WH-MOVEMENT IN MADA: A MINIMALIST APPROACH

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Abstract
Wh-movement is a transformational operation whose asymmetries have been explored for many decades in syntactic studies across languages. This paper therefore sets out to examine overt Wh-movement in content questions in Mada, a platoid language of the Benue-Congo sub-group, spoken predominantly in Nasarawa State and few neighbouring states, such as Kaduna and Plateau States, North Central Nigeria. Specifically, the paper's main goal is to determine the motivation for overt movement of the Wh-elements from an argument position where the Wh-element is assigned a theta role, to a position at the left periphery of the clause in Mada. The theoretical framework adopted for the study is the Minimalist program proposed by Chomsky and other scholars working in the generative tradition. The study adopted the qualitative research methodology, as the data were obtained from three native speakers, who speak the Buhar or Kɛja dialect, through oral interviews using a list of simple sentences and questions which contain Wh-elements prepared by the researchers. The data were then subjected to descriptive content analysis. From the investigation, the paper's major finding was that movement of Wh-elements in Mada is triggered by the strong[+WH] feature possessed by the Wh-element, which is the goal in agreement with the null Wh-force head which serves as the probe in the clausal left periphery. The findings also reveal that Mada attests the Wh-in situ strategy which is interpreted as echo question with embedded scope.

Keywords: Wh-movement, force, features, Wh-element, ada

1. Introduction

According to Radford (2004,p. 103), Wh-movement refers to a kind of movement operation by which a Wh-expression moves into the specifier position within CP. These Wh-expressions could take the form of Wh-question words such as what, who, where, whom, when, why and how. They could also be phrases such as "what languages", "which car", "how soon", amongst others. Works on Wh-movement have occupied a central place in Generative Grammar since Chomsky (1964), resulting in fundamental insights into the nature of transformational operations.

Within MP, Wh-movement is regarded as a transformational operation that takes place as a last resort to ensure convergence. In an attempt to reduce the number of constraints on this movement operation, economy principles such as shortest move, greed and procrastinate are applied to rule out ungrammatical sentences. For instance, the principle of shortest move forces a complementiser head C, with a strong feature triggering Wh-movement, to attract the closest category that can enter into a checking relationship with its sub-label, the Wh-phrase (Kitahara, 1997, as cited in Shim, 2011, p. 12). Feature checking takes places in specifier-head (spec-head) relations. The assumption is that a Wh-phrase undergoes overt movement to check the strong feature on the head C. Cook and Newson (2008, p. 277) argues that the moved Wh-element checks its interrogative feature against an interrogative complementiser. They argue further that if a Wh-element has both an interpretable [+WH] feature and a Q feature, which is not interpretable on the Wh-element itself, then Wh-movement is motivated by the need to check its uninterpretable Q feature.

Of importance to our analysis is the Split-CP hypothesis of Rizzi (1997). The principal argument of the hypothesis is that the Complementiser Phrase (CP) as viewed in the earlierversions of generative grammar, specifically the Government and Binding theory, should be split (or unbundled) into a number of functional phrases specifically ForceP (Force Phrase), FocP (Focus Phrase), TopP(Topic Phrase) and FinP (Finiteness Prase). Rizzi (1997) reasons that the CP houses various constituents which project a phrase position at the left periphery of clauses (i.e. a position above Tense Phrase (TP)). The standard assumption is that the Wh-element moves to the specifier (spec) position of any of these functional phrases. The details of this will be discussed in the following sections.

This study is useful in a couple of ways. In spite of studies on the syntax of some aspects of the language, the present study, to the best of our knowledge is the first attempt at describing Wh-movement in Mada, in line with the assumptions outlined in the Minimalist Program. The study is, therefore, a

significant contribution to Mada scholarship in particular and Generative Grammar in general.

2. Literature Review

Wh-questions (or content questions) are questions that elicit specific answers. These type of questions are distinct from other categories of questions such as polar questions (which elicit either a yes or no answer), tag questions (which involve an assertion and then a question after), declarative questions (which are essentially assertive questions couched as polar questions). Ndimele (1994, p.33) states that a content /Wh-question refers to a class of questions in which a query is focused on a particular syntactic constituent. This means that when an interrogator uses content questions, they are eliciting information regarding the identity of a particular subject. These content questions are involved in the transformational process known as Wh-movement.

