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Aspects of Number Marking in Izere Nouns

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Abstract

This research descriptively examines number marking in Izere nouns, using morpholexical rules as proposed by Lieber (1980). In essence, it describes noun inflections for number from base forms in Izere, with the aid of these rules. Data for the research were collected in Fobur, Jos East Local Government Area of Plateau State, using selected nouns from the Ibadan wordlist of 400 basic items, alongside an adapted list of nouns specifically designed for the research. The selected nouns were collected electronically and then transcribed in a way that identified the inflected noun forms from the base ones. The data were then analyzed qualitatively. Morpholexical rules were also proposed to account for morphological changes in the inflected forms of these nouns. The research findings indicate that affixation, tone pattern change and suppletion are the dominant morphological processes that account for noun inflections for number in Izere.

Keywords: Inflection, Izere, morpholexical rules, noun prefix (prefix), noun root (root), number distinction (pluralization).

1. Introduction

From a purely morphological perspective, number marking involves a change in the form of a word to reflect count distinctions. Trask (1993, p.192) suggests that the grammatical category of number is "most associated with nouns and pronouns, whose primary correlation is with the number of distinguishable items...a simple number contrast between singular and plural."

Similarly, Haspelmath and Sims (2010, p.83) opine that number "indicates quantity". Nkamigbo (2011, p.154) posits that "counting is an indispensable phenomenon in language".

The basic representation of the category of number is observed in the distinction between singular and plural, particularly in relation to nouns". The morphological realization of number marking in different languages has been explored in studies such as Ejele (1997), Anagbogu (2005), Nkamigbo (2009, 2011), Omachonu (2008) and others. A theoretical approach to number marking can be accounted for through several morphological methods, namely the morpheme-based model (which uses the *item-and-arrangement* approach), the lexeme-based model (which uses the *item-and-process* approach), and the word-based model (which uses the *word-and-paradigm* approach). The morpheme-based model, which is the focus of the current study, suggests that morphological rules combine morphemes much in the same way that syntactic rules combine words to form phrases, clauses and sentences. The morpheme-based model of analysis is an offshoot of Hockett (1954), and Lieber (1980) also adopts a morpheme-based approach for his analysis.

The current study focuses on providing a descriptive account of number marking in Izere, a Benue-Congo language spoken in Plateau state, Nigeria, from a purely morphological perspective. Blench (2015, p.1) suggests that "the Niger-Congo languages and in particular the Benue-Congo family are considered to have originally had a fully functional system of number marking through nominal affixation". The literature reveals that the Plateau language family within the Benue-Congo, to which Izere belongs, has not received much attention in terms of linguistic analyses. This research is expected to fill the theoretical and conceptual gap in studies on the morphology of the Plateau sub-group of the Benue-Congo language family, specifically with reference to Izere. It is hoped that this research will serve as a crucial reference for future researchers on this scarcely investigated language group, which has received very little linguistic attention. The findings of this research are expected to provide a link between previous linguistic research on the language and future research, especially regarding the inflectional aspect of its noun morphology. In a nutshell, this research will contribute to the growing body of literature on inflectional morphology in general, and on inflection in Izere in particular, by extensively discussing aspects of morphological number marking as a facet of its inflectional morphology. It is hoped that this will spark further research interest in the morphology of the language and related languages within the Plateau language family. Essentially, this paper descriptively accounts for

number distinguished inflectional changes in the nouns of Izere from base forms with the aid of morphological rules. The subsequent section of the work address background information on Izere, reviews the chosen framework, presents and analyzes data on number inflection in the language and discusses the findings of the research.

2 Literature Review

2.1 Izere

There is very little literature on the linguistic affiliation of Izere because linguistic analyses on various aspects of the language are very limited. Blench and Kaze (2019, p.1) suggest that "the Izere people, known as *Jarawan Dutse* by Hausa speakers, live predominantly in Jos North, Jos East and Mangu Local Government Areas of Plateau State and in Tafawa-Balewa and Toro Local Government Areas of Bauchi State in Central Nigeria". Blench and Kaze (2019, p.2) further suggest that, linguistically, Izere should generally be considered a part of the Plateau language family, which predominates in Central Nigeria. They also propose that "the Plateau language group of Central Nigeria owes its classification to Greenberg (1963) who classified it as part of the Benue-Congo group. In Crozier and Blench (1992), Izere is classified with the south-central subgroup". Concerning the Izere language, Blench (2000) further opines that "the name *Jarawa* is also applied to speakers of *Jarawan Bantu* languages, scattered through Bauchi state, but there is no connection between the two groups. Other terms found in the literature are *Afizere* and *Izarek* (e.g. Gunn 1953). Eberhard, Simons, and Fennig (2019) classify Izere as Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Plateau, Central, and South-Central. Isha and Haruna (2016, p.754) provide a comprehensive geo-linguistic description of Izere. They suggest that:

> Izere is a noun class language grouped among the central Plateau languages from the Benue-Congo family….Neighbours of the *Afizere* to the north are the *Hausas* and *Jarawan Dass*. To the east and south are the *Zari, Sayawa*, and *Pyem*. To the south and south-west is the *Berom*, while the *Irigwe* and *Rukuba* lie to the west. On the north-west of the Afizere are found a number of ethnic groups, the closest of which are the *Anaguta, Buji, Ribina, Keyauri* and *Duguza*.

