

GBAGYI POLAR QUESTION FORMATION: THE OPERATIONS OF VOWEL LENGTHENING AND TONAL DOWNSTEPPING

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Abstract

Although polar question is a phenomenon with a universal spread across all natural languages, its structural manifestation differs from one language to another. Nwankwegu and Nwode (2020:50) affirm this by stating that yes/no question exhibits varying syntax across languages, hence the need to investigate the Gbagyi formation of polar questions. Preliminary enquiry reveals that polar question formation in Gbagyi involves some phonological operations. The qualitative descriptive design is adopted to interrogate the polar question phenomenon in Gbagyi. Data for this study was primarily obtained from twelve (12) Gbagyi native speakers who are hail from and are residents of the research area, the Bwari Area Council. Following

evidence from this study, the researcher proposes two mechanisms for marking polar question in Gbagyi: vowel lengthening and tone downstepping. The discovery that tone plays a pivotal role in polar question formation in Gbagyi is a pointer to further explore other types of interrogation in the language, for instance, tag questions and content question, in order to ascertain the relevance of tone and/or any other phonological feature in the expression of interrogation in the language.

Keywords: interrogation, polar question, vowel lengthening, tone, tonal downstepping

1. Introduction

Interrogation is a discourse function of language used to elicit different forms of responses or information. Interrogation is basically concerned with the expression of thoughts but in form of question. Emenanjo (2015) explains that interrogation is used in grammar classification of verb forms or sentence types which are classified in terms of the kind of responses they require such as polar or closed question, WH or content question, rhetorical question, tag question, etc. However, the main thrust of this study is the polar question type. Polar question (also known as binary question) is a kind of question whose expected response is one of two choices, one that provides an affirmative answer to the question and one that provides a negative answer to the question.

Survey of the extant literature shows that the analysis of polar questions constitutes a research topic suited to uncover the subtle interplay of various components of grammar and the intricacies of the architecture of language. Furthermore, detailed study on the prosodic properties of polar question has shown that these properties play a fundamental role in their interpretation (Goodhue, 2018). Some languages use only a change in pitch to change a statement to a question (Cahill, 2015); languages like French, English, Italian, Spanish, etc.,

have a high pitch which rises utterance-finally to mark a polar question. Examples from some of these languages would be shown later in this study. Cahill (2015) adds that in tone languages like Thai and Yoruba, pitch is raised to mark yes/no question. Contrarily, Rialland (2009) asserts that African languages commonly have falling final pitch in polar question. She, therefore, proposed a 'lax question prosody' which includes not only pitch but a cluster of other properties. Lax Question Prosody (Rialland, 2009) is characterized thus:

- a. Falling pitch, specifically a Low or L% (sometimes M)
- b. Final vowel lengthening (not phonetically 'lax' but perhaps an enhancement feature)
- c. Sentence final low vowel (generally /a/)
- d. Breathy termination

Interestingly, the Gbagyi features exhibited in the context of polar question shows (at least to an extent) some connection with Rialland's 'Lax Question Prosody'. This shall be ascertained in the subsequent section of this study.

2. Studies on Polar Question Formation

In Kɔnni of northern Ghana, Cahill (2012) reports that polar questions lengthen the final vowel (or nasal), and have some variety of falling final pitch, which can be transcribed with phonemic tones as in the following, where a Low tone is added to the final lengthened vowel:

- 1) a. ù sié gilinsiélé 's/he is dancing the gilinsiele dance'

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b .ù sié gílinsièlèè 'is s/he dancing the gilisie
dance?'

Cahill, however, observes a less simple pattern of polar question marking in Kɔnni where a downstepped High (with LM autosegments) is added to the statement to form a question See example below :

- 2) a. ù ŋmiá guúm bú \$/he is rolling rope '
b ù ŋmiá guúm bú ú Ís s/he rolling ropes? '

Ikekeonwu (1987) as cited in Nwankwegu and Nwode (2020:50) identifies three basic procedures readily available to languages for expressing their Definitive Answer Questions (DAQ) or (yes-no questions) as including :

ǻ) word order re-organization, usually involving the inversion of the position of the subject and verb, for instance in English and French:

- 3) English
He was there
Was he there?
4) French
Il est bleu - It is blue
Est il bleu? - Is it blue?