There are several works on Wh-movement in some Nigerian languages which were mainly based on the Principles and Parameters theory. For instance, Uwalaka (1991) demonstrates that Igbo, like French has both syntactic Wh-movement and LF Wh-movement, claiming that Igbo, therefore has two types of mechanisms with which to deal with Wh-movement operations. She motivates her claim with the following examples (Uwalaka, pp.186-187):

(1) (a) i. Ì hụrụ ònye
You see-RV(past) who
"Who did you see?"

ii. Ònye$_i$ kà ì hụrụ$_{ti}$
who that you see-RV(past)
"Who did you see?"

(b) i. Ì mere gịnī
You do-RV(past) what
"What did you do?"

ii. Gịnī$_i$ kà ì mère$_{ti}$
what that you do-RV(past)
"What did you do?"

Elegant as her analysis proves, Uwalaka does not mention the role of features (interpretable and non-interpretable features). Jayeola (2016) also examines Wh-movement and object position in Zarma (a Songhay South language of the Nilo-Saharan language family) in which he argues that the Wh-element is a

target of focus triggered by the strong specifier feature of the focus marker *nò*. This is shown in the examples below (Jayeola, 2016, p. 96):

(2) (a) Akeem gà dí máí
Akeem Fut. see who
"Akeem will see who?"

(b) Máí nò Akeem gà dí
Who Foc. Akeem Fut. see
"Who will Akeem see?"

(3) (a) Kadi ŋwá ńfò
Kadi eat what
"Kadi ate what?"

(b) Ńfò nò Kadi ŋwá
What Foc. Kadi eat
"What did Kadi eat?"

The examples in (2) and (3) above show that Wh-questions in Zarma is an instance of focus construction; the Wh-element moves to the left periphery of the sentence and is immediately followed by the focus marker *nò.* (2b) and (3b) are therefore assumed as interrogative focus constructions. Ikima (2016) also supports this claim, arguing that the landing site of the Wh-operator in Tiv is a [+ focus] position within the CP field. This is shown in the example below (Ikima, 2016, p.108):

(4) (a) Ká- án$_i$ Msughter a n-è nán$_i$ bùa la
FocwhoMsughter SP give-PST RP cow that
"Who did Msughter give that cow to?"

(b) Ká -án$_i$ nán$_i$ n-è Msughter bùa la
Foc who RP gave Msughter cow that
"Who gave Msughter that cow?"

The analysis in (4) shows that movement of the Wh-element without the focus head *ká*yields an ill-formed structure in Tiv as illustrated in (4c).

This study, therefore, describes the movement of Wh-elements in Mada in line with the constraints and assumptions outlined in the Minimalist Program.

3. Theoretical Framework

The Minimalist Program (MP, henceforth) is a continuation of the Principles and Parameters approach to grammar outlined in Chomsky (1986a and 1986b). The fundamental difference is that the MP attempt to reduce to the barest minimum, the constraints, principles and other grammatical complexities that determine the grammaticality of syntactic derivations. The MP first seeks to identify redundant mechanisms and assumptions of the earlier versions of generative grammar and suggests simple alternative solutions either by dispensing with the redundant mechanisms or by replacing them with more economical and natural principles.

The MP assumes just two interface levels of representation: Phonological Form (PF) and Logical Form (LF). The justification for recognizing these two levels stems from the fact that language is made up of two essential elements – sound and meaning. The two interface levels PF and LF are read by the Articulatory Perceptual (A-P) and the Conceptual – Intentional (C-I) systems respectively (Chomsky, 1995, p. 390). Although the MP does not recognize the level known as S-structure in earlier theories, it recognizes a specific point in the computation of lexical items where the derivation of a structure branches off into PF and LF. This point is known as the point of spell out.

A syntactic structure is adjudged to be grammatical if it converges at the interface levels. Otherwise, it is said to have "crashed". A convergent structure is assumed to have obeyed some economy principles such as shortest move, greed and procrastinate. Shortest move entails that a syntactic object moves to the closest accessible c-commanding site from its canonical (or base-generated) position in any single movement until after spell out insofar as such movements do not affect PF.

