

LEXICOSTATISTICS OF EDO AND ESAN LANGUAGE

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APPROVAL PAGE

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DEDICATION

I dedicate this work to God Almighty for his Grace and ability to come this far, and also this work is dedicated to my amiable family and friends.

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ABSTRACT

This project aims to examine the lexicostatistical analysis of the Edo and Esan languages, two major languages spoken in Nigeria. The objectives are to determine the level of relatedness of the Edo and Esan languages and also to determine the similarities and contrast vocabularies in both languages. The study also examines the mutual intelligibility between both languages and many others. In the course of this work, the Ibadan 400 words list was used, using the lexicostatistics developed by Morris Swadesh in 1950. The methodology for the research involved both the primary and secondary method. The primary method used in this study is an informal observation and an oral interview with the native speakers of Edo and Esan languages while the secondary method includes; a review of relevant materials on lexicostatistics, dialectology and language variation, Edo language classification and so on. The study also involved collecting lexical data from native speakers of both languages and applying lexicostatistical methods to analyze their lexical similarities and differences. The analysis will focus on comparing word lists and calculating lexical distances between the two languages using established computational techniques. The findings will provide insights into the linguistic relationship between Bini and Esan, shedding light on their historical development, language classification, and possible language contact scenarios. This research contributes to a deeper understanding of the linguistic diversity in Nigeria and enhances our knowledge of the Edo and Esan languages.

CHAPTER ONE

GENERAL INTRODUCTION

1.0 BACKGROUND OF STUDY

Comparative analysis is the description and explanation of similarities and differences (mainly differences) of conditions or outcomes among large-scale social units, usually regions, nations, societies and cultures” (Smelser, 2003). It refers to the comparison of two or more processes, documents, data sets or other objects. Pattern analysis, filtering and decision-tree analytics are forms of comparative analysis.

Lexical comparison is a comparative analysis to examine similarities and differences between two or more languages. Arokoyo (2016a, 2016b), Bamigbade & Oloso (2016), Obisesan (2012) and few scholars have worked in different areas of lexical comparison using different Nigerian languages and dialects. Their study shows how they compared different languages using the Lexicostatistics analysis approach to derive cognate percentage in order to establish the mutual intelligibility of the dialects. Though, a number

of studies have been done on lexical comparison, no concern has been made to examine the level of mutual intelligibility in Edo and Esan languages.

This study focuses on the level of relatedness between the Edo and Esan languages of Edo state, to know and establish the similarities and differences between both languages. A quantitative approaches such as Lexicostatistics and Glotto chronology have been widely applied to detect hypothetical genetic relations among languages (McMahon and McMahon, 2005; Campbell, 2013).

1.1 EDO LANGUAGE AND PEOPLE

Bini is a language spoken by people in Edo State which also spread across the Delta, Ondo, and Rivers states of Nigeria. It is the primary language of the Benin Empire which came into existence around the 11th century AD. The culture, religion and the social life of the Bini people primarily revolves around their 'Ekpo cult', within which ritual ceremonies and mask dances are performed. The name "Bini" is a Portuguese corruption from the word "Ubini", which came into use during the reign of Oba (ruler) Ewuare, 1440. "Ubini" is a Yoruba word meaning Vexation, used by Prince

Oranmiyan, son of the wealthy ruler of Uhe (Ife) to describe the frustration he encountered after he was invited to rule Benin. Ubini was later corrupted to Bini by the mixed ethnicities living together at the centre; and further corrupted to Benin around 1485, when the Portuguese began trade relations with Oba Ewuare giving them coral beads. The Benin people are an Edoid ethnic group, primarily found in Edo State, Southern part of Nigeria. They speak the Edo language and are the descendants of the founders of the Benin Empire. They are closely related to other ethnic groups that speak Edoid languages, such as the Esan, the Afemai, the Isoko, and the Urhobo.

1.2 ESAN LANGUAGE AND PEOPLE

Esan is seen as a tonal Edoid language of Nigeria. The dictionaries and grammar texts of the Esan language are being produced. There are many dialects, including Ogwa, Ekpoma (Ekuma), Ebhossa (Ewossa), Ewohimi, Ewu, Ewatto, Ebelle, Igueben, Irrua, Ohordua, Uromi, Uzea, Ubiaja and Ugboha.

The Esan people: are an ethnic group of southern Nigeria who speak the Esan language. The Esan are traditionally known to be agriculturalists, trado-medical practitioners, mercenary warriors and hunters. They cultivate

palm trees, *Irvingia gabonensis* (erhonhie), Cherry (Otien), bell pepper (akoh) coconut, betel nut, kola nut, black pear, avocado pear, yams, cocoyam, cassava, maize, rice, beans, groundnut, bananas, oranges, plantains, sugar cane, tomato, potato, okra, pineapple, paw paw, and various vegetables.

