Phonemic Mutation: A Means of Negative Sentences Building in Tagbana Language

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Abstract : This article puts into evidence the phenomenon of phoneme mutation; above all the assimilation process as a means of negative sentences building in the Tagbana language. Throughout the data collected, we notice that a negative sentence is built by the means of a phoneme mutation that happens in a first time at the level of personal pronouns and noun classes. The personal pronouns and the noun classes in an affirmative sentence reveal short vowels, which become long in the negative sentence building process. These long vowels in a second time influence the adjacent consonants if these consonants are occlusive. As for imperative sentences, an additional element intervenes in the process of negative sentence building: the bound morpheme ***ga*** preceded by the concerned personal pronoun and at the level of the verb, the voiceless stop consonant is unintentionally turned into a voiced stop consonant.
Keywords: phoneme mutation – assimilation – negative sentence – personal pronouns – noun classes.

Résumé : Cet article met en évidence la mutation phonémique en l'occurrence l'assimilation comme moyen de construction de la phrase négative dans la langue Tagbana. En effet, à partir des données recueillies, nous remarquons que la forme négative s'obtient par le canal d'une mutation vocalique qui s'opère dans un premier temps au niveau des pronoms personnels sujets et des marqueurs de classe nominale. Les pronoms personnels sujets et les marqueurs de classe nominale à la forme affirmative présentent des voyelles courtes, qui dans le processus de transformation négative deviennent longues. Les voyelles longues à leur tour ont une influence sur les consonnes adjacentes surtout quand celles-ci sont occlusives. Quant à la phrase impérative, un élément additionnel intervient dans la transformation négative : le lexème ***ga*** précédé du pronom personnel concerné et au niveau du verbe, la consonne occlusive sourde est automatiquement remplacée par l'occlusive sonore quand il s'agit de phonèmes intégrés.

Mots clés : mutation phonémique- assimilation – phrase négative – pronoms personnels – marqueurs de classe nominale.

Introduction

Every language uses specific formula to express some linguistic processes such as types and forms of sentences: declarative, exclamative, interrogative and negative sentences. In this article, the emphasis will be put on negative sentences building in the Tagbana language. To build a negative sentence in Tagbana language, one may resort to various procedures depending to some circumstances and contexts. In fact, this linguistic procedure is based on the use of some specific morphemes which are sometimes prefixes or connected to the verb or some negation particles in the sentence. For instance, particles like '**na'** or '**ga'** to express negation are identified in proverbs, names and imperative sentences.

Another very important aspect which shows the diversity and flexibility to express negation in Tagbana language is the dialect. In this article, we will resort to the dialect of Petionara. Petionara is a village located in the North Center of Côte d'Ivoire in the prefecture of Niakara, namely in the Hambol Region with Katiola as the main town. In this dialect, an observation has been made: when an affirmative sentence has to be turned into a negative one, a phoneme mutation phenomenon is observed. This observation related to the phoneme mutation occurs at two main levels: subject pronouns and the noun classes for declarative sentences. As for imperative sentences turned into negative form, an additional element is observed after the subject pronoun. To give a better insight to this observation, let us throw a glance to a sample but representative of our data:

Affirmative sentences	Translation	Negative sentences	Translation	Phoneme mutation

1. Subject pronouns -**Mi** pan - **Ye** ta	-I have come -You have got	-**wo** ban -**yoo** da	-I have not come - You have not got	**i → o/p→b** **e→o:/t→d**
2. Noun classes -Naŋa **wi** pan	-The man has come	- Naŋa **wu** ban	-the man has not come	**- i → u/p→b**
3. Imperative sentences - pan - ye klin	-come -sit down (plural you)	-Mō ga ban - ye ga glin	-Don't come - don't sit	Additional elements : **Mō ga/p→b** **Ye ga/ k→g**