In essence, it can be seen that Afizere (name of the people) or Izere (name of the language) are found along the borders of Plateau and Bauchi states, and this is essentially the boundary between the geographical north-central and north-eastern Nigeria.

2.2 Morphological Realization of Number Marking

In a nutshell, the category of number, in relation to nouns, refers to count distinctions that may or may not be inherently morphologically distinguished in the nouns of a language. Haspelmath (2002, p.272) refers to this grammatical category as "an inflectional dimension of nouns, having to do with the number of items a noun refers to". Lieber (2009, p.7) further believes that:

> *when we change the form of a word so that it fits in a particular grammatical context, we are concerned with what linguists call inflection. Inflectional word formation is word formation that expresses grammatical distinctions like number... It does not result in the creation of new lexemes, but merely changes the grammatical form of lexemes to fit into different grammatical contexts.*

Number marking in this research is studied from a purely morphological perspective as an aspect of noun inflection. Bauer (2003) clearly distinguishes between two broad aspects of morphology - derivation and inflection. Bauer suggests that "these two are usually visualized as being entirely separate…inflection provides forms of lexemes, while derivation provides new lexemes" (p.91). Arokoyo (2017, p.73) further opines that "inflectional morphemes are purely grammatical markers; they give additional information about tense, number, gender, case, aspect and mood. They express grammatical relations between the word forms of a lexeme". To Haspelmath and Sims (2010, p.18), inflection is simply "the relationship between word forms of a lexeme." In essence, these definitions of inflection suggest that inflectional morphemes perform strictly syntactic functions within the grammar of a language. This research focuses on an analysis of the morphological changes that occur in inflected forms of number-differentiated nouns in Izere and the morphological rules that account for changes in base and inflected forms.

2.3 Theoretical Framework

This research adopts the framework of Lieber (1980), which proposes morpholexical rules to descriptively account for morphological alternations from base forms. The research accounts for the morphological generation of inflected forms of Izere nouns from base forms with the aid of these word formation/inflection rules. A descriptive approach is taken to identify how various morphological processes are utilized in the number inflection of nouns in the Izere language. This descriptive approach enables the researcher to explicitly describe aspects of the noun morphology of the Izere language. The approach of Lieber (1980), which is adopted for this research, proposes how stems are formed from roots and broadens the theory of morphology in two respects. First

and foremost, it argues that both inflectional and derivational morphology should be performed within the lexicon requiring the same sets of formal processes. Secondly, it attempts to constrain the interaction of morphological rules. This approach also assumes that each category type (e.g. noun) in the lexicon is divided into lexical classes, which consist of roots of that category type and related stems. It suggests that items *A* and *B* listed in the lexicon will be considered related if there exists a rule of the form: **X → X'**, where *X* and *X'* represent segmental strings differing from one another in some fashion, and *A* shares the properties of *X*, while *B* shares the properties of *X'*. These rules that relate inflected forms to their base forms are called morpholexical rules. This approach is adapted and applied to the study of the inflectional morphology of Izere nouns. Morphological processes that were relevant to the inflectional noun morphology of the language were also identified and discussed.

In Lieber (1980), lexical classes are distinguished from one another by differences in the morpholexical rules which define them. These morpholexical rules are generated in this research to account for number inflection in these Izere nouns. It is believed that these rules aid the morphological description of the nouns in the language. Lieber's approach has its foundations in Aronoff (1976) where it was assumed that structured combinations of morphemes can be referred to by word formation rules. This assumption is maintained within this research.

3. Methodology

This research is designed to explore the morphology of nouns in Izere, with particular emphasis on noun inflection. A descriptive approach is employed to identify the various morphological processes utilized for number inflection of nouns in Izere. The study population comprises speakers of the Ibor dialect of Izere, spoken in Fobur, Jos East Local Government Area of Plateau State. The purposive sampling technique was chosen for this research, enabling the researcher to select only respondents with a perceived high level of fluency in the language. For this study, 30 adult native speakers of the Ibor dialect were selected as respondents to ensure objectivity. Only respondents aged above 40 were selected, based on the researcher's assumption that this older group would have greater competency in the language. Respondents were selected with emphasis placed on competence in the use of the language. Care was also taken to ensure that the selected respondents represented a broad geographical spread within the research area. The data for this

study were collected from primary sources during several trips made by the researcher to Fobur, in the Jos East local government area of Plateau state.

For data collection, 200 selected nouns and their inflected forms were utilized, drawn from the Ibadan wordlist of 400 basic items and an adapted list of nouns specifically designed for this research. The selected nouns were recorded electronically with the aid of a digital recorder during interview sessions with the respondents, which on average lasted about 50-60 minutes per session. These recordings were then transcribed in such a way that they identified number- differentiated base and inflected noun forms from native speakers of the Izere language in their natural speech environment. The electronic collection of data was done to ensure the accuracy of the collected data. Interviews were also utilized to identify suitable respondents for the research. To ensure the reliability of the collected data, two native speakers were employed as research assistants for the intuitive verification of elicited data. Care was taken to identify pitch variations in the words, enabling the identification of available tones in the data. A cursory analysis of selected base and inflected noun forms indicated that the phonological system of the language consisted of (H)igh, (M)id and (L)ow tones. Conventionally, all mid tones were left unmarked in the data. The method of data analysis for this research is qualitative. The data were collected from recordings of native speakers of the Izere language in their natural linguistic settings and were descriptively analyzed to show how these nouns were inflected from their base forms. The present research adopts the approach of Lieber (1980), which proposes methods for forming derived nouns d from base forms. The rules for generating inflected forms from their base forms are established through the analysis in this research.

