Lexicological Development of Kalabari Language in the Age of Technology: A Comparative Study of French and Kalabari

by

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Abstract

In today's technological age, languages needed are those that can express technical and scientific matter found in the environment around us. In our opinion, every language has an interest in reflecting these technological phenomena in its renditions, using precise lexicological procedures. Kalabari, a Niger-Congo language, is no exception, especially if it intends to survive linguistically in the modern technological age. In this article, the aim is to achieve a technical language structure for Kalabari speakers through a comparative study with French, an Indo-European language where such technical terms have already been evolved. Terms like 'solar energy', 'wind energy', 'electromagnetic field', etc., can equally be expressed in Kalabari, which could, in turn, serve as a technical language model for other Niger-Congo languages in need of technical development to cope with the exigencies of a technological age.

Key words: Technology, scientific matter, lexicological procedures, linguistic survival, technical development

Introduction

It can be easily observed that, the Kalabari language, like many evolving languages, tends to express technical matter through description or circumlocution, rather than concision which, according to Martins and Vigner (1976) is necessary for technical speech.In this article, the aim is to evolve parameters for technical discourse capable of reflecting the many technological feats and innovations that are employed by Kalabari speakers in the course of their daily lives. Besides, as pointed out by Afolayan(1980), every language possesses the necessary linguistic tools, i.e. syntactically, morphologically and otherwise, to say whatever it wishes to say, and this includes the Kalabari language.

Natural scientific phenomena which pave the way for technological inventions abound in the environment of the Kalabari speaker: the sun which can be used power engines in the form of solar energy; the wind which can be converted to wind energy; natural gas which can be made to produce electricity…., so many technological manifestations which need names. In keeping with the Sapir-Whorf theory, it is often easier to visualise objects for which there are names. Therefore, naming objects in the natural environment of the Kalabari speaker will supposedly heighten his awareness of them, and thereafter give him the necessary impulsion to participate in creating and inventing technological things for his own comfort and well-being.

Why a comparative study with French? The reason could be that the French language, like a few other languages of the Indo-European family, have benefited from an early industrial revolution which has supposedly favoured its corresponding lexical growth. Terms such as *"énergie éolienne"* (wind energy), *"énergie thermale",* (thermal energy), *"champ magnétique"*, etc., portray a technological awareness that have resulted in the creation of concrete technological manifestations. However, in our opinion, the application of certain lexicological criteria could give rise to similar terms of technological import in other language families, particularly the Niger-Congo family to which Kalabari belongs.

Lexicology and Technology

Technological progress is a fact of modern life, and all inventions and innovations are there to make life easier for all. No matter where one finds himself on the planet, the effects of scientific realities which translate into technological inventions can be felt by all. Realities such as the rays of the sun which, when harnessed, converts to solar energy and is used to turn turbines, drive machines, provide light, etc. This energy that is supplied by the sun has been given the term *"energie solaire"* by the French, but how do the Kalabari call it?

In this article, we adopt the perspective of Benjamin Lee Whorf quoted by Steiner (1998:92) when he said: "we dissect nature along the lines laid down by our native language." This means then, that, in order to grasp the scientific and technological phenomena replete in our environment, we would need a lexicological framework designed to permit the creation of technical words in a technological direction.

We would like to mention at this juncture that the concept of technology is not new to the African. Andah (1992:9) draws attention to the fact the African has always displayed technological acumen to cope with his environment. He posits that the term technology can be defined at two levels: at the cultural level where technology can be defined to mean the natural resources used by man to procure material, social and spiritual objects for his well-being; and at the physical level where technology represents the mental and physical exertions of a given race to master his environment and make them work for him.

For example, the main occupation of the Kalabari is fishing, and the Kalabari man has always displayed mastery in the art of carving out canoes from whole trees. This he does using a technology peculiar to him and this technology is often transmitted from one generation to another within the same family.

But, in order to be part of a more global culture, names would have to be found or coined for other physical manifestations of technology as we know them today. Modern phenomena such as the internet, mobile telephones, cable networks, etc, would need names in all languages. What the African speaker, here represented by the Kalabari speaker, needs therefore, is a terminological bank of linguistically coined terms for the many technological manifestations that abound all around him and of which he is a beneficiary.