As we can notice it through this sample of data, phoneme mutation phenomenon in Tagbana language is a means to build negative sentences at the level of some linguistic words such as subject pronouns, noun classes and imperative sentences. At the level of the subject pronouns and noun classes, both; vowel and consonant mutations are observed. As for the imperative sentences, an additional element is observed. For instance: **Mō ga** or **ye ga.** This expression is the equivalent of '**don't'.** The very first words **Mō** and **ye** respectively refer to the pronouns **you** (singular and plural) and **ga** refers to the negation **'not'.** A consonant mutation phenomenon is observed as well. What held my attention is that this phoneme mutation phenomenon observed with subject pronouns, noun classes and the imperative sentences is semantically loaded. In fact, when sentences are in the affirmative form, some specific phonemes are used being vowels or consonants and for the negative form a phoneme mutation is noticed.

Seeing the large numbers of phonemes (consonants and vowels) in the Tagbana language, some questions raised in my consciousness: is this phoneme mutation motivated? Is there any linguistic or phonological rule to explain this phoneme mutation? How come that this phoneme mutation phenomenon results in negative sentences building in Tagbana?

Tagbana people belong to the ethnic group of the same name (Tagbana).They occupy , between the (River) N'zi and the Bandama, respectively live in the areas of Katiola, Fronan, Niakara and Tafire. This language is spoken in the North-centre of Côte d'Ivoire. Tagbana people are one of the ethnic groups that constitute the large Senoufo Group.

Tagbana language has already been studied, phonologically speaking, by some Authors (cf. Mensah & Tchagbalé: 1983 and d'un essai de grammaire (Clamens: 1952).The phonological study concerning Tagbana language has permitted to discover the existence of thirty six phonemes:

-twenty one (21) consonantal phonemes:/p, t, c, k, kp, ʔ, b, d, ɟ, g, gb, f, s, h, m, n, ɲ, ŋ, l, w, j /

- twelve (12) vocalic phonemes /i, i̱, u, u̱, e, o, ɛ, ɛ̱, ɔ, ɔ̱, a, a̱ / and

- three (3) suprasegmental phonemes: high tone /◌́/, the middle tone / ◌̄/ and the low tone / ◌̀/. It is important to mention that Tagbana is a tonal language; it means that the tone plays an important role in the conceptualization of meaning.

Literature review, theoretical framework and methodology

1.1 Literature review

In any language we can identify a small number of regularly used sounds (vowels and consonants) that we call phonemes… [1]

According to Longman Dictionary of Language Teaching and Applied Linguistic third edition, a phoneme is a smallest unit of sound in a language which can distinguish two words. Example, in English language, the /p/ in cap and /t/ in cat represent different phonemes. The most comprehensive definition of the phoneme was first introduced by the Russian linguist L.V.Shcherba. The concise form of this definition could be: "the phoneme is a minimal abstract linguistic unit realized in speech in the form of speech sounds opposable to other phonemes of the same language to distinguish the meaning of morphemes and words." According to this definition, the phoneme is a unity of three aspects: material, abstract and functional. When linguists study the sounds of a language they observe how the sounds are made and classify them as vowels, consonants, etc.

[1] Peter Roach, English Phonetics and Phonology,A practical course .1983. (Introduction)

Linguists generally have agreed that when we hear speech, we perceive these phonemes as sound segments. The phoneme has seemed to be, both intuitively and analytically, the ultimate unit of speech. Phonemes are described as percepts psychological units, as abstract entities... and finally that when we talk, we utter a physical speech signal which we *interpret* as containing phonemes. But what are actually the characteristics of a phoneme?

1.1.1 Characteristics of a phoneme

The phonemes of a language are not totally separate entities; they share common features. Any feature that distinguishes some phonemes from others is called distinctive feature which is one of the shared properties of phonemes**.** There are several different ways of analyzing phonemes into their distinctive features. A standard way is to describe vowels in terms of the features of [high], [low], [back], [round] and [tense] and consonants can be similarly described, in terms of the features of [place], [manner], and [voice]. The distinctive features of a phoneme correspond to the form of articulation of the vocal tract when that phoneme is uttered.