There are three basic operations in the MP, and they are Operation Select, Operation Merge and Operation Agree. Operation Select takes syntactic objects from the lexicon. These objects already have their morphological inflections incorporated from the lexicon before they are introduced into a derivation. Operation Merge fuses two syntactic objects in a binary fashion which applies cyclically in a bottom-to-top fashion. Operation Merge is further divided into internal merge and external merge. The former takes care of lexical items that have entered the derivation and involved in movement operations, while the latter takes care of lexical items introduced into the derivation straight from the lexicon. Agree is an integral derivational operation that establishes a relation between two elements if they share certain grammatical features (Horais, 2013, p.91). Agree consists of two elements: Probe and Goal. The Probe is regarded as the head that triggers movement. According to Crystal

(2008, p.387), it searches its complement domain and attracts the closest constituent with matching features as a goal. The Probe is assumed to be active in order to enable it enter into an agree-relation. It is active if it has an unvalued feature so that it can value its features by probing for an active goal that has the same matching features but valued.

4. Data Presentation and Analysis

4.1 Wh-words, phrases and parameters in Mada

Wh-words in Mada include:nggwɔ̌ "who/whose", nənggyɛ(or nggyɛ) "what", tán "which", yωə̄ "where", mbɛ̄tan "when", sěi "how", mə́w "why". The language also attests Wh-phrases which include; wə́nyátán "which hunter", bəkə̄tán "which family", hwānnggwɔ̌ "whose farm", rènnggwɔ̌ "whose pot", matotán "which car". These Wh-elements can be found in argument positions as well as in non-argument positionswithin a clause. This is illustrated in the examples below:

(5) (a) Ɲywɛ̌n lə̌ rī kî
children PROG. eat.INF something
"The children are eating"

(b) Ɲywɛ̌n lə̌ rī nənggyɛ
Children PROG. eat.INF. what
The children are eating what?"

(c) Nənggyɛ ŋywɛ̌n lə̌ rī
what children PROG. eat.INF.
"What are the children eating?
"

(6) (a) Vəlɔn tă bol rɛ́
Man play football yesterday
"The man played football yesterday"

(b) Vəlɔn ná nənggyɛ rɛ́
Man do.PAST what yesterday
"The man did what yesterday?"

(c) Nənggyɛ vəlɔn ná rɛ́
what man do.PAST yesterday
"What did the man do yesterday?"

(7) (a) Vəngə̄ lə̌ naki ə̄ tárkwɔ́

girl PROG. cook-PRSNT in kitchen
"The girl is cooking in the kitchen"

(b) Vəngə lə naki ə ywə?
girl PROG. cook-PRSNT in where
"The is cooking where?"

The examples (in 5a,6a and 7a) are declarative sentences with the Subject Verb Object (SVO) order- in (5b, 6b and 7b), however, nənggyɛ "what" and ywə "where" occupy the Object positions which are argument positions of their interrogative clauses. In (5c and 6c), nənggyɛ appears before the subjects of its main clauses ŋywĕn "children" and vəlɔn "man" thereby making it structurally higher than any other item in the clause, where it fully triggers the interrogative interpretation in opposition to (5b, 6b and 7b) where it triggers an echo question interpretation. The scrambling of the Wh-word nənggyɛ in (5c and 6c) means that content questions in Mada are derived via the transformational process of overt Wh-movement of a Wh-element from an argument position where it receives a theta role, to a non-argument position where it is not assigned a theta role. The essence of moving the Wh-element out of its canonical position in the minimal clause, before spell out is to give it matrix scope as exemplified in (5c and 6c), otherwise, questions with Wh-elements in situ are interpreted as echo questions in Mada with embedded scope: echoing what has already been said in a discourse therefore lacking the scope that will enable it to be given the force of interrogation as illustrated in (5b, 6b and 7b).

Embedded questions also manifest the same overt Wh-movement/in situ parameter as illustrated in the examples below:

(8) (a) Gyunche lə rĭ [$_{CP}$dí wə ŋlé nggwɔ̆]
Gyunche PROG. ask.INF that 2SG see.PAST who
"Gyunche is asking you saw who?"