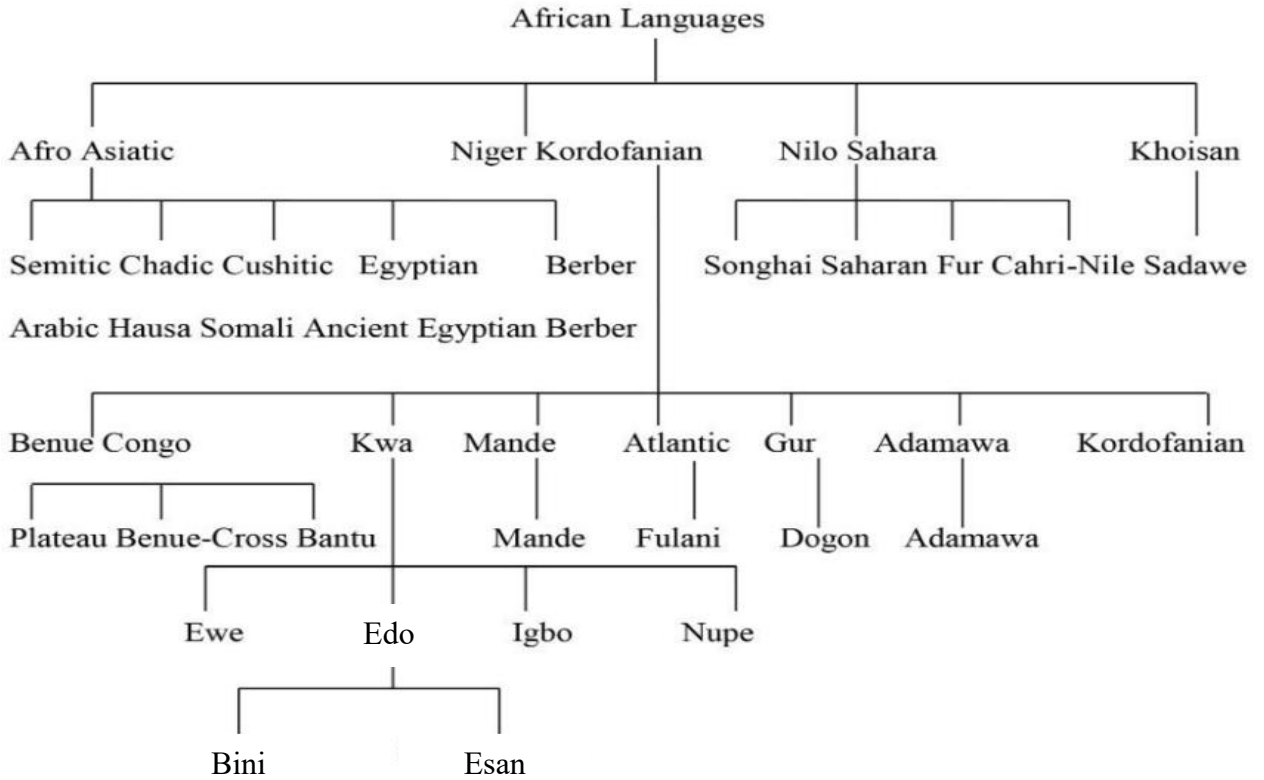
The modern Esan nation is believed to have been organized during the 15th century, when citizens, mostly nobles and princess, left the neighbouring Benin Empire for the northeast; there they formed communities and kingdoms called eguares among the aboriginal peoples whom they met there. There are 35 established kingdoms in Esanland, including Amahor, Ebelle, Egoro, Ewohimi, Ekekhenlen, Ekpoma, Ekpon, Emu, Ewu, Ewato, Ewosa, Ido, Ifeku, Igueben, Ilushi, Inyelen, Irrua, Ogwa, Ohordua, Okalo, Okhuesan, Onogholo, Opoji, Oria, Orowa, Uromi, Udo, Ugbegun, Ugboha, Ubiaja, Urhohi, Ugun, Ujiogba, Ukhun, and Uzea.

The Esan Kingdoms often warred among each other. Despite the war, the Esans kept a homogenous culture that was chiefly influenced by the Benin Empire. However, these kingdoms were colonized, along with the Benin Empire, by the British Empire during September 1897, only gaining

independence 63 years later in 1960 when Nigeria became independent from British Colonial rule. After independence, the Esan people have suffered from civil war, poverty, and lack of infrastructure.

The Esans primarily speak the Esan language, an Edoid language related to Edo, Urhobo, Owan language, Isoko, Anioma and Etsako. It is considered a regionally important language in Nigeria, and it is taught in primary schools in addition to being broadcast on radio and television. The Esan language is also recognized in the Census of the United Kingdom. It is estimated that the Esan people who reside in Esan land number about one million to 1.5 million citizens Nigeria and there is a strong Esan diaspora.

Genetic Classification of African Languages



1.3 STATEMENT OF THE PROBLEM

The multi ethnic nature of Nigeria is a widespread phenomenon that cuts across all languages in the country. So many people who are Bini and Esan respectively are not competent speakers of their language rather a performer. Getting competent speakers of Bini language and Esan language wasn't an easy task as it's not so fluent during running speech when they speak let alone, getting someone who speaks the two languages. The

language mostly and widely spoken in the area by the people are: Standard English and Pidgin English. Only a few are competent speakers. After lots of consultation, few persons who were met as directed by some persons were able to assist in carrying out the data used in this work.

1.4 AIM AND OBJECTIVES

The aim of this study is to establish the linguistics relation between the Bini and Esan languages on the basis of a quantitative comparison of vocabulary.