> A phoneme reflects a certain 'ideal' concept of sound, according to the perceptions of the speaker, even though that phoneme might actually be produced phonetically in a variety of ways… By definition, phonemes are abstract, mental concepts of sounds that reflect a speaker's internal or mental knowledge about the language he or she speaks, and they function to mark distinctions in meaning.

The phoneme is some kind of abstraction of the real sound that we hear. Phonemes are typically viewed as phonetic reflexes of a complex of smaller sized units known as distinctive features.

The features of phonemes are determined on the basis of their relations within the phonological structure. Mutual relations between two phonemes, established according to their similarities and differences, are called phonological oppositions. Phoneme features are divided into two basic groups:

(i) relevant features: the presence of which enable the phonemes to distinguish the meaning of words; consequently, these features are called distinctive features as they distinguish the meaning of words

(ii) irrelevant features: these features accompany the distinctive features; but their presence cannot influence meaningful distinction. The notion of phoneme should be conceived in term of sounds rather than alphabetical letters. When talking about phoneme, one should not resort only to alphabetical letters.

1.1.2 Commutation method

"When we want to demonstrate that two sounds are in phonemic opposition, we normally do this with the commutation test; this means substituting one sound for another in a particular phonological context".[2]

This method helps to put into view the relevant features (the first basic group of phoneme features): the presence of which enable the phonemes to distinguish the meaning of words. With this method, we clearly see the contrastive function of the phoneme. For instance this commutation method is used to distinguish between the words *Pet* and *bet* that differ only in the initial phonemes. But it seems that some linguists have not a deep faith to this method.

Consequently, Peter Roach could say: "there are serious theoretical problems with this test"[3](commutation test) . That is all the more true since variation is inherent to speech (language). In fact, this commutation method can be very helpful in any time if and only if words are always considered in isolation; what is not evident. And then, what about communication activity. Actually, when people are involved in a trend of speech, we mean native speaker of any language, they do not utter words separately the ones from the other but they do what we call *coarticulation*[4]. And the consequences of this coarticulation occur in a phonemes mutation phenomenon generally considered in phonology as allophones or variants of a phoneme. Any piece of work goes through a theory and a method, the section below is about the theory and the method of research.

1.2 Theoretical framework and methodology

1.2.1 Theoretical framework

[2] Peter Roach(2009 P16.English phonetics and Phonology Glossary (A little Encyclopaedia of phonetics)
[3] Op.Cit (P17)
[4] in phonetics, the overlapping of adjacent articulations.
In phonology, the spreading of phonetic features to neighboring segments.
see assimilation .This definition comes from Longman Dictionary of Language Teaching and Applied Linguistics.P95

Undertaking a research work requires that a theory or theories be used to frame and support one's claims. The study of sound started long ago, in this section, a brief presentation of the evolution of the theory is done starting with the phoneme theory.

The theory of phoneme was first expounded by Baudouin de Courtenay (1880). In his treatise "On the Comparative Study of the Grammar of Slavonic Languages" he clearly defines the difference between a phoneme and a speech sound. He treats a phoneme as a semantically differentiating unit and a speech sound as an anthropophonic unit of speech, not connected with any meaning. This differentiation proves to be highly fruitful and makes it possible to establish mutual relations between the sound and the phoneme. Baudouin de Courtenay goes on to develop the theory of phoneme in his "Versuch einer Theorie der Phonetischen Alternationen" (1917) and in other works.

Distinctive feature theory is not far from the phoneme theory. It has two distinct theoretical bases: phonemic theory and generative theory. Phonemic theory assumes a direct correspondence between distinctive features and the speech signal. Distinctive features are smallest units of linguistic structure, from which larger units are built, sometimes seen as the attributes by which phonemes can differ. The idea is fundamental in phonology, where many generalizations are standardly stated in terms of feature (Chapman, and Routledge, 200:1).

Before having a say about the method, it is important to have an overview on phonetics above all how thing work in Tagbana related to the phonemes and their production.

