require sound cognitive skills

for mathematical and grammatical operations. This no doubt made the present generation of Olùkùmi and Òwò dialects speakers, most especially the elites and teenagers are found to be dropping the vigesimal system for the English decimal system. Mbal, Ndubuisi, Ahmefula, Ayegba (2014, p. 61) assert that the subscription to the decimal system is therefore, a threat to the traditional vigesimal system, and this endangers the numbering and counting aspects of our indigenous languages. With this attitude, the new generation may shortly lose contact with their traditional numbering system due to the fast-growing Western influence of decimal numbering. Fabunmi (2010, p. 38) also concludes that the numeral system of Yorùbá is endangered. Some Yorùbá scholars have postulated various methods by which the numeral system of the language could be made more "friendly" and less cumbersome to the users. Studies on Olùkùmi (Arokoyo, 2012; Okolo-Obi, 2014; Oluwadoro & Abiola, 2016) and the Òwò dialects of Yorùbá (Abiola, 2011; Adejube, 2014; Awobuluyi, 1992) which seem to have few literatures did not focus more on the numeral systems of these two dialects. It is against this background that the present study investigates the numeral systems in Olùkùmi and Òwò dialects of Yorùbá to identify basic and derived forms, and also to determine how the derived numerals are mathematically and grammatically processed which would serve as a reference.

1.1. Olùkùmi and Òwò dialects: A brief history

Olùkùmi is a dialect of Yorùbá spoken in Ugbodu and Ukwu-Nzu communities such as Igboba, Ogo, Idumuju, Ubulu, and Anioma in Delta state, Nigeria. The dialect and its speakers are known as Olùkùmi. Olùkùmi means "my friend" and figuratively denotes "my concubine" not only in Olùkùmi but also in some well-known dialects of Yorùbá such as Owé, Ifè, Òwòrò, and Yàgbà. The Olùkùmis are bilinguals; as they speak both Olùkùmi and Enuami, a dialect of Igbo in the south-east, of Nigeria. The people from the area were said to have migrated from Òwò town in Ondo state to Benin, and to Ugbodu where they are presently settled. Olùkùmis are predominantly farmers, specializing in the cultivation of yam and cassava (Kareem, 2021; Obadan & Okolo, 2014).

Sequel to the National Population Census of 2006 in Nigeria, Olùkùmi has a population of approximately 13,750. Olùkùmi is surrounded by many ethnic groups in south-west Nigeria which is reflected in the dialect. They are bounded on the Eastern part of Anambra state, and South-East with Imo state. It also shares a boundary with Bayelsa state; in the South-West with Isoko; in the West with Urhobo; North West with Edo state, and in the North-Central with Kogi State (Arokoyo, 2014, p. 273). The genetic status of Olùkùmi is debatable. It has long become a contending issue among linguists. While studies (Oyelowo, 1990; Abiola, 2011; Obisesan, 2012; Oluwadoro & Abiola, 2016; Kareem, 2020; 2021) argue that Olùkùmi is a variety of Yorùbá language, other researches on the other hand (Elesin, 2012; 2017; Obadan & Okolo, 2015; Arokoyo, 2012; 2014) go contrary to this claim, as they view Olùkùmi dialect as an autonomous language with a close affinity with Yorùbá.

Òwò is a Yorùbá dialect spoken in Òwò town, Ondo State, Nigeria. It is approximately 121 kilometers from Benin City, and about 52 kilometers from Akure, the Ondo State capital. The dialect and its speakers are popularly known as Òwò (Òghò). Yorùbá dialectologists categorized Òwò into the

Southeast (SE) subgroup. The Òwò speakers reside majorly in the South-West of Nigeria. They could be found in states such as Lagos, Òyó, Ògùn, Èkitì, and some parts of Kwara and Kogi respectively. The Òwò people are predominantly farmers and hunters. It was said to have been founded by Ojugbelu; one of the children of Oduduwa. According to oral tradition, Òwò is the cradle of Olùkùmi. Olùkùmi (Ugbođu) migrated from Òwò between the 9th and 11th centuries AD to settle down in the Benin Kingdom during the reign of King Ogiso of Benin (Obisesan, 2012).