One of the aims of this paper is to achieve the above by developing lexicological paradigms through a comparative study with a language where some of these terms already exist. In our view, lexicology, a discipline that studies the form and meaning of words, as well as the relations that exist between them, is well suited to coin names for identified phenomena in the African environment and ultimately give physical vent to his technological potentials.

Lexicology and Technical Discourse

According to Niklas-Salminen(1997:13), lexicology is the branch of linguistics which studies the lexical units of a language by way of analysing the relations that exist between them. This would, in part, explain the choice of lexicology as an instrument for the technical enrichment of the Kalabari language. This choice is also justified by its ability to generate a framework capable of producing technical discourse in the Kalabari language.

What, then, is technical discourse? Vigner and Martin (1976:13) define it as "a specific code to express things of a technical nature. It is a certain type of discourse which displays a limited choice of syntactic structures serving as a base for technical expressions." Some other linguists like Crystal (2007:384) affirm that technical discourse is one whose characteristics are different from those of normal discourse. These include objectivity, systematic investigation and exact measures. There is also an overriding concern for the impersonal, for logical exposition and precise descriptions.

Vigner and Martin enumerate some of the characteristics of technical discourse below:

- A near-total absence of distinction between oral and written discourse;

- A homogeneous use of language resulting in the absence of language registers;

- A reduction of temporal forms resulting in the permanence of the technical fact, and also a reduction of the timeless aspect of technical operations and of the properties of materials used;

- An objectivity in communication which results in the disappearance of all processes that may entail sentiments or subjective appreciations;

- The precision, as well as the concision necessary for technical information, which is what makes for the use of complex lexical units.

As a case in point, how would the Kalabari speaker express or translate the term "refrigerator" in his language? A random sampling among some native Kalabari speakers revealed that they had to think first of the concept before attempting a description using several lexical items. Answers included:

- *Ye obokuma ye* (that which makes cold)
- *kẹ ye obokuma a ri* (what is used to make things cold)
- *wakẹ ye obokumaar' bẹ ye* (what we use to keep things cold)
- An attempt at concision using the criteria for technical discourse gave us the term "y'obokuma-ye". Further concision would give "*obokumaye*". Finally, a lexicological application gives us a paradigm for other similar formulations as can be found in the table below:

- *Obokumaye* – réfrigérateur – refrigerator
- *Ọfrimaye* - radiateur – radiator
- *Samunọmaye* – séchoir – drier
- *Gbẹẹye* – broyeur – grinder, etc

Let us proceed to take a linguistic overview of the two languages in this study: French and Kalabari. This is being done with a view to determine what linguistic similarities both languages share that could facilitate technical discourse in one or the other.

Linguistic Overview of French

French is a Romance language which belongs to the Italic branch of the Indo-European family of languages, a family which groups together about a thousand languages, spoken by approximately three million individuals (Crystal, 2007:). According to Crystal, the phenomenon of the popularity of French is due in part to autochthony (about 200 million native speakers in Europe), and due in part to a heritage of colonization (about 500 million Francophone speakers in the world).

At the syntactic level, French has a configuration of Subject-Verb-Object (S-V-O) in its basic constituents (Harris, 1987:28), as in the example:

➤ Pierre regarde Marie

At the morphological level, suffixation appears to be the most productive derivational process in French. The process consists in adding affixes to the base of pre-existing words. In technical vocabulary, this gives a paradigm of words like:

- Radier + tion = radiation
- Souder + age = soudage
- Efficace + ité = efficacité, etc.

Phonologically, French is a tonal language which makes use of accent marks to guide pronunciation and the meaning of words. There are three main accents, and they often serve to differentiate words according to which accents are placed on them:

- The low accent (accent grave) – à, è, ù as in à, zèbre, où ;
- The high accent (accent aigu) – é as in été, répété;
- The circumflex accent (â, ê, î, ô, û) as in hâte, bête, gîte, hotel, mûr.