The specific objectives of this study are to:

- a) Determine the level of relatedness of the Bini and Esan language
- b) Determine the similar and contrast vocabularies in both languages
- c) Examine the mutual intelligibility between both languages.
- d) Examine the phonological and morphological variants of the languages

1.5 RESEARCH QUESTIONS

1. What is the relationship between the Bini and the Esan language?
2. What are the similar and contrast subject or vocabularies in both languages?

3. Can the speaker of both languages easily understand each other without prior familiarity or special effort?
4. What are the phonological and morphology variants of the languages?

1.6 SCOPE OF STUDY

This work is to establish the relationship between the Bini and the Esan language of Edo. Both languages are spoken in Edo state, Nigeria. The scope of this study is to carry out a comparative study of both languages to see if they are mutually intelligible or have little or no relationship to each other.

1.7 SIGNIFICANCE OF STUDY

The finding of this study will contribute to the benefit of the society as it will help uncover the relationship between the Bini and the Esan languages of Edo state in the educational process that many researchers were unable to explore. Findings would help teachers gain insight into the language and how the present study is relevant as it would help researchers that wish to apply Lexicostatistics approach as a comparative study of a language, it would serve as a study basis for further research. This research

is also beneficial to the government because it will help bringing to light the relationship between the Ikare and Akure dialect and better understanding in the classification of Edo language.

1.8. METHODOLOGY

The methodology for the research involved both the primary and secondary method. The primary method was an informal observation and an oral interview with the native speakers of Bini and Esan language. Data were collected from four (4) competent speakers of both Bini and Esan language their age range between 30 - 45 years of age. Two female speakers who are Bini and Esan respectively and two male speakers who are also BINI and Esan respectively. An audio recorder was used to ensure accurateness of the data collected. The secondary method included a review of relevant materials on Lexicostatistics, Dialectology and language variation, Edo language, language classification and so on.

Lexicostatistics which was developed by Morris Swadesh (1950) will be used in this work as It aims at establishing linguistic relations on the basis of a quantitative comparison of vocabulary; it is the statistical study of vocabulary to discover whether languages are historically related by

counting the percentage of cognates (Romaine, 2000, Matthews, 2007, Chantanaroj, 2007). Lexicostatistics is relevant to this study since the work will use cognates which are gotten from a word list to show suitable comparisons of the languages, that is; their similarities and differences.

Also, to calculate Lexicostatistics percentages which are determined by counting the number of all lexical items and then finding the percentage of Cognates from the sum of all lexical items, that is the number of Cognates divided by the total number of all lexical items multiplied by 100. The higher the percentage of Cognates the closer the languages are related.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter presents an overview of relevant literature related to the present study, highlight of this review will be explaining the basic concepts of this study, review of previous works related to the research, conceptual review and the theoretical framework used for the research.

2.1 REVIEW OF RELATED CONCEPTS

The following concepts which are related to this study will be explained in this section of the study. The explanation of these concepts makes the study easily understandable to everyone.

2.1.1 PHONOLOGY

Languages in the world sound so different from one another because of the way the languages use speech sounds to form patterns which differs from language to language.

According to Yusuf (1992:35) Phonology is the branch of language that studies speech sounds i.e. it studies how sounds form system in

language, Hyman (1975:8) defines phonology as "the study of the sound system and pattern of language". According to him, the goal of phonology is to study the properties of sound system which speakers must internalize for communicative purpose. This actually means that phonology is concerned with how sounds are structured, how they function and how individual use the sounds for communication. It can also refer to the inventory of segments in a language.

2.1.2 LANGUAGE

Language is a communication tool used by everyone in their daily life as a means of communication, to convey information and argument. Edward Sapir (1921:8) defined language as “as a purely human and non-instinctive method of communicating ideas, emotions, and desires by means of voluntary produced symbols”. “Language is a set (finite and infinite) of sentences each finite in length and constructed out of a finite set of elements.” (Noam Chomsky, 1957. *Syntactic Structures*, p. 13). This definition of language considers sentences as the basis of language. Bloch and Trager (1942:5) defined language as “a system of arbitrary vocal symbol by means of which social group cooperates”. This definition put all

emphasis on the social function of language, thus narrowing the role of language in human interaction.

Bloomfield (1987:49) defined language as “the totality of the utterances that can be made in a speech community is the language of that speech community”. The fact however, remains that language is a human system of communication. Language is a linguistic means of communication comprising form and meaning. This simply means that language is one of the tools used for the purpose of communication. Language is a complex human phenomenon as all attempt to define it as proved inadequate.

From the definition of language by various scholars, their different definitions were based on the perspective they viewed language and the study of language is linguistics.

2.1.3 DIALECT

A dialect is a regional different manifestation of a language. It is local speech form that has developed within a much broader speech community out of distance from the main speech form community (language community) or due to contact with other speech form. In a basic tem, a dialect is a sub-

categorization of a language, linguistically differentiated via grammar, lexis, and in term of speech.

Trudgil (1972:39) refers to the term dialect as “the difference between kinds Languages which are different in vocabulary and grammar as well as Pronunciation” adding that this term is used to refer to all forms. Wikins (1972:50) defines dialects as “the differences in grammar, pronunciation and vocabulary level in varieties of the same language”. These differences must be in lexical item, and to an extent, grammatical or just accent.

Mario Pei (1966:102) defines a dialect as a “specific branch or form of a language spoken in a given geographical area, differing from the official standard or literacy form of a language in one or all level of the language (pronunciation) in one of many levels. Edward (2009:63) defines it as a variety of a language that differs from others along three dimensions: vocabulary, Grammar and Pronunciation (accent) because they are forms of the same language.