1.2. Literature Review

Omachonu (2012) delves into a comparative analysis of the numeral systems of Ígálà, Yorùbá, German, and English employing Optimality Theory to reveal how numeral systems could be measured to understand the linguistic affinity among languages. The work shows that the derivation of non-basic numerals involves mathematical processes such as addition, subtraction, and multiplication with certain grammatical modifications like elision, clipping, compounding, and desententialization. Omachonu (2012) avers that the numeral system affirms linguistic affinity between German and English sisters from the same parents but, Yorùbá and Ígálà despite belonging to the same family differ in counting system. Omachonu (2012: p.63) asserted that Yorùbá employs more complex derivational processes of using terms such as '**lé ní**' (increase by) and '**ó dín ní.../dín ní**' (it reduces) as shown in '**mòkanléléwaa**' → '**mòkanlá**' (one more than ten), and '**mu-èrin-dín-ní-ogun**' → '**mèrindínlogun**'. Also, in derivational processes than other languages by first adding the lower numerals 1-4 only to base 20 to derive 21-24 then adopting subtraction to derive 25-29 by subtracting the lower figures 1-5 from 30 to derive 25-29 and so the pattern continues to derive higher numerals in Yorùbá.

Ajibádé (2023) explores Yorùbá numeral systems in terms of form-meaning, using the Construction Morphology theoretical framework for the analysis to account for the complex derivational processes involved. He terms 1-10, 20, 30, 200, and 400 as basic uninflected numeral forms which form blocks for the computation of the group of other numerals. Ajibádé (2023) added that Yorùbá speakers represent the meaning of each numeral feature (allomorphs) in their mental representation and use these existing forms to generate more numerals. The allomorphs of Yorùbá numeral pointed out by Ajibádé (2023) are 10 as '**èwa**' or '**aa**', 20 as '**ogun**', '**og/og**' or '**okoo**', 200 as '**igba**' or '**egb/egb**', 100 as '**ogorun-un**' or '**ee**'. He explained further that sub-set of numerals like 20-200 where Yorùbá speakers make form-meaning connections with '**og/og**' (allomorphs) are represented as '**igba**' (200) which could have '**egb/egb**' in multiples of 200 as demonstrated in '**egberun**' (1,000), and '**egbeji**' (400). Numerals with complex layers of the structure are also explicated in the present work as Yorùbá numeral employs addition to and subtraction from a higher decade and numerals where '**aa**' is subtracted from the derived base form as shown in '**aa-dota**' (50). Ajibádé (2023) concluded that each form of basic numerals is assigned meaning in the mental representations as this facilitates derivation of the numeral for the Yorùbá native speakers.

Oshodi (2016) investigates question formation and focus construction in Ọ̀wọ̀, a Southeast dialect of Yorubá. He examines and compares the structures of question formation and focuses on Ọ̀wọ̀ dialect with that of Yorubá. It is evident in the work that question markers in Ọ̀wọ̀ can occur in initial, medial, and word-final positions as demonstrated in the following examples:

Initial Position	Medial Position	Final Position
Sé di Títí sùn? i QM TNS-ASP Títí sleep ‘Should Títí sleep?’ ‘Where is Kémi?’	Títí ó dè sùn Titi HTS QM sleep ‘Did Títí sleep?’	i-Kémi Kémi QM

It is also evident in the work that the question marker may or may not have a regular form. When it is not regular, it is the last syllable of the noun being questioned that determines the form of the question marker (Oshodi, 2016, p. 128). He further classifies the question formation pattern in Ọ̀wọ̀ into eight, one of them is ‘**dè**’ which is used as question subject NP in affirmative sentences. He considers these examples:

- a. Ó sùn → [NP] Ó sùn
 HTS sleep
- b. Ó dè sùn? → [NP] O de sun
 HTS in sleep
 Did he/she sleep?
- c. i- Titi ó dè sun?
 Titi HTS on sleep
 ‘Did Titi sleep?’

Other question markers identified by Oshodi (2016) are ‘**Se’**, ‘**Si’**, ‘**Kií’**, and ‘**Kèé’**. Oshodi (2016) established that Ọ̀wọ̀ unlike the standard Yorubá where focus marker ‘**ni**’ is inserted immediately after the focused item, Ọ̀wọ̀ focus marker occurs at the end of the sentence. The focus marker usually takes the form of the last vowel or syllable of the final word in the sentence, as it is determined as follows:

Àiná ó je ẹran
 Àiná oun ó jẹran an
 Àiná she HTS eat meat FOC
 ‘It was Aina who ate meat’.

He added that the pronoun ‘**oun**’ which normally occurs immediately after the focused item marks emphasis together with the focus marker. Oshodi (2016) concluded with the relationship between the two transformational processes. Question and focusing on Ọ̀wọ̀ dialect are related when NP subject or object(s) is questioned, the response occurs as construction.

