TRACES IN THE IGBO LANGUAGE

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This paper examines traces associated with Wh– and NP– movements as they manifest in the Igbo language using the theoretical framework of the Revised Extended Standard Theory (REST) of Chomsky (1965). Based on the above types of movements, certain syntactic processes like trace movement convention, empty category principle, among others must be present for trace to manifest and some processes are born as a result of trace. With the use of the survey research design based on documented information, the paper further examines what happens to the position from where a constituent has moved (trace) and the nature of what is left behind (assuming anything was left). The findings of the paper from various stands of scholars on trace from the literature review and the research analysis show that a trace in Igbo is an index of a higher up phrase with or without a phonetic content. Again, while wh- traces reside in the SPEC – position, a non-argument position, NP – traces can only be found in an argument position; and wh- traces can be co-indexed with a pronoun to its left or right depending on the construction.

Cet article traite des traces associées aux mouvements Q et à ceux du syntagme nominal telles qu'elles se manifestent en langue igbo en utilisant l'approche théorique de la version révisée de la théorie standard étendue de Chomsky (1965). Sur la base de ces types de mouvements, certains processus syntactiques tels que la convention sur le mouvement de traces, le principe de la catégorie vide, entre autres, doivent être présents pour que la trace se manifeste et s'ensuivent ainsi quelques processus suite à ces traces. Avec l'emploi du protocole de recherche basé sur une documentation bien fouillée, l'article examine également ce qui se passe à la position à partir de laquelle un constituant s'est déplacé (sa trace) et la nature de ce qui reste derrière (pour autant qu'il reste quelque chose). En nous basant sur les positions des chercheurs sur la trace dans la revue de la littérature et sur les résultats de l'analyse de la présente recherche, il ressort que la trace en igbo est un index d'un syntagme supérieur avec ou sans un contenu phonétique. De même, alors que les traces Q résident dans la position du SPEC, qui est une position n'hébergeant pas d' arguments, les traces du syntagme nominal ne peuvent se trouver que dans une position d'argument ; les traces Q peuvent être co-indexées avec un pronom à leur gauche ou à leur droite, selon la construction.

0. INTRODUCTION

Trace is an important theoretical device in transformational generative grammar (TGG), specifically in the Revised Extended Standard Theory (REST) of syntactic analysis as put forward by Chomsky (1965). Syntactic studies have witnessed several models of analysis from Finite State Grammar (FSG), Phrase Structure Grammar (PSG), Transformational Generative Grammar (TGG), each introduced to take care of the demerits of the other.

Transformational Generative Grammar as put forward by Chomsky was introduced to take care of the demerits of phrase structure grammar. With transformational rules like movement, deletion, adjunction and substitution, transformational generative grammar derives the Surface Structure (SS) from the Deep Structure (DS). The above explication shows that transformational generative grammar proposes three levels in syntactic analysis – DS level, transformation and SS levels.

The earlier versions of transformational generative grammar as observed by Cinque (1990), Trask (1993), and Mbah (2006), on the Standard Theory (ST), hold that meaning is complete before transformations. Following standard theory, Extended Standard Theory (EST) was introduced. This modification was necessitated by the fact that the surface

structure contributes to meaning. In order to take care of the shortcomings of the Extended Standard Theory, the Revised Extended Standard Theory was introduced. In Revised Extended Standard Theory, traces were introduced at the site where moved element(s) originally were (see Amfani 1997, Ndimele 1997, and Mbah 2006). Therefore, certain syntactic processes (alpha movement, trace movement convention and empty category principle) must be present for trace to manifest and some processes like phonologically filled and unfilled traces are borne as a result of trace. Such processes mentioned above will form the thrust of this paper as they manifest in traces in Igbo. In this paper also, a trace is designated in a structure with node "t" for trace, and/or "e" for empty and EC for empty category. Since Igbo is a tone language, the tone marking convention adopted is applying tone marks on all syllables.