Okolo and Ezejioaku (2008:209) state that a dialect is generally regarded as a regionally or socially distinctive variety of a language usually

identified by a particular set of words and grammatical structure. According to the journal of social linguistics (2004) any variety of language characterized by systematic differences in pronunciation, Grammar and other vocabularies is called a dialect. Crystal (2013) is of the view that a dialect signals where a person comes from. Dialect is a common characteristic which elaborates a geographic and social background of any language in portraying the diverse realities of people from different places.

2.1.4 VARIETY

Hudson (1996:22) defines a variety of a language as “a set of linguistic item with similar distribution” a definition that allows us to say that all the following are varieties: Canadian English, London English, and Nigerian English etc. According to Hudson this definition allow us to treat all languages of some multilingual speaker, or community as a single variety, since all the linguistic items concerned have a similar social distribution. Wardaugh (2006:25). “A variety can therefore be something greater than a single language as well as something less, less even than something traditionally referred to as a dialect”.

2.1.5 COGNATES

Cognates are traditionally determined within the framework of the comparative method. Cognates are words in one language that have the same origin as a word in another language .Cognates are words that have a common etymology, in two or more languages and thus are similar in meaning, spelling and pronunciation. A word is therefore a cognate with another if both words are derived from the same word in an ancestral or protolanguage. This is so because words in generally related language descended from the same ancestral roots.

There are two types of cognates:

Partial Cognates: these are words across languages that have complete resemblance in meaning, but partial resemblance in form as a result of a consonant or vowel alternation i.e. phonemy differences caused by the inevitable language change factor. These differences may occur at word initial, medial or word final position, they can also occur as a result of phonological processes such as tonal differences, nasalization and elision etc. They are usually easy to identify because they often sound the same. They indicate common ancestral factors shared by genetically related languages.

Full Cognates: These are words across languages that are fully identical in both form and meaning. That is there are no signs of differences in the word across the related language under study.

Gudschinsky (1956) identified three levels of cognate scores to determine relatedness:

- i. 0% - 35% cognate means separate language family.
- ii. 36% - 80% cognate means separate language, same family.
- iii. % and above cognate means it is the same language.

2.1.6 MUTUAL INTELLIGIBILITY

This term has to do with the relatedness of dialects. The first person credited with the use of this term is Peter Trudgill in his book ‘Sociolinguistics: An Introduction’ in 1974. It is the extents to which speaker form two or more speech community can understand each other without intentional study or extraordinary effort. It is sometimes used as criteria for distinguishing between languages or dialects. Ezejideaku and Louis (2011) affirm that the level of mutual intelligibility among the dialects of a language can be determined by cross examination of certain linguistic

structures (including but not limited to vocabularies, and grammar) in the languages concerned. They include that a condition that fails to take into consideration those factors will be considered cultural or political sentiments.

2.1.7 COMPARATIVE LINGUISTICS

Comparative linguistics is a branch of historical linguistics that is concerned with comparing languages to establish their historical relatedness. According to McMahon (1994:2) says comparative linguistics involves the enumeration, identification, evaluation of cross linguistic similarities. Okolo (2005:225) says that the comparative linguistics consists of the data from two or more dialects of a single language or two or more languages, comparative linguistics involves comparison between different languages because they are diachronic in nature which is concerned with the relationship between languages over a period of time.

2.1.8 PREVIOUS STUDY

Greenberg (1963:1) established some of the methodologies of language classification. These methodologies were guided by fundamental principles underlying language classification that group language based on shared similarities. These methods include mass comparison between pairs of language. Greenberg also said that all that count is the degree and types of similarities in linguistic forms. Therefore, it is looking at the linguistic resemblance taken into account in the classification of languages.

Ayeomi (2012:1) in his comparative study of Ondo and Ikale dialect of the Yoruba language was able to show the relationship that exist between the dialect. He selected fifty (50) sentences from each of the dialect, most of the words in the dialect can be found in the standard variety of Yoruba language, the difference was shown in the auxiliary verbs. Ayeomi (2012:1) also work on lexico syntactic analysis of Ondo and Ikale dialects of the Yoruba language. The study was carried out in order to find the area of convergence between the language. He concluded that Ondo and Ikale shares a lot of similarities and just few differences in the lexeme and syntax which is said to be due to cultural closeness of the two tribes.

2.1.9 CONCERN FOR PRESENT STUDY

The concept of this study is to compare the Bini and Esan languages of Edo state to know if they are mutually intelligible. A lexicostatistical approach will also be carried out on the language. This research collects language sample from the speakers of the languages which were subjected to lexicostatistics analysis, the collection of language sample was done using the Ibadan 400 word list.

The concern of this study as stated earlier is to capture the linguistic relationship between these languages by establishing their degree of relatedness. This study will help researchers know if Bini and Esan language of Edo are closely related and also to know their mutual intelligibility status.

2.2 THEORETICAL FRAMEWORK

The theoretical framework adopted in this study is lexicostatistics developed by Morris Swadesh in a series of articles in the 1950s, it involves a quantitative comparing the percentage of lexical cognates, the comparing of wordlist of cores vocabulary to calculate the level of relatedness among the languages and how mutually intelligible they are.