Olaogun (2011) examines the tense aspect and negation in Ọ̀wọ̀, a south-western Nigeria dialect to critique Adetugbo’s (1967, 1982) works that investigated the tense aspect in south-east Yorùbá dialects. Olaogun (2011) refuted Adetugbo’s claim that the pronouns in the non-future tense are the deep structure representations that change to express future tense and habitual aspect which infers that SEY does not have distinct markers for tense and aspect. Olaogun pointed out that Adetugbo’s claim does not apply to Ọ̀wọ̀ as one of the SEY dialects. Olaogun (2011) established the following claims on the relationship between pronouns tense and negation in Ọ̀wọ̀ dialect:

1. Pronouns are inflected for tense in Ọ̀wọ̀.
2. The high tone that bears on the lengthened vowel of the pronoun subject is the continuous marker in affirmative sentences while 'dí' is the negative marker.
3. The high-time syllable is used to mark both affirmative and negative habitual actions in Ọ̀wọ̀.
4. Ọ̀wọ̀ attests both the standard negative marker (the low tone) and the aspectual marker to express negation.

Obisesan (2012) explains the lexical comparison of Olùkùmi, and Ọ̀wọ̀ dialects and standard Yorùbá. He compares the phonology, morphology, syntax, and lexical items of the three speech forms intending to identify. On the level of phonology, he examined the consonant sounds, the similarities and differences between Olùkùmi, Ọ̀wọ̀, and Yorùbá (Olùkùmi (23), Ọ̀wọ̀ (21), and Yorùbá (18), vowels, (Olùkùmi (12), Ọ̀wọ̀ (12), and Yorùbá (12), the syllable structure (Olùkùmi, Ọ̀wọ̀, and Yorùbá V, CV, N) tone system (Olùkùmi, Ọ̀wọ̀, and Yorùbá – high, low, mid) as well as the phonological processes such elision and deletion in the three speech forms. Also, Obisesan (2012) discussed the morphological processes: affixation, compounding, reduplication, and disentanglement in Olùkùmi, Ọ̀wọ̀, and Yorùbá while he observed that Olùkùmi attests to +suffix, unlike Ọ̀wọ̀, and standard Yorùbá. He gave the examples below to justify his claim.

Suffix	Derivative word	Gloss
‘enẹ + -oríre’	‘enéoríre’	anybody
‘oma + -oríre’	‘omaoríre’	any child.

Before going further, we observed that '-oríre' is the only affix with more than one syllable in this work which implies that '-oríre' is a pseudo-affix and calls for further investigation to affirm its real status.

Obisesan (2012) went further to compare the lexical words of Olùkùmi, Ọ̀wọ̀, and Yorùbá which the level of relatedness is 80%. The level of lexical relatedness of the three speech forms made him conclude that Olùkùmi is a dialect of Yorùbá. He supported the claim with two pieces of evidence: mutual intelligibility between Yorùbá and Olùkùmi and lexical relatedness between them and the close affinity at the levels of phonology, morphology, and syntax.

Jacob and Abdul-Rafiu (2016) embark on a lexicostatistics analysis of Olùkùmi spoken in Ugbodu and Ukwa-Nzu and Ìkálẹ̀ dialect of Yorùbá. They asserted that Olùkùmi Ugbodu and Ukwa-Nzu are the same dialects for their lexical items are much alike and that both of them have a strong and close affinity with Yorùbá as it is confirmed by the lexicostatistics of Olùkùmi, Ugbodu, Ukwa-Nzu, and Ìkálẹ̀. Jacob and Abdul-Rafiu (2016, p. 334) concluded that 'going by the mutual intelligibility, lexicostatistics analysis, and ethno historical accounts from the speakers, it would not be out place to conclude that Olùkùmi is a dialect of Yorùbá in diaspora'.

Elésin (2017) examines the status of particle '**ni**' in the syntactic structure of Olùkùmi to discover its syntactic function. She used Minimalist Theory for her analysis. She said aside from '**ni**' as an emphatic marker, it also functions as an affirmative marker that does not relate to question formation and negation in the dialect. Elésin (2017) avers this claim with the syntactic affirmative distribution of '**ni**' in focus construction and relativization as shown below:

Olùkùmi

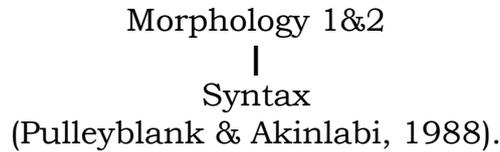
- 1a. 'Àpákà ni Adé ra ní oza ni'
beans FM Adé buy PREP market FM
(It is beans Adé bought at the market).
- 1b. 'Ule té Atóéné kó lála ni'
house RM Atóéné build big FM
(The house that Adé built is big).