1. THEORETICAL FRAMEWORK

In investigating traces in Igbo, this paper adopts the theoretical framework of the Revised Extended Standard Theory. The Revised Extended Standard Theory as put forward by Chomsky (1965) says that even though elements were extracted from their original underlying positions, they are still there at the argument structure level. In other words, every movement of an NP – constituent from a particular position in a sentence leaves a trace at the surface structure.

Consequently, traces are abstract empty nodes introduced in transformational grammar of the mid 1960s to refer to a formal means of marking the place a constituent once held in a derivation, before it was moved to another position by a transformational operation, which also has the same referential index as the moved NP. The position from which the constituent was moved is known as the extraction site (where ***t*** marks its place in the representation); which is said to be bound by that constituent. The moved constituent and empty node it leaves behind are co-indexed, for example, in a rule which raises the subject of an embedded clause to be subject of the main clause, Chomsky (1965) says that the trace ***t*** marks the position of the embedded subject.
Example:

(1) a. It is certain [the man to come].
b. The man is certain ***t*** to come.

The clause in bracket is the moved embedded subject and its extraction site is marked with ***t*** in (1b).

Therefore, the introduction of trace made it possible for transformation to be summarized into one rule - move - α. Move - α according to Mbah (2006) refers to any variable in syntax which may be the lexical category or the phrasal category. In this paper, REST is the fulcrum of data analysis. Below are the syntactic processes that must be present for trace to manifest.

1.1 ALPHA MOVEMENT

Move - α according to Radford (2004), where alpha is a category variable, designates any random category one cares to choose, amounts to the principle: move any category anywhere. The above statement means that there must be a set of universal or language specific principles which determine if it is impossible to move certain constituents into certain other positions. Structure – preserving constraints as one of the conditions states that a syntactic category can only be substituted for another category of

the same type, (see Radford 2004). The above assertion by Radford means that an NP can only move into an NP - position, but not into a VP – position. Furthermore, Radford posits that another condition is the Empty Node condition, which says that any moved constituent can only be moved into for an empty category. The above claim means that moved constituents can only be moved into empty positions. The claims above show that a moved NP can only be moved into an empty NP – position, not for instance into an empty VP – position or a filled NP – position, etc.

What happens to the position out of which a constituent moves is also determined by another universal principle known as trace movement convention. Mbah (2006: 82) avers that "when an element moves from its extraction into a landing site, the evidence of movement is indicated by a trace." Different studies such as Chomsky (1992) and Mbah (1989) posit that both the extraction and the landing sites should have similar categorial properties. The similarities of the categorical properties according to them are licensed by agreement (AGR) features.

1.2 TRACE MOVEMENT CONVENTION

Trask (1993: 280) says that the use of traces allows a construction to remember earlier stages of a derivation, and traces can be regarded as a formalization of certain aspects of the earlier derivational constraints. Based on the above claim, trace must obey the rule of trace movement convention which according to Radford (1981: 191) says, "the moved constituents of category X^n leaves behind in the position out of which it moves an empty category of the same type – $[X^n e]$. The empty category is known as a trace, and the moved constituent is said to be the antecedent of the trace. The trace is usually co-indexed with the antecedent. In other words, a subscript index is assigned to the trace in its original position and its antecedent. Likewise, based on the Chain Transmission Principle, Ndimele (1992: 100) says, "…Grammatical properties (both inherent ones and those that are assigned are freely transmitted between an antecedent and its trace through a movement chain."

1.3 EMPTY CATEGORY PRINCIPLE (ECP)

Syntactic elements cannot be moved unless they have empty nodes where they will land and when one moves an element from its extraction site, it remains empty (but leaving behind a trace) which may be filled or not filled. Empty category both base – generated (PRO and pro) and derived from movement (traces) according to Vincent and Börjars (2000) are one of the most prominent features of transformational theories of syntax, such as Government and Binding (GB) and minimalism. In government and binding theory, according to Sag and Fodor (1994), traces are subject to the empty category principle (ECP), which states that all traces must be properly governed. Proper government is either theta government or antecedent – government.