4. Results

4. 1 Number Marking by Alternating Class Prefixes in Izere.

Blench (2004, p.10) suggests that morphologically, the Niger-Congo family, to which Izere belongs, "is remarkable for an elaborate system of noun classification which marks singular/plural alternations with affixes (most commonly prefixes, sometimes suffixes, and occasionally infixes)". Izere's noun derivation takes place against the backdrop of the language's noun class system, which distinguishes between singular and plural noun forms with class marking prefixes attached to a root. Isha (2010, p.199) suggests that "the language ... classifies noun stems according to the

way they mark both singular and plural." In this section, instances of noun inflection for number in Izere involving alternating noun prefixes will be presented and discussed.

4.1.1 [kú-] to [á-] Noun Prefix Inflection

Izere nouns show an alternation of [kú-] and [á-] prefixes in the base and inflected forms to achieve number distinction. Consider the examples below:

1)	a. *kú-bà* 'molar'	*á-bà* 'molars'
	b. *kú-bèrnu* 'lip'	*á-bèrnu* 'lips'
	c. *kú-cì* 'forest'	*á-cì* 'forests'
	d. *kú-dùng* 'mortar'	*á-dùng* 'mortars'
	e. *kú-dok* 'mountain pass'	*á-dok* 'mountain passes'
	f. *kú-gbìr* 'eyebrow'	*á-gbìr* 'eyebrows'
	g. *kú-gɔk* 'termite hill'	*á-gɔk* 'termite hills'
	h. *kú-fòk* 'temple'	*á-fòk* 'temples'

The data presented in 1 (a)-(h) show instances of [kú-] to [á-] prefix alternation for the pluralization of this set of Izere nouns. For example, 1 (a), *kúbà* 'molar', is pluralized as *ábà* 'molars'. This involves the changing of the noun prefix in the base and inflected forms, with the noun root remaining unchanged. The tone pattern on the base and inflected form does not change too. This process is captured with the following morpholexical rule:

Rule 1: **Singular N** ⟶ **Plural N / [kú-]#Root** ⟶ **[á-]#Root**

This rule states that a noun in Izere that is marked as singular in number becomes a plural one in the environment where the prefix [kú-] on the root of the noun is replaced by [á-] and the tone on the prefix remains high. It also indicates that the morphological form of the noun root does not change.

4.1.2 [ku-] to [ì-] Noun Prefix Inflection

Instances of singular-plural number distinction in Izere nouns are also attested via [ku-] and [ì-] prefix alternation. Consider the following examples:

2)	a. *ku-kés* 'ridge'	*ì-kés* 'ridges'
	b. *ku-nom* 'day'	*ì-nom* 'days'
	c. *ku-róng* 'fire'	*ì-róng* 'fires'

d. *ku-kón* 'stick'	*ì-kón* 'sticks'
e. *ku-róng* 'fire'	*ì-ròng* 'fires'
f. *ku-tɔ́* 'neck'	*ì-tɔ̀* 'necks'
g. *ku-tsín* 'sweat'	*ì-tsìn* 'sweats'
h. *ku-kɔ́* 'seedling'	*ì-kɔ̀* 'seedlings'

The data in 2 (a)-(h) indicates that changing the prefix of a noun in Izere that is morphologically marked as a singular noun, like 2 (d) *kukón* 'stick' with [ì-], transforms it to a morphologically marked plural form, *ìkón* 'sticks'. The prefix on the inflected form also shows an instance of tone lowering from mid to low. In the data in 2 (a)-(d), the tone of the root remains the same; while in 2 (e)-(h), there is a lowering of the root tone from a high tone to a low one. This process is captured with the following morpholexical rule:

Rule 2: **Singular N** $\longrightarrow$ **Plural N / [ku-]#Root** $\longrightarrow$ **[ì-]#Root**

This rule indicates that a singular noun is pluralized in the environment where the prefix [ku-] attached to the noun root is replaced by [ì-] and the tone on the prefix changes from mid to low.

4.1.3 [ka-] to [nà-] Noun Prefix Inflection

[ka-] to [nà-] noun prefix alternation is also attested in Izere nouns to achieve number distinctions. Consider the following examples:

3)	a. *ka-der* 'chin'	*nà-der* 'chins'
	b. *ka-fók* 'chest'	*nà-fók* 'chests'
	c. *ka-ma* 'back'	*nà-ma* 'backs'
	d. *ka-fá* 'belly'	*nà-fá* 'bellies'
	e. *ka-bòn* 'grandchild'	*nà-bòn* 'grandchildren'
	f. *ka-fɛ̀s* 'twin'	*nà-fɛ̀s* 'twins'
	g. *ka-búng* 'harmattan season'	*nà-búng* 'harmattans seasons'
	h. *ka-kón* 'tree'	*nà-kón* 'trees'

The data in 3 (a)-(h) indicates that a class of Izere nouns generates its plural form by simply replacing the class prefix on the root [ka-], with [nà-]. For example, in 3 (c), the word *kama* 'back' is realized as *nàma* 'backs' in its plural form. It is also observed that the tone on the base class marker drops from a mid to low tone in the inflected plural form, while the tone of the root of the

noun does not change. The consistency of prefix tone lowering in the data indicates that it is absolutely necessary for generating these plural forms. The process is captured with the following morpholexical rule:

Rule 3: **Singular N** ⟶ **Plural N / [ka-]#Root** ⟶ **[nà-]#Root**

This rule states that a singular noun becomes plural in the environment where the noun prefix on it [ka-], is replaced by [nà-] and the tone on the prefix changes from mid to low. The morphological form of the root of the noun and its tone do not change in any way.