Example (1a) is a focus construction. The first '**ni**' is a focus marker while the second is an affirmative marker. The '**té**' is a relative marker in (1b) and '**ni**' at the final position is an affirmative marker.

The Lexicalist Approach is an offshoot of Generative Morphology. It is propounded from the view of Generative Grammar. Lexicalist Approach is a product of two articles; Chomsky (1970) and Halle (1973). These articles served as an offshoot for other works such as Siegel (1974), Jackendoff (1975), Aronoff (1976), Pulleyblank and Akinlabi (1988), Adeniyi (2006) and Taiwo (2009, 2013). The Lexicalist Approach advocates for the autonomy of morphology as a branch of linguistics. Glottopedia (2000) avers this assertion when it defines the Lexicalist Approach as a hypothesis that entails the syntactic transformations that operate on syntactic constituents only and can assert or delete designated elements.

There are two versions of the Lexicalist Approach; Strong and Weak Lexicalist Approach. The former constrains syntactic operations/transformations in the process of word formation. It argues that both derivational and inflectional morphology are operated in the lexicon (Halle, 1973). This implies that there is no interaction between syntax and morphology. However, the Strong Lexicalist Approach did not go scot-free from criticism. Lieber (1981, p.18) says, 'The Lexicalist Approach is too strong. Some measures of interaction between morphology and syntax must be allowed...'

The Weak Lexicalist Approach as the model adopted for this study allows some measure of the interface between syntax and morphology. It is an approach that permits syntactic components to determine the well-formedness of syntactic representation while morphology does the same for morphological representation (Pulleybank & Akinlabi 1988, p. 160). The weak Lexicalist Approach can be represented thus:



In affirming possible interaction between morphology and syntax, the above model posits two morphological representations: morphology 1, and morphology 2. This can be shown in the word ‘**ayò**’ (pleasure/enjoyment) which is derived by prefixing the agentive nominal (**a-**) to the verbal base, ‘**yò**’ (enjoy) thus:

- 1a. a- yò – ayò (basically derived in the lexicon) (Morphology 1)
(Prefix enjoy (enjoyment)).

The word ‘**ayò**’ can be the subject of a sentence in the syntactic representation as shown in example (1b) thus:

- 1b. Ayò di èji
(pleasure becomes two).

Examples (1a&b) reveal the standard theory that morphology serves as input to syntax. Also, syntax can provide input for morphology coded as Morphology 2. Example 2 avers this claim:

2. Ayò di èji – Ayòèjí ‘personal name’ (Morphology 2)
pleasure becomes two.

The syntactic component of example 2; which is a sentence determines the formation of syntactic representations before the post-synaptic compound is derived. In light of this, it is evident that there are some measures of syntax and morphology interaction at the word formation level. As a result, the Weak Lexicalist Approach (WLA) is adopted for this study based on its universality to the human languages. Based on the historical background of the two dialects under study, there is a need for this study (numeral systems of Olùkùmi and Òwò dialects of Yorùbá) to fill the existing gap, especially in numerals/ counting systems. Except for a few studies on the counting system of Yorùbá dialects (Akinola, 2014; Adejube, 2014; Faturoti, 2014; Fasehun, 2014; Ojo, 2014; Ahamefula, 2011; Omachonu, 2011; Olú, 2009; Okolo-Obi, 2014; Oyelowo, 1990; Oyebade, 2013; 2014; Olubodu-Sawe, 2013; Oluwadoro & Abiola, 2016; Arokoyo, 2012; 2014; Meng & Guan, 2002), research which focus on basic and the derived forms

of numerals systems of Olùkùmi and Òwò dialects of Yorùbá are still left unattended to.

2. Methodology

This is a descriptive study being designed to compare the numeral systems of Olùkùmi and Òwò dialects, with a focus on the native speakers of Olùkùmi dialect spoken in Ugboodu, Aniocha North Local Government Area in Delta state and Òwò dialect spoken in Òwò town, Ondo state, Nigeria.