Ǽ) the insertion of question marker or segment, which could be in form of a single lexical item or phrase, or particle:

- 5) French:
Il est bleu It is blue
Est-que il est bleu? Is it blue?
6) Miya:
t gaa mara-za He will find her
t ga mara-za wa? Will he find her?
7) Yoruba:
O ri toye You saw Toye
Se o ri toye ? Did you see Toye ?

(c) the use of suprasegmental features of intonation or tone:

- 8) English:
He went to the party (lowering tune)
He went to the party? (rising tune)
9) Igbo:
ŋ gàrà ahɾá He went to the market
ŋ gàrà ahɾá? Did he go to the market?

Ikekeonwu (1987) observed that two of the processes mentioned above are employed in the production of the DAQ in Igbo, the insertion of the 'pronoun' in apposition to the NP and the use of the obligatory Low tone on this pronoun. It follows from the above that Igbo combines strategies (b) and (c).

3. Overview of Relevant Aspects of Gbagyi Grammar

3.1 Gbagyi Word Order; Tense and Aspect System

Gbagyi belongs to the Nupoid sub-group of Niger-Congo family (Blench, 2013). The Gbagyi people occupy five states of the Federation: Kaduna, Kogi, Niger, Nasarawa and the Federal Capital Territory, Abuja. Gbagyi is a tonal language with the SVO basic word order in standard declarative clauses encoding transitive events, and SV order in intransitive ones. Gbagyi possesses a rich system of tense and aspect markers that surface verbally. The tense/aspect marking for simple past and habitual is usually null but all other tenses/aspects are marked in Gbagyi. The past perfect tense/aspect is marked by ɔ́o laʒku which appear in the preverbal position after the subject as in:

- 10) mí ló ápyio
1SG PST- go home
I went home '

The present perfect is marked by the *ku* and *la* auxiliaries to conform to the subject-verb agreement in the language. Where the former is used with plural subject (noun or pronoun), the latter is used with singular subject. For the progressive and future tense/aspect, on the other hand, the auxiliaries ɔa and *lo* are employed in Gbagyi (see examples 13i-v).

3.2 Tone in Gbagyi

Until recently, only a few studies have been carried out on Gbagyi tone, which have been observed to be far from being exhaustive (Smith, 1967; Hyman and Magaji, 1970; Galadima, 2012; Dalhatu and Gwamna, 2012). A more recent study has appeared in the literature by Dalhatu (2017); it seems to be the only attempt at an extensive study on Gbagyi tone system. This study provides new evidence which suggests that there are four register tones (rather than three as claimed by earlier studies) which are Extra High (annotated as ǿ), High (annotated as [ʔ), Mid (conventionally left unmarked) and Low (annotated as [] ǻ) as well as two contour tones of Extra-High Falling [ǿ ǻ] and High Falling [ʔ ǻ] rather than the Rising tone as claimed by Hyman and Magaji (1970) and Dalhatu and Gwamna (2012). the following data are taken from Dalhatu (2017) to illustrate her claim:

Register

- 11) nyíko^hwife '
 kpéya ^hopen '
 tàjíyá ^hcap '
 gyíwe ^hmoney '
 bègyè ^hheck '

Contour

- 12) tnut^hnu^hwork '
 nyík^hna^htooth '
 pítâ ^hleg '
 óbê ^hknife '

In describing the pattern of tonal distribution, Dalhatu (2017) reports that all register tones freely co-occur with one another in Gbagyi with the exception that the Mid tone does not precede a High tone in the language. This claim is verifiable in the above data on register tones.

4. Methodology

Data for this study was primarily obtained through the introspective and focus group observation methods. These involved the observation of the spontaneous linguistic behaviour of the study population in their natural linguistic environment, as they went about their conversations, which were largely dominated by a series of questioning and answering. These conversations were recorded using a digital audio recorder from which data were further elicited based on the scale of relevance using writing materials. The audio recordings were later transcribed and presented for analysis. The researcher's intuition of the language was complementary in the data collection process. The Leipzig rules (2015) are chiefly adopted for the presentation of data, and being a purely descriptive study, no theoretical framework was engaged as data were descriptively analysis.

A group of twelve Gbagyi native speakers living in Bwari Area Council within the age range of 45 to 55 years constituted the sample population of this study. Six of them were males while six were females. The educational qualification and sociolinguistic affiliation informed the researcher's selection of the sample population: they all hold at least a first degree in various fields, are bilinguals, literate and have linguistic competence in both Gbagyi and English.