Phonetics is the linguistic branch that is concerned with the production, the perception and the acoustic study of the different sounds. Phonetics is concerned with how sounds are produced, transmitted. There are three (3) major branches of phonetics: Acoustic phonetics: the study of physical properties of speech sounds using laboratory instruments; Auditory phonetics: the study of speech perception; Articulatory phonetics: the study of speech production. The last one being the main concerned of this research work.

Tagbana language has an alphabetical system of approximately thirty (30) phonemes seven vowels (i e ɛ a ɔ o u) and twenty three consonants (p b m n l t d f s r c ñ j y ny k g kp gb ŋm ŋ h ʔ). All the consonants phonemes can be classified (anatomically) in a table as follows:

Place / Manner	Bilabial	Labio-dental	Dental	alveolar	Palato-alveolar	palatal	velar	Labio-velar	glottal
Nasal	m		n	n	ñ	ny	ŋ	ŋm	
Stop	p b		t d	t d			k g	kp gb	
Fricative		f		s					h ʔ
Affricate					c j				
Approximant	w			r		y			
Lateral				l r					

Chart displaying the anatomy of consonants in Tagbana

This table will be helpful for us concerning the features phonemes share and from which they differ. Variation is inherent to speech. In the trend of speech, the same phoneme can be realized differently as allophones due to phonetic contexts. This realization from phoneme to allophone becomes possible due to certain parameters among which we can note *phonological integration.* Talking about phonological integration, it is the fact to show the relationship between phonemes: /p/, /b/ and /m/ for example are not opposed taking into account their place of articulation. In fact the three phonemes have a common and relevant feature that is *labial*, they are all produced using both lips. But /p/ is opposed to /b/ in the voicing feature. While /p/ is voiceless, /b/ is rather voiced. As for the /m /phoneme, it is opposed to both /p

and b/ being a nasal consonant. Talking about phonological integration, we can also refer to the notion of parity.

Generally speaking, each phoneme has its counterpart. And in this integration system, some phonemes don't work, they are out of correlation .In the Tagbana language, it is the case of /l/ , /r/, /f/ and / s / phonemes that are not in the system of parity; we cannot find their counterparts. They are called non-integrated phonemes. According to Georges MOUNIN (1971:105), "the own nature of a phoneme is to be differential to what the others are not"[5]:

hence the notion of non-integrated phonemes or phonemes out of system. The table depicting the anatomy of consonants from the voicing feature to manner of articulation seen above confirms that. From this table, we can see phonemes for which there is no counterpart phoneme.

As for the integrated phonemes, they are never totally different from the others by their pertinent features; of course there is a common point. It is exactly what Georges MOUNIN calls phonological integration. According to him almost all phonemes of a language are said to be integrated and the fact that those are composed of more than one pertinent feature is very important for phonological analysis. It displays the properties of phonological systems called their "economy" (articulatory and functional) Georges MOUNIN.[6]It is "economy" due to phonological integration that permits human beings in a trend of speech to produce casual and rapid speech. This explanation about phonological integration can also be perceived with a schema drawn by JAKOBSON with the notions of correlations and sheaves of correlations when dealing with distinctive features and phonological systems.

This schema is the following: $\frac{\mathrm{p}}{b} = \frac{\mathrm{t}}{d} = \frac{\mathrm{k}}{g}$... and it is read as follows: the phoneme /p/ is for the phoneme/b/ what the phoneme /t/ is for the phoneme /d/…[7]. Talking about phonological integration, it is a phonological method that gets communication activity to be smooth, easier and it avoids speakers to make much effort. Let us imagine for instance that we are asked to produce the English word *tray*, and we want to produce the phonemes /t/ and /r/ respecting for each its characteristics of voicing- place and manner. This way, we will not only constraint the vocal cords to give vibrate and non-vibrate sounds but also, we will

[5]. Georges MOUNIN (1971) " clefs pour la linguistique";in saussure…(p 105)

[6] .Idem (p 105)

[7] Our translation of the idea of JAKOBSON which goes that << $\frac{\mathrm{p}}{b} = \frac{\mathrm{t}}{d} = \frac{\mathrm{k}}{g}$ … le phonème /p/ est au phonème /b/ ce que le phonème /t/ est au phonème /d/…. 1929 .P24

produce a stop and an approximant sounds. As for the active articulator (tongue), it will not have to travel since the two phonemes have the same place of articulation. Then, we will not be able to produce the target sound we actually used to hear and communication activity would not be dynamic but rather boring and a waste of time. Fortunately with Phonological integration people do not face this problem.