2.1. Data collection and processing

Twenty (20) respondents with ten (10) native speakers from Olùkùmi, and another ten (10) native speakers from Òwò dialects ranging from age 18 years old and above were purposively selected and interviewed. This is in addition to the Ibadan four hundred basic wordlists. In this study, thirty-seven different number words were obtained from each of the dialects: Olùkùmi and Òwò to serve as the data. These number words range from one to ten (1-10), eleven to twenty (11-20), thirty to one hundred (30-100), and two hundred to one thousand (200-1,000) respectively.

2.2. Participants

The participants in this study were categorized into two: literates and the non-literates. The literates among them were subjected to reading and writing the numerals in their dialects, and the SY, while the non-literates among them were only asked to count from 1 to 2,000 in their dialects and one of the researchers assisted them in writing the numerals.

1.3 Data Analysis

The data collected were coded and analyzed based on themes within the context of descriptive and comparative approaches.

3. Findings

In this section, the data presentation, analysis, and discussion of results for the present study are hereby presented below:

Table 1
Basic numerals in Olùkùmi, Òwò and SY

S/N	Olùkùmi	Òwò	SY	Gloss
1.	‘òkan’	‘òkan’	‘òkan’	one
2.	‘èzi’	‘èji’	‘èji’	two
3.	‘éta’	‘éta’	‘éta’	three
4.	‘erin’	‘erin’	‘erin’	four
5.	‘eru’	‘eru’	‘àrún’	five
6.	‘efa’	‘efa’	‘efa’	six
7.	‘eze’	‘eje’	‘eje’	seven
8.	‘ezo’	‘ejo’	‘ejo’	eight
9.	‘ehan’	‘esan’	‘esan’	Nine
10.	‘egwa’	‘egwa’	‘ewa’	ten.

The basic numerals from serial numbers 1-10 in Table 1 above are mono-morphemic. They are used as roots for deriving the open numerals (derived numerals) through some mathematical (addition, subtraction, and multiplication), and grammatical (phonological, morphological, and syntactical) processes.

The basic numerals are disyllabic with the open syllable pattern; each syllable has the VCV form throughout. It is apparent that Olùkùmi interchanges voiced alveolar fricative sounds with voiced palatal-alveolar affricates as shown in the basic numeral for 'èzi' (two), 'èze' (seven) and 'èzo' (eight) respectively. There is also sound alternation of /h/ to /s/ in 'èhán' → 'èsán' (nine) as highlighted in the basic numeral for nine (9) between the two dialects (Olùkùmi and Òwò) as indicated in Table 1 above under serial number 9, and evident in Fabunmi (2010), and Omachonu (2011). The word 'ègwa' (ten) in the SY earlier attested to /gw/ before it was later dropped due to certain development it has undergone through morphological processes. It can be said that 'egwa' (ten) is the original form of 'ewa' in the SY. This averse the call that dialects should be studied because of new things they can teach about the standard variety (Awobuluyi, 1992). Certain irregularities on vowel initial and final positions as demonstrated in the basic numeral form for 'èru' (five) in Olùkùmi, Òwò, and SY were also observed. The Olùkùmi and Òwò dialects use /ɛ/ while SY uses /a/ and /u/ and /ǔ/ respectively at the word-initial level, the process being considered as vowel alternate. As observed from the data available for this study, the basic numerals from one to ten in Olùkùmi, Òwò, and SY manifest striking similarities and this could show a clear picture of affinity confirming that Olùkùmi as one of the Yorùbá dialects spoken outside the Yorùbá communities in Nigeria.

3.1. Open numerals in Olùkùmi and Òwò

This section presents open numerals in Olùkùmi, Òwò, and SY. Such numbers are potentially limitless. The numbers are derived forms through manipulation of basic numerals, employing mathematical and grammatical processes. Examples of such numbers as written in words from eleven to twenty (11–20) are presented in Table 2 below:

Table 2
Derived numerals in Olùkùmi, Òwò, and SY

S/N	Olùkùmi	Òwò	SY	Gloss
1.	'òkanlégwà'	'òkanlégwà'	'òkanlá'	eleven
2.	'èzinlégwà'	'èjilégwà'	'èjilá'	twelve
3.	'ètálégwà'	'ètálégwà'	'ètálá'	thirteen
4.	'èrinlégwà'	'èrinlégwà'	'èrinlá'	fourteen
5.	'èdógún'	'èrudógún'	'mèèèdógún'	fifteen
6.	'èfalégwà'	'èrindógún'	'èrindínlógún'	sixteen
7.	'èzèlégwà'	'ètadógún'	'ètadínlógún'	seventeen
8.	'èzòlégwà'	'èjindógún'	'èjidínlógún'	eighteen
9.	'èhánlégwà'	'òkandógún'	'òkandínlógún'	nineteen
10.	'ogún/ogbo'	'ogún'	'ogún'	twenty