4.1.4 [ri-] to [a-] Noun Prefix Inflection

Izere nouns also morphologically show number distinctions by alternating the noun prefix attached to the roots of some of its nouns from [ri-] to [a-]. Consider the examples below:

4)	a. *ri-báṣáng* 'breast'	*a-báṣáng* 'breasts'
	b. *ri-cé* 'head'	*a-cé* 'heads'
	c. *ri-nyí* 'tooth'	*a-nyí* 'teeth'
	d. *ri-kúr* 'knee'	*a-kúr* 'knees'
	e. *ri-fán* 'mountain'	*a-fán* 'mountains'
	f. *ri-bír* 'half'	*a-bír* 'halves'
	g. *ri-gɔ́m* 'crowd'	*a-gɔ́m* 'crowds'
	h. *ri-nyí* 'tooth'	*a-nyí* 'teeth'

The data in 4 (a)-(h) show that pluralization of some nouns is established by changing the [ri]-noun prefix to [a-]. The tone pattern on both the base and the inflected form is uniform for both the noun prefix and noun root. This inflectional process is captured with the following morpholexical rule:

Rule 4: **Singular N** ⟶ **Plural N / CM [ri-]#Root** ⟶ **[a-]#Root**

This rule states that a singular noun becomes a plural noun in the environment where the noun prefix [ri-] attached to the noun root is replaced by [a-] and the tone on the prefix remains as mid. It also indicates that the root tone does not change.

In general, no phonological rule can be given to account for the alternations in the singular and plural forms of the noun class markers in the data in (1)-(4) above. Haspelmath and Sims (2010, p.24) suggest that "allomorphs that are not similar in pronunciation …are called suppletive allomorphs". The allomorphs of the plural morpheme that appear as prefixes attached to noun roots

are not similar in form and the change in their form in the singular/plural pairs cannot be explained phonologically or morphologically. These prefixes can thus be described as lexically conditioned suppletive allomorphs. In relation to Dagaare and Akan, which also belong to the Niger-Congo language family, Bodomo and Marfo (2006) propose that the most appropriate criterion that can be used to set up noun classes in these languages is based on number distinctions – specifically, singular and plural. This indicates the possibility for noun classes to be set up based on purely grammatical criteria, aside from semantic properties. Based on the available data on Izere, a purely semantic basis for the classes cannot be established, though certain arbitrary semantic groupings can be argued for.

4.2 Number Marking via Tone Pattern Change in Izere

Welmers (1973, p.73) defines a tone language simply as "a language in which both pitch phonemes and segmental phonemes enter into the composition of at least some morphemes". This definition suggests that in a tone language, the tones and the segments have both phonological and morphological properties. To Hyman (2007, p.485), "a language with tone is a language in which an indication of pitch enters into the lexical realization of at least some morphemes". These two similar positions clearly indicate that tone performs morphological functions.

Different scholars (Nkamigbo, 2011; Blench, 2004) suggest that some Benue-Congo languages like Mada and Eggon use pitch variations to morphologically distinguish between singular and plural forms of nouns. In like vein, Yusuf (2017, p.73) suggests that "tone, which is a term used to indicate pitch variation...can bring about various grammatical functions". The application of tone pattern change in establishing number distinctions in Izere nouns is discussed in this section.

4.2.1 Tonal Number Marking in i-Initial Nouns in Izere

This section discusses number marking in nouns that begin with [i-] in Izere. Izere inflects plural forms of this set of nouns via tone pattern change alone, without any other morphological change in the form for this class of nouns. This use of tone to achieve grammatical distinction in number for some Izere nouns is discussed here. Consider the examples in 5-10 below.

5)	a. *ìbìn* ‘drum’	*ibín* ‘drums’
	b. *ìcì* ‘rat’	*icí* ‘rats’
	c. *ìzàr* ‘buffalo’	*izár* ‘buffaloes’
	d. *ìmòs* ‘elephant’	*imós* ‘elephants’

The data in 5 (a)-(d) indicates that by changing the tone pattern of this set of nouns from low-low (LL) to mid-high (MH), morphologically distinguished plural forms of these nouns are generated from base forms. In example 5 (b), for example, the noun *ìcì* ‘rat’, with a LL tone pattern becomes *icí* ‘rats’, with a MH tone pattern and this tone pattern change alone is responsible for generating a plural number distinguished form of the noun.