(2) Who did John say that Mary saw$_t$?

(The verb 'see' according to the above authors both governs and theta marks the trace, so the trace is theta-governed). Having explored the syntactic processes that must lead to the manifestation of trace, the next section overviews the practical manifestations of trace in languages.

2. EMPIRICAL STUDIES

From Yehuda's (2007) analysis, in what he calls apparent unboundedness of wh-movement; wh-phrases in direct and indirect questions occupy their surface positions as a result of movement. The question arises on how far a wh- phrase can move from the position where it is interpreted. Examples like (3) below suggest that the distance is in principle (that is, apart from performance considerations such as limitations on memory) unlimited, or unbounded. But examples like (3b – c), where a wh- phrase moves out of the specifier SPEC (CP); where it originates, are called long distance wh– movement. However, in (3a) the *wh* is in-stiu in its position.

(3) a. [$_{cp}$What$_i$ was he reading **ti**]?
b. [$_{cp}$What$_i$ did he say [$_{cp}$that$_i$ he was reading **ti**]]?
c. [$_{cp}$What$_i$ does she believe [$_{cp}$that$_i$ he said [$_{cp}$that$_i$ he was reading **ti**]]]?

Our interest in the above examples is not only on movement but also on the outcome of long distance movement which leads to traces in the examples.

However, contrary to what the pattern in (3) suggests, Ross (1967) argues that wh–movement is not in fact unbounded. Although wh- movement out of *that clause* complement to verb is completely acceptable but to nouns, it is not, as shown in (4) and (5). For clarity, the heads associated with the complement clauses are italicized in the text. Examples according to Kastenholz (2003: 32) are shown in 4 and 5.

(4) a. He made the *claim* [that he has met sub commandant Marcos]
b. [Who]$_i$ did he make the *claim* [that he has met **ti**]?

(5) a. He mentioned the *fact* [that he had run into Julia Roberts]
b. [which celebrity]$_i$ he mentioned [that he had run into **ti**]?

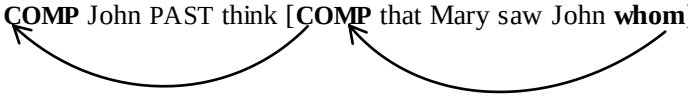
From the above illustrations, wh – movement is grammatical within the confines of an island, but not beyond its boundaries. But in all instances it must leave a trace which must be properly governed. Consider example (5c) by Los (2005)

(5) c. John saw whom?Whom$_i$ [did John see] **ti**

(5c) shows that the movement of the question morpheme is outside the minimal sentence called the SPEC

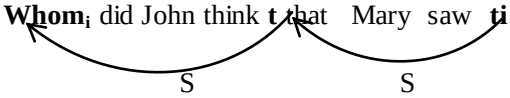
(5) d. What did John think that Mary saw

COMP John PAST think [**COMP** that Mary saw John **whom**]



COMP John PAST think **whom** that Mary saw **ti**

Whom$_i$ did John think **t** that Mary saw **ti**



S S

The wh – movement here is an unbounded movement since it can cross many clause boundaries or NP boundaries otherwise referred to as the boundary nodes.

In 2001, Bresan identified empty categories and traces using control and raising. Consider the following sentences by Bresan.

(6) a. A lot of young musicians try to play Led Zepplin songs

b. A lot of young musicians seem to like Led Zepplin songs

Bresan reports that the relevant fact here is that there are two verbs in each sentence (try and play; seem and like), but only one overt subject of the main clause. However, any speaker will interpret 'a lot of young musicians' as being the subject of the embedded clause as well. To sort out this discrepancy according to Bresan, the GB – minimalism tradition proposes an analysis in which there is an empty category in the subject position of the embedded clause. This empty category is co referential with the subject of the main clause, from which it gets its meaning. The relevant structures are as follows:

(7) a. [A lot of young musicians]$_i$ try PRO$_i$ to play Led Zepplin songs

b. [A lot of young musicians]$_i$ seem **ti** to like Led Zepplin songs.