(b) Gyunche lə rĭ [$_{CP}$dí nggwɔ̆ wə ŋlé]
Gyunche PROG. ask.INF that who 2SG. See.PAST
"Gyunche is asking whom you saw?"

(9) (a) Tonze lə̌ rĭ [$_{CP}$dí wə̄ ná yə̄ sə̌̆i]
Tonze PROG. ask.INF that 2SG do.PAST 3SG how
"Tonze is asking you did it how?"

(b) Tonze lə̌ rĭ [$_{CP}$dí sə̌̆i wə̄ ná yə̄]
Tonze PROG. ask.INF that how 2SG do.PAST 3SG
"Tonze is asking how you did it"

Examples (8a and 9a) exemplify the option in which the Wh-element remains in situ, while in (8b and 9b), the Wh-element is raised to clause initial position.

4.2 Triggers for Overt Wh-movement

The central idea behind the concept of triggers in movement operation general is the assumption that overt movements are motivated. WH-elements in Mada bear valued interpretable [+WH] feature as goals and are attracted to move via operation agree to the left periphery of an abstract (interrogative) force head, which licenses the Wh-feature of the Wh-element. The abstract (interrogative) force head is assumed due to the fact that a Wh-element in Mada is not base generated in a matrix scope position but rather moves to occupy such a position if its movement is necessitated by a matching head already existing higher in the derivation. Granted that such a head is not phonologically realized in Mada, it is regarded as lexically non-resourceful language for interrogative markers, compared to languages that attest overt interrogative markers as head that might trigger movement. This position is in line with Angitso (2014) who makes the same claim for Tiv question markers. The force head has unvalued interpretable Wh-features as a Probe with an agree relationship with the Wh-element thereby triggering its movement before the point of spell out. In this agree relationship, the Wh-features are valued but not eliminated in sharp contrast to interpretable features that are checked off completely. Consider the following examples:

(10) (a) [$_{ForcP}$Yωə̄ Tonze sɛ̄ ~~yωə̄~~?]
where Tonze be.INF
"Where is Tonze?

(b) [$_{ForcP}$Mbɛ̄tan gú nyə̄ ~~mbɛ̄tan~~?]

when 3SG come.INF
"When did he/she come?"

(c) [$_{ForcP}$Nggwǒ Tonze nə́ gú bol ~~nggwǒ~~?
who Tonze give.INF 3SG football
"Who did Tonze give the football?"

(d) [$_{ForcP}$ Yωə̄ Măkpu ywei ~~yωə̄~~?]
where Măkpu go.INF
"Where did Makpu go?"

(e) [$_{ForcP}$Mato tán wə̄ ríyə́ ~~mato tán~~?]
car which 2SG buy.INF
"Which car did you buy?"

The data in (10a-e) show that there is no overt morpheme responsible for content questions in Mada, rather, interrogative force is obtained as a result of feature valuation of the Wh-element which is not eliminated. It is quite interesting to note that the Wh-element moved to the force position, generally is not followed by an overt complementiser head as seen in the examples (10a-e) above. The sentences are well formed because there is no overt force marker immediately following the Wh-element in the force position. This explains why the sentences in (11a-b) below are ill formed:

(11) (a) *[$_{ForcP}$Yωə̄ di Tonze sē?]
where that Tonze be.INF
"Where is Tonze?"

(b) *[$_{ForcP}$Mbɛ̄tan di gú nyə̄?]
when that 3SG come.INF
"When did she come?"

The constructions in (11) are ill formed due to the addition of di "that", in a bid to realise anovert focus marker, and as such, the constructions are ungrammatical.