Another set of inflected nouns that show singular-plural number distinction from base forms are seen in 6 (a)-(d) below:

6)	a. *ìcɛ́* ‘(type of) snake’	*icɛ́* (type of) snakes’
	b. *ìcés* ‘(type of) creeper plant’	*icés* ‘(type of) creeper plants’
	c. *ìgúk* ‘(type of) drumstick’	*igúk* ‘(type of) drumsticks’
	d. *ìshɔ́ng* ‘large river’	*ishɔ́ng* ‘large rivers’

In 6 (a)-(d), there is also a change in the tone pattern of the base forms from LH to MH in the inflected plural forms for this set of nouns. This tone pattern change is responsible for generating the plural forms for this set of nouns. For example, 6(d), *ìshɔ́ng* ‘large river’ has the tone pattern LH, while the inflected plural form, *ishɔ́ng* ‘large rivers’ has a MH tone pattern. There is no other morphological change in these nouns, apart from the change in tone pattern that can account for this grammatical change in number for these nouns.

7 (a)-(d) also attests for how a change in the tone pattern of a noun can lead to a morphological change in number in some Izere nouns as seen below:

7)	a. *ìdong* ‘(type of) pot’	*idong* (type of) pots’
	b. *ìgbang* ‘ankle’	*igbang* ‘ankles’
	c. *ìrɛk* ‘bell’	*irɛk* ‘bells’
	d. *ìtong* ‘wasp’	*itong* ‘wasps’

7 (a)-(d) indicates that changes in the tone pattern of the base nouns from LM to MM generates some plural number-inflected nouns in Izere. This is exemplified in the forms in 7 (b),

ìgbang ‘ankle’/*igbang* ‘ankles’. This tone pattern change is consistent for all the examples in 7 (a)-(d), and it is responsible for generating the plural forms for these nouns.

Other nouns that generate inflected plural forms from base ones are seen in the examples in 8 (a)-(d) below:

8)	a. *ìzóbòk* ‘nose’	*izóbòk* ‘noses’
	b. *ìbídà* ‘(type of) bird’	*ibídà* ‘(type of) birds’
	c. *ìtsítsìng* ‘housefly’	*itsítsìng* ‘houseflies’
	d. *ìtsúrùng* ‘ladder’	*itsúrùng* ‘ladders’

In 8 (a)-(d), a tone pattern change from LHL to MHL between the base and inflected forms of the nouns generates the plurals for these nouns. Apart from this change in tone pattern, there are no other morphological change in form that can account for this.Consider the data in 9 (a)-(d) for other examples of nouns in Izere, where a change in their tone patterns alone leads to a number inflected plural form of such a noun.

9)	a. *ìdèrse* ‘basket’	*idérsé* ‘baskets’
	b. *ìtsùruk* ‘pimple/boil’	*itsúrúk* ‘pimples/boils’
	c. *iwhìwhi* ‘kidney’	*iwhíwhí* ‘kidneys’
	d. *ìzìzɔ* ‘tribal mark’	*izízɔ́* ‘tribal marks’

The data in 9 (a)-(d) also shows a change in tone pattern between the base and inflected forms for this set of nouns. In this case, a change in the tone pattern of the words from LLM to MHH generates the plural forms.

A final set of nouns in Izere that morphologically achieve singular-plural number distinction via tone pattern change alone is presented in 10 (a)-(d) below:

10)	a. *ìzàràm* ‘patas monkey’	*izárám* ‘patas monkeys’
	b. *ìfùnà* ‘civet cat’	*ifúná* ‘civet cats’
	c. *ìtsàmàng* ‘sheep’	*itsámáng* ‘sheep’ (pl.)
	d. *ìgbàràk* ‘rocky hillside’	*igbárák* ‘rocky hillsides’

The data in 10 (a)-(d) also indicates that a tone pattern change in the base form from LLL to MHH triggers a change from singular to plural in the inflected plural nouns. This is also consistent with all the examples in 10 (a)-(d).

Generally, the data in 5-10 above indicates that the changing tone patterns on Izere nouns are used to generate inflected plural forms. There is a tone lowering on the prefix from a mid to

low tone, and this tone lowering is responsible for number distinction in this set of nouns. There is a whole class of nouns in this set. The available data for this set of nouns indicate that it is a class in itself, not simply a case of initial r- consonant deletion. For this set of nouns, the base and root prefix remain the same, with the tone change accounting for number distinction. It could thus be argued that these tone pattern changes are allomorphs of the plural morpheme in Izere. Nida (1949), as cited in Arokoyo (2017, p.51) suggests six principles for identifying morphemes, one of which suggests that "forms which have a common semantic distinctiveness but which differ in the phonemic form in such a way that their distribution cannot be phonologically defined constitute a single morpheme if the forms occur in complementary distribution". This is the case with the distribution of the tone patterns for these base nouns and their inflected plurals in Izere that begin with [i-]. The data for these i-initial nouns generally show a tendency for tone-raising in the inflected plural forms. A generalized rule for pluralization by tone pattern change alone, as exemplified in 5-10 above, is captured with the following morpholexical rule:

Rule 5:

+ Noun	**LL**	→	**+ Noun**	**MH**	
+ Singular	**LH**		**- Singular**	**MH**	
	LM			**MM**	
	LHL			**MHL**	
	LLM			**MHH**	
	LLL			**MHH**	

This rule states that a singular noun in Izere that has either of the tone patterns LL, LH, LM, LHL, LLM and LLL becomes a plural noun when it undergoes a tone pattern change and becomes MH, MH, MM, MHL, MHH and MHH respectively. This rule clearly shows that there is tone-raising in the inflected plural forms. The rule is context-free, because the production rule for the inflected form applies irrespective of context.