1.2.2 Method

I am a native speaker of Tagbana. Then, the elicitation of data has been done through my personal observations and old native people speaking around me. First, I have listed out sentences which contain subject pronouns, noun classes and imperatives sentences in affirmative form. The same sentences are turned into negative sentences to show a phoneme mutation phenomenon being with vowels or consonants. This phoneme mutation is due to the influence of the adjacent phoneme that triggers the appearance of one of the characteristics of the influential phoneme. This phoneme mutation does not imply a lexical change but brings modifications into the sentence structure and the form: affirmative sentences are turned into negative ones.

This change of form is occasioned by the vowel mutation phenomenon and some specific vowels characterized by their voicing feature (voiced) turn the adjacent voiceless consonant phoneme into a voiced one. This can be seen in the following sentence: *naŋa wi pan* (affirmative sentence) → *naŋa wuu ban* (negative sentence). The vowel **i** has become **u.** The duplication of the vowel **u** signals that this vowel is long. In the Tagbana language, the production of a long vowel implies a high tone. The duplication of the vowel **u** changes the voiceless bilabial stop **/p/** into a voiced bilabial stop **/b/.** An insignificant number or a pure sample is not representative to validate or invalidate a hypothesis or a simple remark. Much more data are going to be presented and analyzed to see the relationship between phonemes and how phoneme mutation results in negative sentences building. As it has been said in the preceding pages, the dialect we are going to investigate on is that of Pétionara. In this dialect, the negative sentences building is done through a phoneme mutation at the level of subject pronouns and noun classes whatever the type of sentence (declarative, exclamative, interrogative and imperative).

2. Data presentation, analysis and discussion

2.1 Data presentation

In this presentation, the data collected are merely declarative and imperative sentences involving subject pronouns and noun classes levels at which a mutation phoneme occurs to express negation. In Tagbana language, exclamative and interrogative sentences are perceived orally when raising the tone and sometimes using interjections for exclamative sentences. The data are classified in three groups.

Affirmative sentences	Translation	Negative sentences	Translation	Phoneme mutation
1.Subject pronouns				
-Mi pan	-I have come	-wo ban	-I have not come	**i → o/p→b**
- Mā to	-you fell down	-Mōo do	- You did not fall down	ā →**ōō/t→d**
-wi kiln	- he/she sat	- wuu glin	-she/he did not sit	**-i→uu/k→g**
-wo ciɔ…	- we picked up	-woo jiɔ	- we did not picked	**-o→oo/c→j**
-ye pan	-you have come	-yoo ban	- you have not come	**-e→oo/p→b**
- pe kuɔ	-they have finished	-poo guɔ	-they have not finished	**-e→oo/k→g**
2.Noun classes				
-Naŋa **wi** pan	-The man has come	-Naŋa **wu** ban	-the man has not come	**- i → u/p→b**
-Nādoho ki kuɔ	- the yam is finished	-Nādoho kuu guɔ	-the yam is not finished	**-i→uu/k→g**
-Gnūm pi ninhin	-there is a lot of water	Gnūm puu ninhin	- There is not much water	**-i→uu**
-kaa ti pe	-the meet is cooked	-kaa tuu be	-the meet is not cooked	**-i→uu/p→b**
-piple li to	-The kid felt down	-piple luu do	-the kid did not feel down	**-i→uu/t→d**