Although, there is an empirical argument in favour of PRO and NP – trace, the main argument comes from theory – internal considerations; and it shows that an empty category is needed to represent the missing subject. If there is no specifier position available, it will not be possible for the verb to discharge its subject theta rule, or to check some of its features. It is not possible to use the subject of the main clause for these purposes, since all these operations require a local relation, i.e., a relation between a head and its specifier, not between a head and the specifier of a higher head. Thus, an empty category is proposed, so as to provide the embedded clause with a suitable subject. The stipulation that gaps have to get their reference from an appropriate antecedent – namely the subject of the main clause – ensures that we interpret the missing subject of (6) and (7) as *a lot of young musicians* and not any other NP.

Riemsdijk and Williams (1987: 6) provide example of trace in French. Let us look at example 8 below according to them:

(8) a. **Tu as vu qui**?
You have seen who

b. **Qui as-tu vu**?
Who have you seen?

In direct questions in French, the rule of wh– movement is optional according to Uwalaka (2002) and Radford (1988). Again, French allows a preposed wh– phrase to co-occur with an overt complementizer in wh– direct questions. Examine Radford's (1988 :501) illustration:

(9) **Où que tu vas**.
Where that you go?
Where are you going?

The proposed wh– phrase in (9) co-occurs with an overt complementizer in wh– direct questions.

In the Yoruba language according to Bola (2003:754), wh-words end up in clause initial position outside S or IP (see examples 10 below). In the S-structure their D-Structure position is within S. This claim supports Radford's (1988:460) assertion that "Their superficial Pre – S Position is then accounted for by positing that a rule of wh – movement applies in the course of the derivation of such sentence to move a wh – phrase from its D – structure to the leftward position at the level of S – structure. This process leads to wh - traces. Example:

(10) a. [ki$_i$ [ni [Bola ri **t$_i$**?]] what did Bola see?
S^1 **S**
What FOC Bola see

b. [Tai [ni [Sola fun **t$_i$**?]] who did Sola give?
S^1 S
What Foc Sola give

c. [Kii [ni [O**i Sele** ?]] what happened?
S^1 S
What FOC **t** happen

3. TRACES IN IGBO

In transformational grammar, a trace is an empty (phonologically null) category that occupies a position in the syntactic structure. In some theories of syntax (REST and UG), traces are used according to Bresan (2001) to account for constructions such as wh– movement and passives. The question now is "What happens to the position from which a constituent is moved?"

Emekekwue (1998) in her discussion of features and types of traces in Igbo observes that traces result from movement. She also notes that two types of movement are present in Igbo. The wh– movement results to phonologically null trace and the NP – movement, where the traces are phonologically realized as resumptive pronouns.

3.1 WH – MOVEMENT (UNBOUNDED MOVEMENT)

Wh– movement according to Yusuf (1998) is a syntactic phenomenon found in many languages around the world, in which interrogative words (sometimes called wh– words) or phrases show a special word order. Unlike ordinary phrases, such wh– words appear at the beginning of an interrogative clause. The term wh – movement tends to be applied to similar word order permutations in languages other than English. Igbo is an example of such a language. In the Igbo language, the wh – words and phrases are:

(11) **kèdú** how/what
ònyé who
èbéé where
gínī what
òlé ètù how
òlé mgbè when
òlé nkè which

In Igbo wh– questions according to Uwalaka (2002) are found either as in Set A or as in Set B below.

Set A:

(12) a. **Ì hụ̀rụ̀ ònyé**	**Ì mèrè gị́nī̀**	**Ị gàrà òlé́é/èbé́é**
You see –rV PAST who	You do –rV PAST what	You go –rV PAST where
Whom did you see?	What did you do?	Where did you go?

Set B:

(12) b. [**Ònyé**]$_i$ **kà** [**ị́**]$_i$ **hụ̀rụ̀** t_i	**Gị́nī́ kà í mèrè** t_i	**Èbé́é**$_i$ **kà ị́ gàrà** t_i
Who that you see –rV PAST	What you do –rV PAST	Where that you go –rV PAST
Who did you see?	What did you do?	Where did you go?