4.2.2 Tonal Number Marking in a-Initial Nouns in Izere

This section discusses number marking in nouns that begin with [a-] in Izere. Izere inflects plural forms of this set of nouns solely through tone pattern changes. In essence, grammatical number distinctions are also attested for this class of nouns inflected in Izere only via tone pattern changes. Consider the examples in 11-18 below.

11)	a. *à-bɔ* 'bear'	*á-bɔ* 'bears
	b. *à-dɔk* 'female agama lizard'	*á-dɔk* 'female agama lizards'
	c. *à-das* 'young patas monkey'	*á-das* 'young patas monkeys'
	d. *à-gba* 'fruit'	*á-gba* 'fruits'

The data in 11 (a)-(d) indicate that a change in tone pattern from LM to HM is used to generate the plural forms of these nouns. For example, *àgba* 'fruit', which has a LM tone pattern undergoes a tone pattern change and becomes *ágba* 'fruits', with a HM tone pattern. This tone pattern change alone is responsible for the grammatical change in number from singular to plural for this noun. This change in tone pattern is consistent across the data in 11 (a)-(d).

There is also a change in tone pattern for the number-differentiated base and inflected forms of the nouns in the following set of data:

12)	a. *à-bòk* 'herbalist'	*a-bók* 'herbalists'
	b. *à-kùr* 'sorcerer'	*a-kúr* 'sorcerers'
	c. *à-sàm* 'slave'	*a-sám* 'slaves'
	d. *à-tsèn* 'stranger'	*a-tsén* 'strangers'

The data in 12 (a)-(d) show that a change in tone pattern from LL to MH is used to generate inflected plural forms for this set of nouns from their base forms. For example, in 12 (c), *àsàm* 'slave' with a low-low (LL) tone pattern, changes to *asám* 'slaves' with a mid-high (MH) tone pattern. This change in the tone pattern is solely responsible for generating the inflected plural form from the base one.

Another tone pattern change that indicates number inflection in Izere for this class of nounsis illustrated in the following examples.

13)	a. *à-càng* 'raffia broom'	*á-càng* 'raffia brooms'
	b. *à-cɔ̀k* 'weaver bird'	*á-cɔ̀k* 'weaver birds'
	c. *à-gbɛ̀k* 'fig tree'	*á-gbɛ̀k* 'fig trees'
	d. *à-gɔ̀k* 'black wasp'	*á-gɔ̀k* 'black wasps'

The data in 13 (a)-(d) show that a change in tone pattern from LL to HL generates the plural form of these nouns from their base forms. Thus, as seen in 13 (c), *àgbèk* 'fig tree' (LL), changes to *ágbèk* 'fig trees' (HL), morphologically accounting for the generation of the inflected plural form for this set of Izere nouns.

Some Izere nouns with a three-syllable pattern also undergo tone pattern alternations to indicate number inflection solely through tone pattern changes, as seen in example 14 (a)-(d) below.

14)	a. *à-gbátò* 'deaf person'	*a-gbátò* 'deaf people'
	b. *à-kpátàng* 'thief'	*a-kpátàng* 'thieves'
	c. *à-mélèm* 'lute player'	*a-mélèm* 'lute players'
	d. *à-túkòp* 'grandfather'	*a-túkòp* 'grandfathers'

The data in 14 (a)-(d) show that a LHL tone pattern in the base form of these nouns changes to MHL in the morphologically inflected plurals. This pattern of tone change is consistent for this set of nouns, as can be evidenced in 14 (d) where *àtúkòp* 'grandfather' becomes *atúkòp* 'grandfathers' in the inflected plural form for this noun.

In the same vein, other three-syllable words undergo tone pattern changes to realize their plural forms. Consider the following set of data.

15)	a. *à-cope* 'comb'	*á-cope* 'combs'
	b. *à-dɔsɔp* 'unintelligent person'	*á-dɔsɔp* 'unintelligent people'
	c. *à-fomong* 'brown snake'	*á-fomong* 'brown snakes'
	d. *à-whara* 'toad'	*á-whara* 'toads'

In 15 (a)-(d), a tone pattern change in the base form from LMM to HMM in the inflected plural form of these nouns marks a number change from singular to plural. This is exemplified in the change in 15 (a) *àcope* 'comb' (LMM) to *ácope* 'combs' (HMM), where the change in tone pattern is solely responsible for the inflected plural form for this noun.

Other notable three-syllable nouns that indicate number inflection via tone pattern change alone are identified, as indicated in the following examples:

16)	a. *à-dáwa* 'chief of hunters'	*a-dáwa* 'chiefs of hunters'
	b. *à-gbánu* 'dumb person'	*a-gbánu* 'dumb people'
	c. *à-gíta* 'war axe'	*a-gíta* 'war axes'
	d. *à-kpábor* 'amphibian'	*a-kpábor* 'amphibians'

There is also a tone pattern change from LHM to MHM exemplified in examples 16 (a)-(d). The nouns in this set undergo a morphological change from their base singular forms to the plural forms. For instance, in the singular/plural noun pair in 16 (d), *àkpábor* 'amphibian' becomes *akpábor* 'amphibians', where this tone pattern change accounts for the number-inflected form of this noun.

Similarly, the data in 17 indicate that a tone pattern change is also used to distinguish number between the base and inflected forms for other a-initial nouns in the language.