2.2.1 Lexicostatistics

Lexicostatistics aims at establishing linguistic relations on the basis of a quantitative comparison of vocabulary; it is the statistical study of vocabulary to discover whether languages historically related by counting the percentage of cognates (Romaine, 2000, Matthews, 2007, Chantanaroj, 2007). According to Trask (1996), Lexicostatistics is a general label for any kind of statistical analysis of vocabularies, but is it most particularly applied to a simple procedure of estimating the degree of linguistic distance between genetically related languages. The term lexicostatistics is an approach to comparative linguistics involving a quantitative comparison of lexical cognate and percentage in the study of dialects (dialectology). It refers to an analytical technique in genetic classification that involves the relatedness between two or more languages. According to Swadesh (1971), the lexicostatistics solution is to determine, mathematically the greatest percentage of similarities between languages. This is a means of measuring the degree of divergence, and of establishing chains relationship between languages.

Swadesh (1955) used this method to determine the linguistic relationship between languages related with respect to how closely or distantly related these languages are. This, he did by identifying the number of cognates (full or partial; vocalic or consonant alternation, having identical or near phonological shapes and most especially must have the same meaning or similar meaning in a various speech form in which they occur) in the language. This theory also shows the linguistic status of speech form visa-vasa other languages.

The lexicostatistics method as earlier stated was put forward by Morris Swadesh (1955) in his book titled 'Towards a greater accuracy in lexicostatistics dating'. Lexicostatistics is an outgrowth of glottochronology and is a more neutral term. It is a term that is concerned with using the quantitative similarity in the estimation of the degree of mutual intelligibility. Ifode (2001:59) defines lexicostatistics as a method of assessing the degree of relationship among a group of languages by calculating and comparing the percentage of shared cognate words found on a standard list of basic vocabulary. From this definition, we are to deduce that lexicostatistical method provides a relative degree of relationship among languages.

This frame work is a prominent method of carrying out genetic classification as it shows the genetic relationship between languages unlike the principle of mass comparison by (Joseph Greenberg) which involves the comparison of the lexical item across languages which only discovers closely related languages. Lexicostatistics brings about a precise result of how closely related two or more languages are. Lexicostatistics is based largely on the comparison of word lists of core vocabulary to calculate the level of similarity among them. It is widely used with African languages during the 1970s and 1980s, mainly with Niger-Congo and Bantu, but also with Nilo-Saharan and Afro-Asiatic.

This method of analysis sees language as a varieties of a particular language if they share 80% - 100% cognates (the cut-off is according to Williamson) or 86% - 100% (according to Swadesh) but if they share below these percentages, then they are seen as a dialect of a particular language, that is, the higher the percentage of the cognates, the closer relationship between the languages. Isidore Dyen (1966) is also a leading exponent of lexicostatistics application. He used it to classify Austronesian languages as well Indo-European ones.

The analysis involves the following method;

Creating a Word List: Collection of data with a word list which is made up of relatively stable core vocabularies (hand, mouth, sun) from languages under investigation. Wordlists that can be used are:

The Swadesh list

The Dolgopolsky list

Leipzig-Jakarta list

Dyen list

Kruskal and Black

Ibadan 400 wordlist of Basics item

Determine Cognacy: Cognates refers to words that have the same meaning and descended from common ancestors. It is calculated by dividing the total number of items multiplied by 100 to obtain percentage cognates. A trained and experienced linguist is needed make cognacy decision. Swadesh (1950) asserts that true cognates are developed from the same word in a common parent language and only true cognates are conclusive evidence of genetic relationship. However, lexicostatistics does not rely on all decision being

correct, sometimes a language has multiple words for one meaning e.g. *small* and *little* for *not big*.

Calculating Lexicostatistics Percentage: This percentage is related to the proportion of meaning for a particular language pair that are cognate, i.e relative to the total without indeterminacy. The higher the percentage of cognac the closer the languages are related. A use of this technique is by Ezejideaku and Louis (2003) in the work on the so called mutual intelligibility among Etsako dialect. It was in response to Okwudishu and Salami (2000) claim that virtually all Etsako dialect are mutually intelligibility.

Another use of this method is the work done by Arokoyo (2013) who worked on a lexicostatistics Comparison of Yoruba, Igbo and Olukumi dialects.

Formula

Y the total number items compared (total number of word list)

X the total numbered identical items (cognates)

Z the total number of unidentical items (non cognates)

Statistical figures were assigned to cognates as follows:

Cognates 1

Partial Cognates 1

Non-Cognates 0

2.2.2 JUSTIFICATION FOR THE THEORY

Lexicostatistics theory is the preferred theory, knowing fully well that it is not the only theory that exists under genetic classification. We will highlight one other method and give it shortcomings and the reason for not choosing it as the preferred theory for this research. Glottochronology proposed by M. Swadesh as the method for determining the time when two related languages became independent. It is the study of the rate occurring in the vocabularies of languages for the purpose of calculating time (time depth) during which two related languages have developed independently. It is the study of two or more related but distinct languages in order to determine when they separated, by examining the lexicon they share and those part of it that have been replaced. Glottochronology rely on statistical comparison of the basic vocabulary shared by two or more related languages on the assumption that the rate of vocabulary replacement is constant over sufficiently long period of time. A number of linguists do not accept the

method of findings of Glottochronology for mainly two reasons; the difficulty of compiling a culturally unbiased basic vocabulary list and the belief that the rate of linguistics change is not the same for all languages and not constant for any single language.