Example (12) according to Uwalaka exemplifies the option in which the wh– phrase remains in situ while in examples (13), the wh– phrase is moved to clause initial position. Furthermore, she posits that languages like Chinese and Japanese, whose wh– question constructions pattern like those in Set A, are said to have only LF wh– movement. On the other hand, languages like English with wh– question structure similar to that in the Set B examples are said to have syntactic wh– movement. Uwalaka (2002) also points out that the two structure types occurring in Igbo wh– questions also occur in French. Riemsdijk and Williams (1987: 6) are also of the same opinion. Let us look at example (11) below according to them:

(13) a. **Tu as vu qui**?
You have seen who?

b. **Qui as-tu vu**?
Who have you seen?

Therefore, in Igbo direct questions as in French, the rule of wh– movement is optional. In addition, the Set B examples demonstrate that Igbo, like popular French, allows a preposed wh– phrase to co-occur with an overt complementizer in wh– direct questions. Compare the Igbo examples of Uwalaka with (13) taken from Radford (1988: 501).

(13) **Où que tu vas**.
Where that you go
Where are you going?

The preposed wh– phrase in (13) co-occurs with an overt complementizer in wh– direct questions. Let's consider example 13

(14) **Ha gburu òlé?**
ònyé?
èbé́é?
òlé mgbè?
gị́nī́?

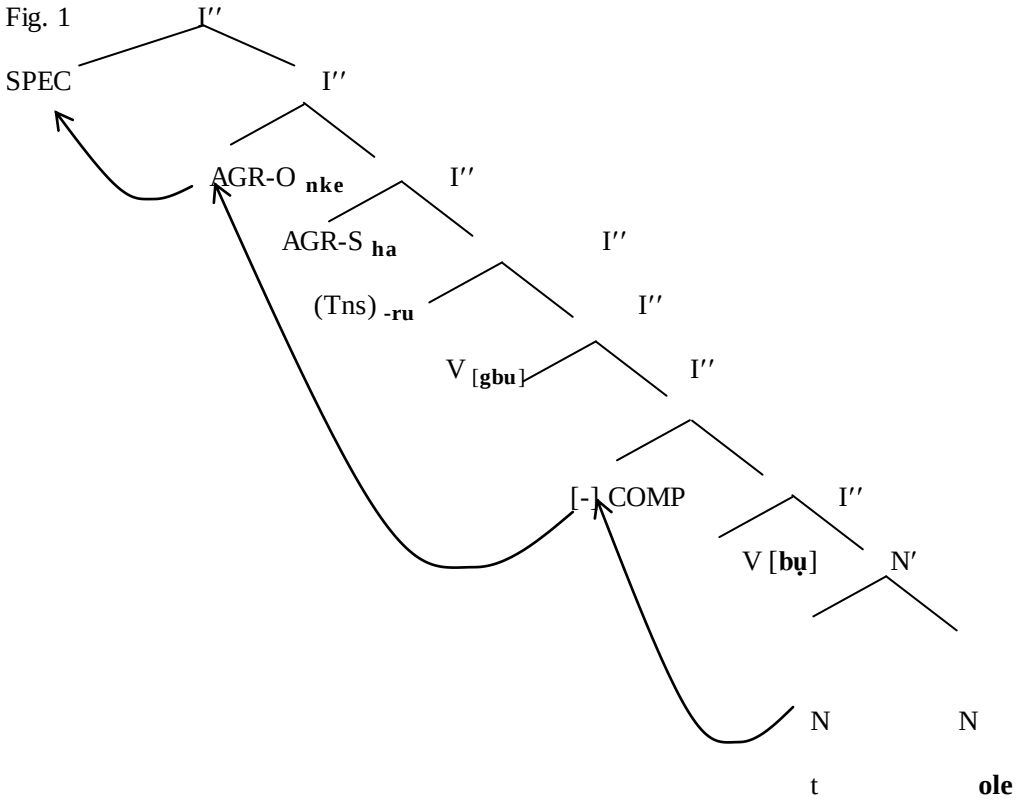
In the above wh- in situ questions, wh– words/phrases function as the object and in the deep structure, they play the role of a modifier, e.g.