17)	a. *à-gàbu* 'dog'	*a-gábú* 'dogs'
	b. *à-kpàtek* 'bachelor'	*a-kpáték* 'bachelors'
	c. *à-mùdɔn* 'enemy'	*a-múdɔ́n* 'enemies'
	d. *à-kùna* 'adulterous lover'	*a-kúná* 'adulterous lovers'

The data in 17 (a)-(d) establish that a tone pattern change from LLM to MHH is used to morphologically distinguish the base singular and inflected plural forms for this set of nouns. This is evidenced in the singular/plural pair in 17 (a), *àgàbu* 'dog'/*agábú* 'dogs', where this change in tone pattern is responsible for generating the inflected plural form of this noun.

Finally, for the following set of a-initial nouns, a tone pattern alternation between the base and inflected nouns is also used for number inflection.

18)	a. *à-gùnùng* 'net'	*a-gùnùng* 'nets'
	b. *à-kàràk* 'key/opener'	*a-kàràk* 'keys/openers'
	c. *à-kpòròk* 'puff adder'	*a-kpòròk* 'puff adders'
	d. *à-whèrèng* 'whip'	*a-whèrèng* 'whips'

In the nouns illustrated in 18 (a)-(d), a tone pattern change from LLL to MLL transforms the singular nouns to plurals. This change is exemplified in the singular/plural pair in 18 (a), *à-gùnùng* 'net'/*a-gùnùng* 'nets'. This tone pattern change is solely responsible for generating its inflected plural form. To sum up, the data from examples 11-18 indicate that these tone pattern changes in the [a-] noun class, just as in the case of the [i-] class, are used to morphologically distinguish base singular and inflected plural forms of these Izere nouns. These alternating tone patterns can also be considered as allomorphs of the plural morpheme in Izere, since they have a common semantic distinctiveness but differ in the phonemic form in such a way that their distribution cannot be defined phonologically, as previously suggested by Nida (1949). The fact that they appear in complementary distribution, and function to distinguish number on these nouns

provide evidence for this claim. Furthermore, there seems to be a general trend for tone-raising in all the inflected plural forms for these [a-]-initial nouns in Izere.

Furthermore, there se general tendency for tone-raising in all the inflected plural forms for this [a-]-initial nouns in Izere. It can thus be argued that this tone-raising morphologically functions to pluralize these nouns. The process in examples 11-18 is captured with the following morpholexical rule:

Rule 6:

+Noun	**LM**	→	**+Noun**	**HM**
+Singular	**LL**		**-Singular**	**MH**
	LL			**HL**
	LHL			**MHL**
	LMM			**HMM**
	LHM			**MHM**
	LLM			**MHH**
	LLL			**MLL**

This rule indicates that a singular noun in Izere with either LM, LL, LL, LHL, LMM, LHM, LLM or LLL tone pattern becomes a plural noun when it undergoes a tone pattern change and becomes either HM, MH, HL, MHL, HMM, MHM, MHH or MLL, respectively. The data clearly indicate that tone-raising is also the dominant factor responsible for the grammatical change in meaning between the base and inflected forms of these nouns. The rule also is context-free.

4.3 Number Inflection of Deverbal Nouns in Izere

Izere deverbal nouns, like other nouns in the language, can also be pluralized. Consider the examples below:

19)	a. *ku-be*	*kube-s*
	CM#go	going#pl.M
	‘going’(N)	‘goings’
	b. *ku-nyé*	*kunyé-s*
	CM#do	doing#pl.M
	‘doing’ (N)	‘doings’

c. *ku-bɔ* CM#fetch 'fetching' (N)	*kubɔ-s* fetching#pl.M 'fetchings'
d. *ku-rá* CM#touch 'touching'(N)	*kurá-s* touching#pl.M 'touchings'
e. *ri-kpa* CM#to fail 'failing'	*rikpa-s* failing#pl.M 'failings'
f. *ri-ku* CM#to die 'dying'	*riku-s* dying#pl.M 'dyings'
g. *ri-wha* CM#to satisfy 'satisfaction'	*riwha-s* satisfaction#pl.M 'satisfactions'

The process of pluralization for this set of deverbal nouns in 19 (a)-(g) involves a suffixation of -s to the words. This is exemplified in 19 (a) *kurá* 'touching'/*kurás* 'touchings', and is consistent for these nouns. This process is captured with the following morpholexical rule:

Rule 7: $\begin{bmatrix} \textbf{+Deverbal N} \\ \textbf{+Singular} \end{bmatrix} \longrightarrow \begin{bmatrix} \textbf{+Deverbal N} \\ \textbf{- Singular} \end{bmatrix}$ **/ __#-s**

This rule states that a singular deverbal noun in Izere becomes a plural deverbal noun when it is suffixed with -s.