The main reason for not going for this theory is due to the fact that what the theory set out to do is not in line with what this research set out to achieve. Glottochronology set out to establish a proximate date in which existing languages diverge from their parent languages which this `research is not interested in. lexicostatistic which is our preferred theory is set out to establish the degree of relatedness between languages, at such we opted for a theory in line with our aim and objectives of this research.

CHAPTER THREE

DATA PRESENTATION

3.0 INTRODUCTION

This chapter contains data collected from native speakers of the languages using the Ibadan Four Hundred Word List of Basic Items. Lexical items from the languages were divided into different sets of liquid nouns, part of the body, edible nouns, human nouns, animal nouns, place nouns and verbs to make comparison easy.

3.1 DATA PRESENTATION

The data below contains lexical items from both languages. These Lexical items from the languages are divided into different sets of Nouns, verbs, numerical, etc.

3.1.1. Parts of the body

The human body is made up of all the living and nonliving components that create the entire structure of the human. The below table contains the part of the human body.

Table 1: Part of the body

GLOSS	BINI	ESAN
Head	[ùhú]	[uhõmhõ]
Hair	[étó]	[ètò]
Eye	[áró]	[elò]
Ear	[ého`]	[èho´]
Nose	[íwè]	[ìwè]
Mouth	[ùnú]	[únú]
Hand	[òbo`]	[óbo`]
Teeth	[ákõ]	[ákõ]
Penis	[ékjá]	[èkwè]
Neck	[ènáé]	[úru]
Breast	[éwẽn]	[éwẽn]
Vagina	[úhé]	[údí]
Belly	[ékó]	[ε´kε´]
Back	[ijékè]	[ikékè]
Leg	[òwé]	[òwε´]
Nails	[íjẽ]	[ijẽ]
Body	[égbé]	[égbé]

3.1.2. Numerals

Numerals refer to a word, letter, symbol, or figure, etc., expressing a number. Every language has a counting pattern which is language specific. Numerical pattern is usually mathematical with the use of addition, subtraction or multiplication that is a language numeral has a system to which if we follow we can generate another number. The Yorùbá numeral system is Complex and unique. The numerals exemplified in the table below are cardinal numerals from one to one hundred.

Table 2: Numerals in BINI AND ESAN

GLOSS	BINI	ESAN
One	[òwó]	[ɔ'kpá]
Two	[éva]	[éva]
Three	[éhá]	[éhá]
Four	[éñě]	[éné]
Five	[ísě]	[isě]
Six	[éhã]	[éhã]
Seven	[íhĩḍ]	[íhĩḍ]
Eight	[erěrě]	[elělě]
Nine	[íhĩrĩ]	[ísĩlĩ]
Ten	[ígbé]	[ígbé]

Eleven	[òwɔrɔ]	[úgbóló]
Twelve	[íwévà]	[ígbévà]
Thirteen	[íwéhà]	[ígbélé]
Fourteen	[íwɛ̀nɛ̃]	[ígbɛ̀nɛ̃]
Fifteen	[ékésúgíé]	[ígbéhɛ̃lɛ̃]
Sixteen	[ɛ̀nɛ̃ ɛ rɔ vɛ úgíé]	[ɛ̀nɛ̃ ríbújé]
Seventeen	[èha ɛ rɔ vɛ úgíé]	[èhà íríbújé]
Eighteen	[èva ɛ rɔ vɛ úgíé]	[èvà íríbújé]
Nineteen	[ɔkpa ɛ rɔ vɛ úgíé]	[ɔkpà ríbújé]
Twenty	[úgíé]	[údžé]
Twenty one	[ɔkpa jã ugíé]	[ɔkpa jã údžé]
Twenty two	[évà jã úgíé]	[évà jã údžé]
Thirty	[ɔgbã]	[ɔgbã]
Forty	[íjévà]	[íjévà]
Fifty	[ékígbésíjéhà]	[ékígbésíjéhà]
Sixty	[íjéhà]	[íjéhà]
Seventy	[ékígbésíjɛ̃]	[ékígbesíjɛ̃]
Eighty	[íjɛ̀nɛ̃]	[íjɛ̀nɛ̃]
Ninety	[ékígbésíjísɛ̃]	[ékígbésíjísɛ̃]
One hundred	[íjísɛ̃]	[íjísɛ̃]

3.1.3. Animal Nouns

Animal nouns refer to any living thing that is not a human or plant. Animal nouns refer to living things which comprise of amphibians, birds, insects and four-legged creatures. Lions, dogs, cats, etc are examples of animals.

Table 3: Animal nouns

GLOSS	BINI	ESAN
Animal	[a:háwε]	[εlamhẽ]
Elephant	[èmí]	[é' ní]
Monkey	[èmε]	[èmεĩ]
Snake	[ɛ̃jɛ]	[ɛjɛ]
Dog	[èkitá]	[áwà]
Horse	[é̃sĩ]	[é̃sĩ]
Tortoise	[ègwí]	[éwĩ]
Leopard	[átálákpá]	[átálákpá]
Snail	[ègílé]	[úré]
Lizard	[òsìkpàlɔ]	[òmiòmhẽ]
Cock	[ɔkpuru]	[ɔkpa]
Sheep	[òwã]	[òwã]
Donkey	[é̃sĩ]	[esi]
Ram	[òwá]	[òghòghò]
Crocodile	[àgbáká]	[òyẽ]
Milipede	[é̃hũ]	[ɔkũmε]
Duck	[èkpékpéjé]	[kpékpéjè]

3.1.4. Edible Nouns

Edible nouns refer to things safe to eat, fit for human consumption, digestible and comestible. Any substance that is safe to consume is edible.