In Table 2 above, it was observed that only the numeral for ‘*ogun*’ (twenty) was not derived from eleven to nineteen and was derived through mathematical processes such as addition and subtraction. Olùkùmi, Òwò, and SY subscribe to the additive method in deriving the number words for eleven to fourteen by simply adding one to four basic numeral ten such as (1+10, 2+10, 3+10, and 4+10) but the game changes when it gets to number word for fifteen. Olùkùmi and Òwò dialects adopt the subtractive method and the SY employs additive, and subtractive methods. Olùkùmi and Òwò subtract the number word five from twenty to get fifteen (5-20) ‘*èdogún*’ (Olùkùmi) and ‘*èrùdogún*’ (Òwò). The phonological and morphological processes/ operations that account for the forms of fifteen in Olùkùmi and Òwò are elision and clipping. This can be demonstrated in example 1 below as follows:

- | | | |
|------|--|--------------|
| 1a) | SY | Gloss |
| | ‘mu èrùn dín ni ogún’ → ‘mèrùndinlogun’ → ‘mèèdogún’ → ‘èèdogún’ | fifteen. |
| 1b.) | Olùkùmi Dialect | Gloss |
| | ‘èrùdínogún’ → ‘èrùogún’ → ‘èdogún’ | fifteen. |
| 1c.) | Òwò Dialect | Gloss |
| | ‘èrùdínogún’ → ‘èrùdogún’ | fifteen. |

While in (1a &b) vowel /i/ was deleted, resulting in ‘*èrùdogún*’ and the second syllable of ‘*èrù*’ (five) was finally clipped in (1a) to have the form ‘*èdogún*’ (fifteen) on the other hand, the SY on the other hand, employs both additive and subtractive for deriving number word(s) for fifteen as demonstrated in example 2 below:

- | | | |
|-----|---|--------------|
| 2.) | SY | Gloss |
| | ‘mú èwá dínarúndínní ogún’ → ‘mèèèdogún’
(plus ten, minus five, minus twenty). | fifteen |

It is obvious in example 2 above, that vowel and consonant deletion, and vowel simplification all account for the derivation of fifteen (15) in SY. While Òwò and SY dialects continue with a subtractive method for the derivation of number words for sixteen to nineteen (16–19), the two dialects subtract basic numbers such as four, three, two, and one respectively from the base twenty, which is ‘*ogún*’ to become (4–20, 3–20, 2–20 and 1–20). However, this is contrary to the Olùkùmi dialect, as it exhibits an additive method for the derivation of the number words for sixteen to nineteen (16–19) respectively. Six to nine (6–9) are added to base 10 to read: 6+10, 7+10, 8+10, 9+10. This implies that the Olùkùmi dialect has technical backup numbers from the vigesimal numeral system of the Yorùbá ancestral language and subscribed to the decimal system. Similarly, counting in tens, especially from thirty to one hundred (30–100) takes an interesting dimension as presented in Table 3 below:

Table 3
 Counting in tens (from 30-100) in Olùkùmi, Òwò and SY

S/N	Olùkùmi	Òwò	SY	Gloss
1.	‘ogbàn’	‘ogbòn’	‘ogbòn’	thirty
2.	‘òzin’	‘ogóji’	‘ogóji’	forty
3.	‘ègwalózin’	‘ègwádóta’	‘aadóta’	fifty
4.	‘òta’	‘ogóta’	‘ogóta’	sixty
5.	‘ègwalóta’	‘ègwádórin’	‘aadórin’	seventy
6.	‘òrin’	‘ogórin’	‘ogórin’	eighty
7.	‘ègwalórin’	‘ègwádóru’	‘aadórun-ún’	ninety
8.	‘òru/òrun’	‘ogóru’	‘ogórun-ún’	hundred.