4.4 Suppletive Plurals in Izere

Izere nouns also inflect for number via suppletion. Suppletion refers to an instance where an inflected form does not bear any morphological resemblance to its base form. Consider the examples below:

20)	a.	*à-bùkó* 'old woman	*a-nyákó* 'old women'
	b.	*à-kúné* 'sister's son'	*a-ne* 'sister's sons'
	c.	*à-mìtèk* 'husband'	*a-ték* 'husbands'
	d.	*à-rɛ̀* 'friend'	*a-rɔ̀* 'friends'

e.	*ì-bòn* ‘goat’	*i-zhá* ‘goats’
f.	*i-gon* ‘child’	*ì-nòn* ‘children’
g.	*ku-tseng* ‘journey’	*ku-tés* ‘journeys’
h.	*ku-sérèk* ‘movement’	*ku-sísèk* ‘movements’

The examples in 20 (a)-(h) clearly indicate that Izere nouns can also inflect for number via suppletion. Here, the suppletion is on the root of the words, while the noun class prefixes on the words remain untouched. The nouns above show instances of both strong and weak suppletion. For example, in 20 (e), *ìbòn* ‘goat’/*izhá* ‘goats’, is a clear case of strong morphological suppletion as the base and inflected forms do not show any morphological relationship in form. An extensive check of the data indicates that there is no other form for *goat* that exists within the dialect of Izere under investigation. This observation invariably leads to the conclusion that the plural form for *goat* is a clear example of strong suppletion in the language.

On the other hand, in 20 (d), *àrɛ̀* ‘friend’/*arɔ̀* ‘friends’, and the other examples provided in the data above show a partial resemblance between the base and inflected forms. These are clear instances of weak suppletion on the roots of the words. It could also be argued that in 20 (b) and (c), the plural forms of these nouns are generated by deleting the second syllable of the base forms. Based on this argument, it can be said that when the second syllable of 20 (b), *àkúné* ‘sister’s son’, is deleted, the inflected plural form, *ane* ‘sister’s sons’ is generated. If this argument is maintained, these forms will clearly be seen as instances of weak suppletion. It should be noted that 20 (b) is not a noun compound. The kinship term for sister’s son, *àkúné,* is a lexicalized form of this kinship term in the language. It is impossible to derive meaningful units if the word is split, even when certain phonological processes like deletion are taken into account.

In 20 (g) and (h), the roots of both forms are derived from verbs (instances of deverbal nouns), with the [ku-] prefix in this instance serving to nominalize the verb roots of both forms (*sérèk* ‘shift’ and *tseng* ‘to walk’). Thus, it can be argued that the plural forms for these deverbal nouns are derived purely via the morphological process of suppletion. In cases of suppletive morphology, proposing morpholexical rules to account for the inflected forms might be too abstract and complex. Therefore, a straightforward morphological description of the inflectional process for this set of suppletive nouns, as provided above, should suffice.

5. Discussion

This research studies number marking in Izere nouns. The findings suggest that alternating noun prefixes are used to distinguish number, from singular to plural forms, in certain nouns in the language. These alternating noun prefixes represent instances of affixation, with one set marking singular forms, while the other denotes plural forms. This classification of noun classes based on morphological criteria instead of semantic ones aligns with Barnwell's (1969) investigation of the noun class system of Mbembe, another Benue-Congo language spoken in Cross River State, Nigeria. Barnwell (1969, p. 52) suggests that in Mbembe, "noun classes are set up on the basis of singular/plural pairings of these sets". Establishing a clear-cut semantic basis for the nouns in Izere was unattainable based on the available data for this research, though a majority of nouns referencing humans (and other animate nouns) were found within the [a-] noun class. It was discovered that singular nouns in Izere which begin with [ri-], [kú-], [ku-] and [ka-] morphologically generate their plural forms via [a-], [á-], [ì-] and [nà-], respectively, which are described as suppletive allomorphs. An extensive study of the available data indicates that nouns in Izere are made up of class-marking noun prefixes attached to roots that contain the core meaning of the noun, but has to be prefixed with a noun class marker that serves to inherently morphologically mark these nouns for number. The data on the Izere language seems to suggest that the language is in a transitional period and these noun classes are gradually being eroded. This is particularly evident in the [a-] and [i-] classes where tone pattern changes on the nouns are morphologically used to indicate number distinctions instead of segment changes in the form of prefixes, which are common in the other noun classes.

The present study also reveals that nouns which morphologically begin with [i-] and [a-] achieve number distinction solely through tone pattern changes. It was observed that these changes typically involve tone-raising in the inflected plural forms of the nouns. Numerous tone pattern changes were identified for nouns within these two classes and it was observed that these tone alternations were solely responsible for the number marking of these nouns. As such, these tone pattern changes can be considered allomorphs of the plural noun morpheme in Izere.

The research also identified instances of number marking on deverbal nouns in Izere. It was found that some deverbal nouns are pluralized by suffixing [-s] to their base forms. This suffixation also functions morphologically to distinguish singular-plural numbers for this set of deverbal nouns. A few nouns were also found to distinguish numbers morphologically via suppletion in Izere. Therefore, affixation (both prefixation and suffixation), suppletion and tone

pattern changes were identified as the morphological processes that accounted for number inflection in Izere nouns.

6. Conclusion

This research sought to descriptively account for number inflection from base nouns in Izere. In essence, it establishes that both segmental and tonal morphology are very productive aspects of number marking in the noun morphology of Izere. The research also captures generalizations in number marking in Izere within the proposal of Lieber (1980), which relates derived or inflected word forms within a lexical category to their base forms with the aid of word formation rules. The study argues that these instances of suppletion, alternating noun prefixation, deverbal noun suffixation and tone pattern changes in Izere nouns should be recognized as allomorphic because they serve a single morphemic function of noun pluralization in the language. They could also be said to be lexically conditioned morphemes because the choice of allomorph is not predictable, as suggested by Arokoyo (2017).

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