3.Imperative sentences				Additional elements :
-klin	-sit down	-Mō ga glin	-Don't sit	**Mō ga/k→g**
-wo plin	-let's go together	- wo ga blin	- let us not go together	**ga/ p→b**
-ye tro	- go ahead	- ye ga dro	Stop/wait	**ga/t→d**

2.2 Data analysis

Looking carefully at the data, we notice changes that are recurrent being at the level of subject pronouns, noun classes and imperative sentences. An important element to mention is that of the phonetic environment. The phonetic environment refers to the specific neighboring sounds (phones) immediately preceding or following a particular speech sound, which influences how that sound is articulated. It helps determine the allophones of a phoneme based on surrounding sounds, such as syllable structure or word boundaries. Following the structure of the sentences in our data in general, we can observe these mutations:

i→oo; ā→ōo; i→uu; e→oo. And the long vowels (**oo; ōō; uu**) which immediately precede the voiceless consonant phonemes **(p, t, k, c)** influence them and respectively turn them into **(b, d, g, j).**

In the phonology of the Tagbana language, there are seven oral vowels (i e ɛ a ɔ o u) and five nasalized vowels (ĩ; ɛ̃; ã; ɔ̃; ũ)[8]. These oral and nasalized vowels are sometimes characterized by oppositions of length (short/ long) and tones. Long vowels are obtained by the duplication of the concerned oral or nasal vowel hence (**oo; uu; ōō;**) and tones intervene to modify the meaning. What is then the phonological relationship between the long vowels ((**oo; ōō; uu**) and the consonant phonemes **(b, d, g, j)?** If we consider what is said in the table depicting the anatomy of consonants in Tagbana, we can say that what represents length for

[8] Source : le senoufo face au cosmos by Jean- Marie Keletigui.

vowels is what voicing represent for consonants. Then we can conclude that the vowels (**i;ā ; e)** are short while (**oo; ōō; uu**) are long. As for the consonants, **(p, t, k, c)** are voiceless while **(b, d, g, j)** are voiced. Now what about the phonemic mutation observed in our data? Does it occur randomly or is it ruled governed?

To give a scientific answer to these questions, let us resort to the integrated and non-integrated explanation given by Georges Mounin (1971:105)[9]. The Tagbana language has in its phonemic system integrated phonemes, it means phonemes that are not totally different but have some phonemic features in common basing on their phonetic articulation. These phonemes are: p/b; t/d; k/g ; kp/gb; c/j. Let us draw a table to better see their phonemic features and commonness.

Place / Manner	Bilabial	Labio-dental	Dental	alveolar	Palato-alveolar	palatal	velar	Labio-velar
Stop	p b		t d	t d			k g	kp gb
Affricate					c j			

Table depicting the anatomy of integrated phonemes in Tagbana language.

Each consonant phoneme is characterized by the following entities: voicing – place and manner of articulation. Each couple of phonemes has a voiceless phoneme at the left and a voiced one at the right side. In our data, when turning affirmative sentences into negative ones, we notice that the long vowels (**oo; ōō; uu**) are in the same phonetic environment with the voiceless phonemes **(p, t, k, c).** Long vowels being voiced phonemes, the voiceless consonants in the trend of speech receive the voicing entity and respectively become **(b, d, g, j)** by means of what is called by Georges Mounin phonological integration. In fact the voiced phonemes **(b, d, g, j)** are nothing else that the counterpart phonemes of the voiles phonemes

[9] Opt.Cit

(p, t, k, c) as indicated in the table above. This phonological process is called assimilation process and it is governed by phonological rules. In this article, the data reveal cases of voicing assimilation seeing that mutations are based on the voicing entity. Another aspect characterizes the assimilation process: that of directionality. When the phoneme which causes the assimilation comes before the outcome, that is a case of progressive assimilation and the other way round is a regressive assimilation. Our data reveal cases of progressive assimilation since the long vowels which are the influential phonemes come before the outcome.