Linguistic Overview of Kalabari

The Kalabari language is one of the ijoid languages of the Niger-Congo family of languages. More specifically, it belongs to the East Ijo group. According to Williamson and Timitimi (1983) and later Jenewari (1989), other members of this group are Okrika, Ibani, Bille and perhaps Nkoro. Dapper (2003) likewise affirms that Kalabari is one of the Ijaw tribes that live in the Niger-Delta region. Among these languages, we have Izon, Nembe, Bille, Kula, Ibani, Tombia, Okrika, etc. Speakers can be found everywhere in the world but more specifically in a state called Rivers in Nigeria, West Africa.

Concerning the orthography of Kalabari, Harry (2005) informs that the first individual attempts in this direction were in 1949 when B.A. Harry published a primer with the title "*Kalabaritari go diri"(Kalabari Primer),* followed by another primer, this time written by N.T. Akobo in 1953 with the title "*Wanimin'ibiai"(Things we ought to know).* It was only after these individual efforts that the government sponsored orthography projects in indigenous languages, thereby paving the way for primers in Kalabari written by erudite scholars like Berepiki (1971), Williamson (1972) and Jenewari (1972). Recently, some speakers have been using more modern means to diffuse the language. Such is the case of DawariBraide whose electronic English-Kalabari dictionary can be consulted online using the internet.

At the phonological level, Kalabari is a tonal language like French. Harry (2005) explains that words in the language are produced with the use of pitch in combination with sound segments (vowels and consonants). Certain similarities can be observed between the two languages of study. For example, the phonetic symbols of [i] and [ɛ] represent the same sounds in both languages as in 'ici' [isi] (French) and 'igoni' [igoni] (Kalabari); 'frère' [frɛr] (French) and 'lẹgi' [lɛgi] (Kalabari). However, it would be noted that in the second example, Kalabari uses a diacritic sign 'ẹ' where French uses a low accent 'è' to represent the same sound.

Diacritic signs or marks are actually signs which, when added to a letter, modify its value, or allow to distinguish between two homographs (homographic words). According to Dapper (2003), these marks make it possible to distinguish between the following letters in the Kalabari alphabet and their resultant change in meaning:

- b; b̲ as in bele; b̲ele (clear; shift)
- d; d̲ as in dein; d̲ima (peace; change)
- e; ẹ as in mie; miẹ (this, do)
- i; i̲ as in iri; i̲ri̲a (dry; young girl)
- o; ọ as in obiri; ọb̲ọkọ (dog; chicken)
- u; ụ as in ikulele; ikụta (iron; coral bead).

In its syntactic configuration, Kalabari is S-O-V, i.e. Subject-Object-Verb, unlike French which is S-V-O. A few examples may suffice to illustrate this:

French: Je regarde Boma (I look at Boma)
Kalabari: A Boma diki ar' (I Boma look at)

The above is an important point to note during lexicological formulations. For example, to say 'énergie solaire' (noun + adjective), the native Kalabari speaker would give a nominal phrase ' irua bẹ krọ' (Noun + Conj + Noun).

However, in spite of the various efforts mentioned above, Kalabari orthography is yet to be standardised. It is therefore still possible to propose lexicological models that will permit technical discourse and words of technological import in the Kalabari language before its standardisation.

Lexicological Paradigms for Technical Discourse

By 'lexicological paradigms', we mean linguistic strategies that are adopted to develop technical language models in a language. While carrying out a study on the technical development of the Yoruba language, Iyalla-Amadi (2000:89) was able to formulate what she called lexicological procedures. Some of these include:

   i. Nominalization: a procedure which consists in transforming whole sentences or groups of words into a noun phrase. This can be done through the affixal process of adding a prefix or a suffix;
  ii. Special coinages: these are words that are formed or coined using the linguistic resources of the language to reflect words with scientific or technological import;
 iii. Adjectival constructions: these are basically grammatical constructions resulting from the juxtaposition of adjectives and nouns. Khamisi (1990) refers to them as 'syntactic strategies';
  iv. Phonologically integrated loanwords: these describe loanwords from contiguous languages to reflect a larger global culture but adapted to the phonological structure of the source language.