Food items, fruits are examples of Edible nouns.

Table 4: Edible nouns

GLOSS	BINI	ESAN
Yam	[ɪɲá]	[èrià]
Beans	[éhé]	[èg̀wà]
Kolanut	[ééré]	[èbhèè]
Soup	[u ^h wómɛ̃]	[òmò]
Wine/beer	[àɲõ]	[ájõ]
Egg	[èkéóróró]	[ékjóhò]
Guinea corn	[óká]	[ókà]
Pepper	[èhjé̃]	[ítà]
Rice	[ízẽ]	[ízẽ]
Food	[èβàlé]	[ébalè]
Meat	[èmjówó]	[élamhé̃]

3.1.5 Concrete Nouns

Concrete noun refer to a noun denoting a material object rather than an abstract quality, state, or action. It identifies something material and non-abstract, such as a chair, tree, book, etc

Table 5: Concrete noun

GLOSS	BINI	ESAN
Tree	[èrǎ]	[érà]
Knife	[àbɛ́]	[óxàì]
Iron	[ògũ]	[èmátò]
Grinding stone	[óló]	[órò]
Money	[író]	[ígò]

3.1.6 Liquid Nouns

Liquid noun refer to any substance having a consistency like that of water or oil. Synonyms: fluid, moisture, wet, damp, etc.

Table 6: Liquid nouns

GLOSS	BINI	ESAN
Water	[ámɛ̀]	[ámɛ̀]
Palm oil	[ófigbón̩]	[ábwi]
Blood	[isárjɛ̀]	[ésárjɛ̀]
Wine	[ájõ̃]	[ájõ̃]
River	[ɛzɛ̀]	[ɛdɛ̀]

3.1.7 Place Noun

Place noun refer to a particular part of space or a surface, especially that occupied by a person or thing. It is a geographical point, such as a town, city.

Table 7: Place noun

GLOSS	BINI	ESAN
Land	[òtò]	[òtò]
House	[òwá]	[úwá]
Room	[ùwówá]	[èkówá]

3.1.8 Human Nouns

Human nouns refer to nouns relating to people, in other words, words that are used to represent a person such as man, woman, friend etc.

Table 8: Human nouns

GLOSS	BINI	ESAN
Man	[òkpjá]	[òkpíá]
Woman	[óxwó]	[ókhúó]
Father	[éṙá]	[ábà]
Mother	[íjé]	[ìnè]
Person	[ómâ]	[órià]
Husband	[òdò]	[ódò]
Child	[ómó]	[ómò]
Son	[ómòkpja]	[ómòkpíá]
Daughter	[ómòxwó]	[ómòkhuó]
God	[òsánóbuá]	[òsénóbuá]

3.1.9. Weather/Seasons

Weather is the state of the atmosphere at a particular place and time as regards heat, cloudiness, dryness, sunshine, wind, rain, etc.

Seasons is the period normally characterized by a particular kind of weather.

It is also refer to as a period associated with some phase or activity of agriculture (such as growth or harvesting).

Table 9: Weather/Seasons

GLOSS	BINI	ESAN
Rain	[àmɛ́]	[ùkpámɛ̀]
Sun	[òvɛ̀]	[úvùòlɛ̀]
Day[noon]	[àvǎ]	[édé]
Night	[àsǒ]	[ásǒ]

3.1.9. VERBS

A verb is a word that in syntax generally conveys an action, an occurrence, or a state of being. Verbs are words use to describe actions i.e what we do and states of being. For example, eat, develop, exists, run, stand etc.

Table 10: Verbs

GLOSS	BINI	ESAN
Go	[ákhjǎ́]	[àkhiǎ̀]
Come	[a:dè]	[àvádè]
Sleep	[βjɛ̀]	[wɛ̀]
Kill	[gbè]	[gbè]
Cry	[vjɛ̀]	[viɛ̀]
Ask	[nɔ̀]	[nɔ̀]
Greet	[twɛ̀]	[twɛ̀]

CHAPTER FOUR

DATA ANALYSIS

4.0 INTRODUCTION

In this chapter, the data collected will be analyzed using the lexicostatistics approach that was introduced in chapter two of this study. After analysis and a thorough study of the function, a percentage would be derived and the result would determine the similarities and differences between these forms of languages.