As observed from the above examples, the number word for thirty in Olùkùmi, Òwò, and SY are basic numbers, as there seemed to be no difference in their forms, except that Olùkùmi dialect interchanges the back rounded vowel /ò/ for a central open vowel /a/ at the final position. However, the similarity in the number word for thirty in these speech forms could serve as another evidence to prove the claim that Olùkùmi is a dialect of Yorùbá in line with Oyelowo (1990) where Olùkùmi was compared with Yoruboid (comprising SY, Ijebu, Ondo, Ikale), Isekiri, and Igala. The result of the study shows that Olùkùmi may either be regarded as a Yoruboid language with 74% or better still be considered as a dialect of Yorùbá since it is closer to Ikale with 90% scores based on the lexicostatistics calculation (Oluwadoro & Abiola, 2016). Numerals forty, sixty, eighty, and hundred are derived via the mathematical process such as multiplication as 20×2, 20×3, 20×4 and 20×5 respectively. Meanwhile, Olùkùmi dialect exclusively demonstrates clipping in the derivation of ‘ozin’ (forty), ‘ota’ (sixty), ‘orin’ (eighty), and ‘orun’ (hundred). The term ‘og/o’ is clipped in the surface representation as revealed in example 3 below:

3.)	Olùkùmi		Gloss
	‘ogozin’	→ ‘ozin’	forty
	‘ogóta’	→ ‘ota’	sixty
	‘ogórin’	→ ‘orin’	eighty
	‘ogórun’	→ ‘orun’	hundred.

In Table 3 above Olùkùmi demonstrates an additive method in the derivation of number words for fifty, seventy, and ninety by adding the basic numeral ten (‘ègwá’) to forty, sixty, and eighty (10+40, 10+60, and 10+80), Òwò and SY on the other hand subscribe to subtractive method. They, therefore, subtract the basic numeral ten from sixty, eighty, and hundred to derive fifty, seventy, and ninety (60-10, 80-10, 100-10) respectively.

Vowel assimilation and elision also account for the varying forms of these number words. In SY for instance, /w/ is elided in ‘èwá’ (ten) and vowel assimilation follows (Ě-á=áá) as revealed in example 4a below:

4a.)	SY	Gloss
	‘èwádóta’ → ‘è ádóta’ → ‘àádóta’	fifty
	‘èwádórin’ → ‘è ádórin’ → ‘àádórin’	seventy
	‘èwádórun-ún’ → ‘è ádórun-ún’ → ‘àádórun-ún’	ninety.

Meanwhile, Òwò, dialect does not permit such phonological modifications, as vowel assimilation and consonant elision are only confined to the ‘ègwa’ as demonstrated in 4b below:

4b.)	Òwò Dialect	Gloss
	‘ègwádóta’ → ‘ègwádóta’	fifty
	‘ègwádórin’ → ‘ègwádórin’	seventy
	‘ègwádóru’ → ‘ègwádóru’	ninety.

The number words for two hundred to one thousand (200 -1,000) in Olùkùmi, Òwò, and SY are presented for analysis in Table 4 below:

Table 4
 Counting in hundred (from 200-1,000) in Olùkùmi, Òwò and SY

S/N	Olùkùmi	Òwò	SY	Gloss
1.	‘Orunmezi’	‘ugba’	‘igba’	two hundred
2.	‘Orunmeta’	‘ogorumeta’	‘oòdùnrún’	three hundred
3.	‘Orunmerin’	‘ugbameji’	‘irinwo’	four hundred
4.	‘Orunmeru’	‘èèdegbeta’	‘èèdegbeta’	five hundred
5.	‘Orunmefa’	‘egbeta’	‘egbeta’	six hundred
6.	‘Orun meze’	‘èèdegberin’	‘egberin’	seven hundred
7.	‘Orunmezo’	‘egberin’	‘egberin’	eight hundred
8.	‘Orunmehan’	‘èèdegberu’	‘èèdegberun’	nine hundred
9.	‘Orunmegwa’	‘egberu’	egberun’	one thousand.

It is evident in Table 4 above that Olùkùmi has completely dropped the vigesimal system of counting for the decimal system, thereby employing the multiplication method. The system allows multiplying hundred by the basic numeral two to ten to derive numbers from two hundred to one thousand such as 100×2, 100×3, 100×4, 100×5, 100×6, 100×7, 100×8, 100×9, and 100×10 respectively. In Òwò and SY, the number word for two hundred is basic (such as in Òwò dialect: ‘ugba’, and in SY: ‘igba’). The only difference in their forms is the initial vowels /u/ and /i/, but all the remaining letters and the syllable arrangement remain the same. This implies that Òwò phonological system permits the vowel /u/ at the word-initial position, as against the phonological principle of SY that no Yoruba word should start with the vowel /u/. For instance, ‘irinwo’, (four hundred) in SY is also underived. The number words representing five hundred to one thousand (‘èèdegbeta’ to ‘egberun’) are the same in Òwò and SY. The two dialects use the word ‘igba’/ ‘ugba’ as two hundred (200) to reflect the base, and ‘èèdegbeta’ (200) as the half-way integer; one hundred less than the multiple of two hundred. In this case, subtraction process is adopted to derive five hundred such as in the following examples: Six hundred minus one hundred