5. Data Presentation and Analysis

In this section, the most relevant of the data collected are presented and analysed in order to address the central concern of the study.

Polar Question in Gbagyi

As hinted in section 3, the basic word order of Gbagyi, like those of many African languages, is SVO where the S and V are obligatory components and O is optional in Gbagyi sentence construction. This is illustrated in the declarative constructions below:

- 13) i. yíku^hgyi
 3PL PRS PFV eat
 'We have eaten'
 ii. fe^hku^hgye mi
 3PL PST PFV see 1SG
 'You had seen me'
 iii. hó ^hó lá^hdo
 2SG PST PFV go
 'You had gone'
 iv. nyagyí^hgyí^hna^hdó
 Food burn-PROG
 'Food is burning'
 v. mí chí^hhó ló
 1SG praise 2SG OBJ PROG
 'I'm praising you'
 vi. wó ^ha^hdu^hhó
 3SG FUT beat 2SG OBJ
 's/he will beat you'
 vii. wó lu^havyi
 3SG HAB beat PL thief
 'S/he beats thieves'
 viii. mí^hní^hní^hwa^ho
 1SG PST drink water
 'I drank water'

It can be observed from data (13) that the sentences, though in different tenses and aspects, are in declarative forms encoding both transitive and intransitive events. It can also be observed that there are two different auxiliaries in (i and ii): *ku* is used when the subject noun is plural to agree in number with the subject and *la* occurs in the context of singular subject noun. Interestingly, this subject-verb concord agreement observed in Gbagyi is similar to what is obtainable in English. It is further observed that in (iv), the subject is at the initial part of the sentence which is immediately followed by the verb and then the object.

5.1. Polar question marker in Gbagyi

In this study, the researcher proposes that polar question is expressed in Gbagyi through some phonological processes of segment doubling and tonal process, particularly vowel lengthening and tone downstepping.

Vowel lengthening is a phonological process by which a short vowel becomes lengthened as conditioned by some phonetic context. On the other hand, downstepping is a tonal process whereby in a sequence of High tones, the second one is lowered to a level less high than the normal High tone. This process could be conditioned by varying factors depending on the particular language. It is instructive to note here that there is no structural difference between the declarative and interrogative forms except for the lengthened vowel and downstepped tone in the polar question structure. This proposition can be seen in the data below. Data are classified into three grammatical aspectual features, namely, perfective, futuristic and progressive:

i. Perfective

14) Declarative

- a) Hoɖaɣnà ɔa
2SG PRS PFV tell 3PL
'You have told them'
- b) Fyeɣuɣba
2PL PRS PFV pay
'You have paid'
- c) Woɔ́o laɖà
3SG PST PFV count
'S/he had counted'
- d) aɔ́o kuɣyewyeɔ
3PL PST PFV see
'They had seen'

Interrogative

- e) Hoɖaɣnà ɔa^à?
2SG PRS PFV tell 3PL Q
'Have you told them?'
- f) Fyeɣuɣba^à?
2PL PRS PFV pay-Q
'Have you paid?'
- g) Woɔ́o laɖà^à?
3SG PST PFV count-Q
'Had s/he counted?'
- h) aɔ́o kuɣyewye^à?
3PL PST PFV see-Q
'Had they seen?'

A careful observation of the data set in (14) shows that the terminal segment (vowel) of the verb root (and object in some cases) is obligatorily doubled, but rather than retaining the tone feature of the vowel, the tone of the copied vowel of the verb root and/or the object as the case may be becomes downstepped, such that the tone of

the doubled vowel of the verb root in (f) and that of the object in (h), for instance, is downstepped from Extra High tone (henceforth, xH) tone to High tone as in /eɔ̃ > ɛ̃] This twin processes are applicable to sentences in futuristic aspect as shown in the data (15) below:

ii. Futuristic

15) Declarative

- a) Mi baɣwò
1SG FUT collect
'I will collect'
- b) Yi baɣwoɔ
1SG FUT sing
'We will sing'
- c) Òmiya ɔaɖo
POSS-mother FUT go
'My mother will go'
- d) Ázá ɔanyanya
People FUT dance
'People will dance'

Interrogative

- e) Mi baɣwò^ò?
1SG FUT collect-Q
'Will I collect?'
- f) Yi baɣwoɔ^ò?
1SG FUT sing-Q
'Would we sing?'
- g) Òmiya ɔaɖo^ò?
POSS-mother FUT go-Q
'Will my mother go?'
- h) Ázá ɔanyanya^ò?
People FUT dance-Q
'Would people dance?'