4.1 LEXICOSTATISTICAL ANALYSIS

The result of the data analyzed using the lexicostatistical formula is presented in the lexicostatistical framework as follows

SPEECH FORM	TOTAL NUMBER OF LEXICAL ITEMS	NUMBER OF COGNATES	NUMBER OF PARTIAL COGNATES	NUMBER OF NON COGNATES
EDO AND ESAN	109	37	12	60

The Lexicostatistical Calculation of Edo and Esan

The lexicostatistics has 3 variables which are x, z, y

X represents the total number of identical items [cognate + partial cognate]

Z represents the total number of unidentical items

Y represents the total number of identical items

Formula,

Where $X = 37 + 12$ [cognates + partial cognates]

$$X = 49$$

$$Z = 60$$

$$Y = 109$$

Therefore, $\frac{X,Z}{Y} \times \frac{100}{1} = \frac{X,Z}{Y} \%$

Where $X = 37 + 12$ [cognates + partial cognates]

$$X = 49$$

$$Z = 60$$

$$Y = 109$$

Therefore, $\frac{X,Z}{Y} \times \frac{100}{1} = \frac{X,Z}{Y} \%$

$$a) \quad \frac{X}{Y} \times \frac{100}{1} = \frac{X}{Y} \times 100 = X \%$$

$$\frac{49}{109} \times \frac{100}{1} = \frac{4900}{109} = 45\%$$

Where z=total number of unidentical items [non cognates]

y =total number of word list

$$b] \quad \frac{Z}{Y} \times \frac{100}{1} = \frac{Z \times 100}{Y} = Z\%$$

$$\frac{60}{109} \times \frac{100}{1} = \frac{6000}{109} = 55\%$$

THE RESULT OF THE ABOVE CALCULATION IS PRESENTED IN THE TABLE BELOW

SPEECH FORM	DEGREE OF LEXICAL SIMILARITIES	DEGREE OF LEXICAL DIFFERENCES
EDO AND ESAN	45%	55%

4.2 INTERPRETATION OF RESULT

The table shown above indicates the lexical similarities and differences between the Edo and Esan languages in percentage. Where the

lexical similarities is 45% and the lexical differences is 55%. Some examples of the similarities and differences between these languages will be examined in the tables below

TABLE 1: Some examples of full cognates is shown in the table below

GLOSS	BINI	ESAN
Hair	[étó]	[ètò]
Mouth	[ùnú]	[únú]
Hand	[òbò`]	[òbò`]
Two	[évà]	[évà]
Money	[író]	[ígò]
Room	[ùwówá]	[èkówá]
Rice	[ízé]	[ízè]

TABLE 2: Some examples of partial cognates are shown in the table below

GLOSS	BINI	ESAN
Ear	[éhò]	[èhó]
Horse	[ésí]	[ésí]
Nose	[íwè]	[ìwè]
God	[òsánóbuá]	[òsénóbuá]
Sleep	[βjè]	[wè]

TABLE 3: Some of the examples of non cognates is shown in the table

GLOSS	BINI	ESAN
Eye	[áró]	[elò]
Penis	[ékjá]	[èkwè]
Neck	[ènáé]	[úru]
Vagina	[úhé]	[úđí]
Elephant	[èmí]	[ε'ní]

CHAPTER FIVE

SUMMARY, FINDINGS AND CONCLUSION

5.0 INTRODUCTION

In the preceding four chapters of this work, we examined a lexical comparison of the Edo and Esan languages. The methodology and theoretical framework and the analysis of the dialect data were also examined. This concluding chapter presents the summary of the study, findings, conclusion and recommendations

5.1 SUMMARY OF THE WORK

The project is a lexicostatistics analysis of Edo and Esan languages of Edo state. The present study was done between these two languages with the focus to determine the level of relatedness with the use of the lexicostatistics framework.

The study comprises of five chapters; the chapter one covers the background of study coupled with other sections such as an introduction to the Edo, Esan language and the people. The genetic classification of African languages, the study's methodology and aim and objectives the study. The chapter two of the study entails a literature review of the present study and

this section explained the key concept and variables that are relevant and related in the field of study coupled with the theoretical framework emoted in the research. The chapter also presented a survey of the previous study that has been done on Bini and Esan languages and the concern of the present study. In chapter three of the work, lexical items from the languages were presented and divided into different sets of nouns and verbs using the Ibadan four hundred word list of basic items to make comparison easy. The chapter four of this study is the analysis of these lexical items using the lexicostatistics method, followed by the interpretation of results and some phonetic variation that was discovered during the course of comparison. The following was discovered during the course of the research:

Bini and Esan languages are not manually intelligible as a result of their shared cognates of 45% relatedness and 55% non-relatedness.

5.2 FINDINGS

The lexicostatistical framework by Swadesh (1951) claims that the relationship between two or more dialects can be determined on the base of cognation percentage as outlined below:

COGNATE%	TERM
100-81	Language
80-35	Family
34-12	Stock
12-4	Microphylum
4-1	Mesophylum
Less than 1	Macrophylum

From the lexicostatistical analysis, the Swadesh cognation percentage was used to determine the level of mutual intelligibility. The result for our lexical comparison reveals of relatedness between Edo and Esan as 45% which means that they are not mutually intelligible and native speakers of both forms of languages cannot understand each other.

5.3 CONCLUSION

Comparative method is a technique for studying the development of languages by performing a feature-by-feature comparison of two or more languages with common descent from a shared ancestor (Beekes, 1995).

The project is a Lexicostatistics analysis of Edo and Esan languages and from our analysis, it is evident that Edo and Esan are not mutually intelligible.

5.4 RECOMMENDATION

I recommend that further research be carried out on these languages using other branches such as the morphology of Edo and Esan languages with the intention of bringing out the various parameters that are at work in individual languages of Edo.

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