Let us proceed to apply some of the above-mentioned procedures to the formulation of technological terms in Kalabari, drawing from the French language. First, a lexicological model for the term 'énergie' (energy):

A. Energie solaire (French) – irua b̠ụ b̠ob̠ękrọ ; irua id̠a krọ

Sometimes, native Kalabari speakers refer to 'electricity' as 'id̠akrọ', meaning that which draws its energy from the elements. This is why this term has been attached to the shorter translation. In keeping with the exigencies of technical discourse, however, we shall apply the third lexicological procedure of adjectival constructions to propose the following term: *'iruakrọ'*.

This gives rise to a lexicological paradigm for other technical terms as follow:

- Énergie solaire – irua krọ (solar energy)
- Énergie éolienne – fęrụ krọ (wind energy)
- Énergie ligneuse - sinb̠ub̠ę krọ (ligneous energy)
- Energie fossile - kirib̠ụb̠ę krọ
- Energie thermale – kir'ọfiri krọ
- Energie renouvelable - ojud̠inma krọ, etc.

B. Aimant (French) – yekpapu a ri (Kalabari)

This word means 'magnet' and the concept is one of a powerful object which attracts other objects to itself. Here, magnetism is being referred to as a technological phenomenon. From this perspective, the semantic field of the word can first be determined and then the term rendered more concise by reducing it to a single lexical item 'kpapu'. Finally, the lexicological procedures of nominalization and adjectival constructions can be applied to arrive at the following paradigm:

- Aimant – kpapu (magnet)
- Magnétisme – kpapu-bra (magnetism)
- Champ magnétique – kpapu yiyọ (magnetic field)
- Champ électromagnétique - id̠a-kpapu-yọ (magnetic field)
- Rayon électromagnétique - id̠a-kpapu tungbali (magnetic ray), etc**.**

C. Technologie – àkà na gbolomaaayi (technology)

Here, we have chosen to evolve an indigenous term for the concept which is the main preoccupation of this paper. But, is this term really an imported one or is it simply one which expresses the manifestations of the applications of science to everyday phenomena? Therefore, going by the assumptions of the Sapir-Whorf Hypothesis, if the indigenous Kalabari speaker is able to evolve an indigenous term that will permit him to visualize, in a vivid manner, the effects of the concept of technology, he would be in a position to participate fully in the inventions of the technological age in which he finds himself.

Of course, it would be easier to borrow words from the contiguous Indo-European language and phonologically integrate them into the indigenous language (as is the current practice, e.g. technology - *tękinǫlǫji*), but this procedure would not produce the desired technological impetus in Kalabari speakers. Rather, it would lead to further lexical paucity that might ultimately retard the much sought technological progress.

In the light of the above, therefore, the lexicological strategy of special coinages has been adopted to arrive at the following term:

Technology – *akàbàayi*.

It should be noted that most of the terms proposed here are subject to further review in the language. This is embryonic work which is designed to start off the lexicological process of formulating indigenous terms with technological import. It can only be hoped that the proposed terms would bring about the needed constructive controversy for linguistic growth in a scientific and technological direction in the Kalabari language.

Conclusion

In this study, a comparative study between languages of two different linguistic families has enabled us to define and explore areas of similarities and differences which could allow lexicological paradigms for technological terms. The study has also made it possible to take cognizance of similarities that could lead to technical discourse with the desired result – bringing about a technological consciousness which would permit technical expression in a Niger-Congo language of ijoid origin such as Kalabari.

As has been mentioned several times in this article, the ability to name technological feats is a definite step towards creating technological facts. The focus of this paper was therefore the provision of the requisite linguistic tools for the Kalabari speaker to be a conscious participant in the current technological era, using lexicological procedures. Being able to express such terms as 'wind energy', 'electromagnetic field', 'technological progress', etc., in his native tongue would enable the speaker, whether French or Kalabari, to first take cognizance of these phenomena in his environment, and then strive to manifest them through inventions. It all starts with the language.

For us in this paper, the lexicological development of Kalabari, an ijoid language of the Niger-Congo family, in comparison with French, a Romance language of the Indo-European family, constitutes an important launching pad to catapult the former into the technological age of the present century. This is perhaps what the Kalabari speaker, and by extension, other speakers of the Niger-Congo phylum would need to be fully part of the technological inventions of his times as a world citizen.

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