- **Phoneme Alteration /c/→/j/**

Let us analyze the voiced palatal approximant /j/ perceived in the following sentences: *woo jiɔ* (we have not picked up). That sentence develops an idea of *picking, getting for instance a fruit like mangoes from a tree.* If that semantic aspect is considered, one can built a free morpheme. Then, the verb which derived from ***jiɔ*** is ***/ciɔ/.*** It goes without saying that *ciɔ* turned into jiɔ being in the same phonetic environment with the long vowel (oo).

/c/	→	/j/
+ palato- alveolar		+palato-alveolar
+ affricate		+affricate
- voice		+ voice

- **Phoneme Alteration: /t /→/d/**

When the voiceless alveolar stop /t/ is in the same phonetic environment with the long vowel (oo), it is interfered to receive the voicing feature and becomes the phoneme /d/ like in the sentences *wo to* (affirmative) *and woo do* (negative).

/t/	→	/d/
- alveolar		+ alveolar
+ stop		+stop
- voice		+ voice

- **Phoneme Alteration: /k/→/g/**

when the voiceless velar stop /k/ is in the same phonetic environment with the long vowel (uu) , it is interfered to receive the voicing feature and becomes /g/ like in *wi klin* and *wuu glin.*

/k/	→	/g/
+ velar		+velar
+ stop		+stop

- voice	+ voice

- **Phoneme Alteration: /p/→/b/**

when the voiceless bilabial stop /p/ is in the same phonetic environment with the vowels (o and oo), it is interfered to receive the voicing feature and becomes /b/ like in the sentences *mi pan* / *wo ban* and *ye pan*/ *yoo ban*

/p/	→	/b/
+ bilabial		+ bilabial
+ stop		+stop
- voice		+ voice

Considering carefully these counterparts' phonemes in each set, different sentences are used but it is the same verb (root). When we resort to the commutation method, one would say that all these sets of phonemes are in overlapping distribution. But, actually that is wrong. These occlusive phonemes in Tagbana display the weaknesses of the commutation method. In fact, the sentences displaying a voiceless phoneme and then a voiced one for the same verb are nothing else that syntactic precisions: affirmative or negative sentences.

Results and discussion

At the beginning of this article, a number of questions was set: to know the basic of phonemic mutation when turning an affirmative sentence into a negative one and if this phoneme mutation phenomenon is motivated or a random fact. The analysis of our data helped us find that the phoneme mutation observed is a phonological process known as assimilation. It is a common phonological process where a sound becomes more similar or identical to a neighboring sound, easing pronunciation in connected speech. In this article, assimilation process without any doubt manifests this ease of pronunciation when we listen to native communication but also bring syntactic precisions: affirmative and negative sentences. The assimilation process is rather a ruled governed process that occurs by means of phonological integration.

Our data have revealed in this work cases of voicing assimilation and as for the directionality, all cases indicate a progressive assimilation. Syntactic precisions play a role of a great importance in the determination of phonemes in Tagbana language. In fact, syntax brings with modifications that validate or invalidate a fact or a reality related to the

affirmative and negative forms and never alters or changes the meaning of the root word. It is also helpful in identifying environments in which variations occur and that very often happens with stops.

Conclusion

The assimilation process is a common phonological process observed in various languages. The difference is that each language has its own phonemic system manifesting this way assimilation process in a particular and specific manner. It generally establishes a distinction between a phoneme and its counterpart allophones précising the phonetic environment where mutations occur. This article has given the evidence that apart from discriminating between phonemes and allophones, assimilation process in the Tagbana language also brings syntactic precisions like negative sentences formation. This negative sentences formation in the Tagbana language happens at the level of subject pronouns, noun classes and imperative sentences all in affirmative form. The subject pronouns and noun classes are all ended by short vowels that are turned into long ones. The long vowels interfere on the immediate voiceless adjacent phoneme turning them into voiced one by means of phonological integration. This phonemic mutation does not change the meaning of the root word (verb) or the lexeme. This distinction phonemes- allophones concerning occlusive phonemes revealed in this article puts into evidence that assimilation process can play many other roles in a language system.

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