In data (15), the phonological processes of vowel lengthening and tone downstepping prove relevant in the perfective polar question construction, where the vowel of the verb root in (f) for instance is downstepped from xH to High tone as in /oɔ̃ > ɔ̃] and the Mid tone of the verb root in (g) becomes low as in /o// ɔ̃]. However, the researcher observes an interesting twist in data (16): in the sentences in progressive form, the vowel of the particle that marks progressive aspect becomes the context where the polar question marker occurs rather than the vowel of the verb root or object and hence the phonological processes apply (his time) not to the vowel of the verb root or object but to the vowel of the progressive marker. Observe the following data :

16) Progressive**Declarative**

- a) Yisilɔ
1PL FUT buy
'We are buying'
- b) Hɔ busidɔ
2SG run PROG
'You are running'
- c) Fye banyadɔ
2PL read PROG
'You are reading'
- d) Lami ka lo
Lami write PROG
'Lami is writing'
- e) Òminyikwoɔnɪ lo
POSS wife fetch PROG
'My wife is fetching'

Interrogative

- f) Yisilɔ⁰ò ?
1PL buy PROG Q
'Are we buying?'
- g) Hɔ busidɔ⁰o?
2SG run PROG.Q
'Are you running?'
- h) Fye banyadɔ⁰o?
2PL read PROG.Q
'Are you reading?'
- i) Lami ka lo⁰ò ?
Lami write PROG.Q
'Is Lami writing?'
- j) Òminyikwoɔnɪ lo⁰ò ?
POSS wife fetch PROG Q
'Is my wife fetching?'

The data (16) shows that though the phonological processes of vowel lengthening and tone down-stepping remain consistently the mechanisms for marking polar question in Gbagyi, the context of their application changes in the case of progressive constructions where it is the vowel of the aspect marker that is affected as it changes from a Mid tone to a Low tone in [ɪ ɪ ɪ] as in [ɔ / > ɔ̃] and from High tone to a Mid tone in [ɛ] as in [ɔ̃ / > ɔ̃] .

Overall, the researcher also observes that the downstepping rule applies in all environment except for where the Tone Bearing Unit bears a Low tone. In such a case the doubled vowel retains the [Low] tone feature of the vowel as shown in example (14g and 15e) .

Conclusion

Based on the findings of this study, the researcher concludes that just like in many African languages, the basic word order operational in Gbagyi is SVO. This is neatly represented in the declarative constructions of the language as shown in (14). Structurally, there seems to be a symmetric relationship between the declarative forms and the interrogative (polar) forms in Gbagyi, such that the word order is not in any way affected or changed in the process of polar question formation. Furthermore, evidence from data of this study reveals that some phonological properties intervene in the syntax of polar question in Gbagyi. Two phonological rules apply in the context of verb root, object (noun/pronoun) and progressive aspectual particle, wherein i) the vowel of the verb root or object (for progressive aspect forms) is doubled or lengthened and ii) the tone of the doubled vowel is stepped down by one-step value, except in instances whereby the tone of the affected vowel is Low. This implies that the tone lowering rule does not apply in Low tone environment. This exception underscores the researcher's position that the tonal process observed in polar question formation could indeed be downstepping since the baseline of tones in Gbagyi is the Low tone, and since the extra Low tone does not exist in the language.

The prosodies utilized in Gbagyi polar question formation reveal that the language shares some connection with Rialland's 'Lax Question Prosody' although not in absolute terms. This is because while vowel lengthening is relevant in polar question in the language, the tonal process observed to take place in this context is downstepping and not Falling final tone. This further shows that Gbagyi employs the use of suprasegmental feature of tone, one of the three procedures as identified by Ikekeonwu (1987) for expression of Definitive Answer Question (DAQ), i.e., yes/no question, while the other two, word order re-organization and insertion of word, segment or particle are not relevant in Gbagyi.

Abbreviations

1SG	First person singular	FUT	Future
SVO	Subject verb object		
2SG	Second person singular	PROG	progressive
PFV	Perfective		
3SG	Third person singular	PRS	Present
POSS	Possessive		
1PL	First person plural	PST	Past
OBJ	Object		
2PL	Second person plural	Q(M)	Question (Marker)
ɲ	Downstep		

3PL Third person plural xH Extra High
tone HAB Habitual

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