4.3 Wh-movement and EPP

The facts of Mada as shown in (10a-e) above indicate that the Extended Projection Principle (EPP) feature also drives movement of Wh-elements to

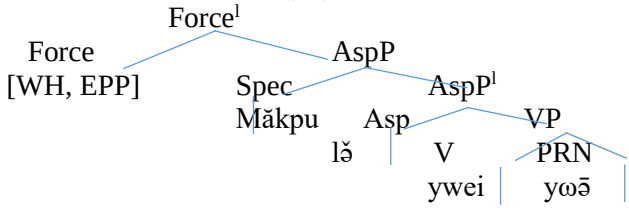
Spec-ForcP. More precisely, just as Tense infinite clauses carry an EPP feature requiring it to be extended into a Tense Phrase (TP) containing a subject as its specifier (in the sense of Radford, 2004, p. 106), so too the force in Wh-constructions carries an EPP feature requiring it to be extended into a Force Phrase (ForcP) containing a Wh-element as its specifier. Consider the examples in (12) below:

(12) (a) [$_{ForcP}$ Yωə Măkpu lə̆ ywei?]
where Măkpu PROG. go.INF
"Where is Măkpu going to?

(b) [$_{ForcP}$Nənggyɛ wə̄ nà?]
what 2SG do.INF
"What are you doing?"

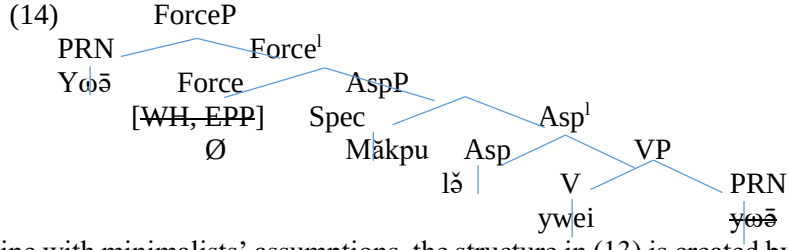
The structure in (12a), for instance, is derived as follows: the verb ywei "go" is merged with its complement yωə "where" to form the VP ywei yωə. The lexical noun "Măkpu" is in turn merged with this Asp-bar to form the AspP,Măkpulə̆ywei yωə "Makpu is going where?" A null complementizer head [Force Ø] is subsequently merged with the resulting AspP. Since the relevant clause is a Wh-question force which contains a [WH] feature. Furthermore, since Mada attests overt Wh-movement, force also has an [EPP] feature requiring it to have a specifier. Accordingly, merging force with its AspP complement will form the force-bar in (13) below:

(13)



The [WH] feature of force allows force to attract a Wh-element. The [EPP] feature of force requires force to project as its specifier an expression which has a feature which matches some feature of force: since force carries a [WH] feature, this amounts to a requirement that force must project a Wh-Specifier. On the assumption that the Wh-pronoun yωə "where" to move from the VP-Complement position which it occupies in (13) above to ForcP-Specifier position. The [WH] and [EPP] features carried by force are deleted once their requirements are satisfied (deletion being indicated by ~~strikethrough~~ in the sense of Radford, 2004) thereby deriving the structure in (14) below (under the

assumption, too, that the phonological features of the trace of the moved Wh-element yωə̄ "where" are also deleted):



In line with minimalists' assumptions, the structure in (13) is created by a series of external merger operations, and is then mapped into (14) by one internal merger operation known as Wh-movement.

5. Conclusion

This study x-rays overt Wh-movement in the syntax of content questions in Mada, within the framework of the Minimalist Program. The study observes that the movement of Wh-elements in Mada is triggered by the strong [+WH] feature, possessed by the Wh-elements in agreement with the null Wh-force head in the left periphery of the clause. This is achieved by copying Wh-elements from argument positions into non-argument positions. The study observes further that when the Wh-elements are left in situ, such derivations are interpreted as echo questions without matrix scope.

Abbreviations

Asp	Aspect
Asp[1]	Aspect-bar
AspP	Aspect Phrase
A-P	Articulatory-Perceptual
C-I	Conceptual-Intentional
CP	Complementizer Phrase
EPP	Extended Projection Principle
F	Focus
F[1]	Focus-bar
Foc	Focus
FocP	Focus Phrase
Forc[1]	Force-bar
ForcP	Force Phrase
INF	Infinitival
LF	Logical Form

MP	Minimalist Program
NP	Noun Phrase
PF	Phonological Form
PROG	Progressive aspect
PRN	Pronoun
Spec	Specifier
T	Tense
T^1	Tense-bar
TP	Tense Phrase
V	Verb
V^1	Verb-bar
VP	Verb Phrase
Ø	Nil
2SG	Second person singular pronoun
3SG	Third person singular pronoun

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