(600–100 =500), eight hundred minus one hundred (800–100 =700), and one thousand minus one hundred (1000–100 =900), while the multiplication is also employed to derive number words for six hundred (200×3 =600), eight hundred (200×4 =800), and one thousand (200×5 =1000) respectively.

4. Discussion/ Summary of Findings

This rich linguistic affinity as evident in this study allows the researchers to examine the numeral systems of both speech forms (Olùkùmi and Òwò dialects) to establish the former as a dialect of Yorùbá spoken outside the Yorùbá communities in Nigeria. The present study identified some areas of convergence and divergence in the numeral systems of both speech forms based on the data available for the present study. The following are some of the areas of convergence, and they include:

Area of Convergence

- The Olùkùmi and Òwò dialects operate vigesimal system.
- The two dialects both have basic and derived numeral forms.
- Numerals 1-10 in both dialects are disyllabic with open syllable patterns, each syllable having VCV syllable arrangement.
- The numerals 1-10 in both dialects are basic numerals.
- The two dialects also employ addition, subtraction, and multiplication in deriving their numeral forms from the basic numbers.
- Both dialects use the morpheme 'lé' to express an addition.
- Both dialects also make use of overt morpheme to exhibit the multiplication process.
- Both dialects employ the morpheme 'dín' to express the subtraction method.
- Both dialects use 'ogún' as the basic numeral for twenty.

Areas of Divergence:

- Olùkùmi interchanges /z/ with /j/ as revealed in Table 1, serial numbers 2, 7, and 8.
- Olùkùmi employs the mathematical process of addition in counting from 16 to 19 while Òwò adopts the subtraction method.
- Olùkùmi employs a morphological process of clipping in deriving number words for fifteen, sixty, eighty, and hundred, but Òwò does not.
- Òwò has a basic numeral for 200 but Olùkùmi uses a derived numeral.
- Òwò operates a vigesimal system in counting from five hundred to one thousand, on the other hand, Olùkùmi employs a decimal system.
- Olùkùmi employs the multiplication method to derive the numeral 100-1000, while Òwò employs subtraction and multiplication.

5. Conclusions

This investigation on the numeral systems was carried out on Olùkùmi, a dialect of Yorùbá spoken in Ugbodu, Delta State, and Òwò dialect spoken in Òwò town, Ondo State. It was, therefore, discovered that both dialects operate a vigesimal system. However, this system is vestigial in

the dialects because of the imported language and modernization. The two dialects adopt the decimal system in place of the vigesimal system, believing that the numbers are cumbersome and riddled with intricacies for efficient application in the present time, forgetting the fact that it is a threat to the indigenous languages, and also a threat to the real cultural identity and a farewell to our cultural norms and values in our society.

In this study, the researchers discovered that the vigesimal system is endangered in Olùkùmi and Òwò dialects, particularly the former as a result of the negative attitude of the native speakers towards their mother tongues. Based on the above discussions, the following recommendations are made for the resuscitation and preservation of the vigesimal system of Olùkùmi and Òwò dialects of Yorùbá. It is the recommendation of this study that:

- ✓ Parents should encourage their children and wards to speak their indigenous languages at home and in school. This is one of how indigenous languages and cultures could be preserved for future generations.
- ✓ Parents should encourage their children and wards to speak their indigenous languages at home and in school. This is one of how indigenous languages and cultures could be preserved for future generations.
- ✓ It is also recommended that native speakers and relevant stakeholders should endeavor to compile vigesimal numerals of their dialects to preserve them from being endangered or going into extinction.
- ✓ The government at all levels should set up a monitoring team to invigorate the teaching and learning of indigenous languages at the elementary level, as well as in the higher institutions and to ensure that numeral systems are incorporated into the school curriculum.
- ✓ Children should be encouraged to learn the vigesimal numeral and counting system over the imported decimal system.
- ✓ Linguists/ language experts should strive to devise other methods/ approaches to preserve and revitalize the sociolinguistic identity that reflects the system of counting in African society.

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