(15) **Ǹkè há gbùrù bụ̀ òlé**?
Pron they kill PAST be which
The one they killed is which?

Mbah (2006) posits that wh– relations and the wh– heads are co-relatives strictly bound by co-occurrence restrictions. The example below according to Mbah illustrates the fact that the SPEC position was empty – the wh– relative moves from the object position to the SPEC position because that position was empty in situ. Based on this, the underlying form becomes :

(16). ***e* hà gbùrù ǹké bụ́ ólé?**

Fig. 1



From Mbah's analysis, **ǹkè**, the subject of the embedded clause gets deleted based on sameness of identity with the object of the matrix clause. The deletion of **nke** maps the complement head step [-] on **ǹkè**, the object of the matrix clause. Ǹkè moves to SPEC position because SPEC is empty. But the logical subject cannot move because AGR specifies that for the NP to occupy it, it has to manifest the feature of AGR-O. In other to actualize this, ǹkè moves into AGR-O and filters into SPEC. With the application of the rule of morpho-phonology, we have the structure thus:

(17) **Ǹké$_i$ hà gbùrù $_{ei}$ bụ̀ òlé**?

The above transformation can also be applied to get the **kèdú** cleft questions, using kèdú. Mbah (2006) says that kèdú is equivalent to the *copula verb* plus the *wh– head*.

(18) **Kèdú ǹkè$_j$ há gbùrù$_{ei}$**?
which pron$_j$ kill PAST$_{ei}$

The crux of the matter here is that anytime a wh– word or phrase moves, it leaves a trace [**t e**] behind. In 18 above, the trace left behind is only one and it is a phonologically null trace. Another instance of this is example 19 below:

(19) **Ị̀ bụ̀ ònyé**
You is who
Who are you?

Ònyé$_i$ kà ị́ bụ̀ e$_i$

We have to note that in the last two examples, adjunction rule also applies. In the later example **ka** complementizer was introduced.

On the other hand, trace could be more than one.

(20) **Ònyé kà há kwùrù nà ọ́ chọ̀rọ̀**?
Whom is it that they say that he wants

The DS of (20) is in the form shown in (21)

(21) ***e* kà há kwùrù nà ọ́ chọ̀rọ̀ ònyé**?
$_e$comp they say PAST that he/she want PAST who?
that they said that he/she wanted who?

⟶ ***Onye* kà há kwùrù** [**nà** [**ọ́ chọ̀rọ̀ *e***]]
who COMP they say PAST [that [he/she want PAST$_e$]]
Whom did they say that he/she wanted

In (20), the verb **kwuru** subcategorizes sentential complements. Because of that, the *that – clause* becomes its complement. But since the wh– complement head **na** embedded in the subcategorized clause is not the governor of the wh – syntactic element **ònyé** ; it is not governed by any syntactic element within the clause. Hence, the subject of the matrix sentence is empty. Since a sentence must have a subject according to the projection rule, the wh– head is moved to the subject position. When this movement takes place, its original position is left empty phonologically. Consider example (22) below:

(22) ***e* kà** [́ **chèrè** [**nà** [**ọ́ chọ̀rọ̀ ònyé**]]
e COMP you think PAST [that [he/she want past who]]
that you thought that he/she wanted who?

In (22) **ònyé** governs the empty category and binds it as an anaphor and it is an instance of direct object.

Based on the above analysis, let us consider (23a, 24 and 25)

(23) a. **Ònyé kà há kwùrù nà** ♩ ♫♪♪ ♬**?**
who COMP they say PAST that he/she look past follow
Whom is it that they say that he wanted to follow?

(24) **Ònyé kà há kwùrù** [**nà** [**e** **Èméká**]]
Who comp they say PAST [that [**e** want PAST Emeka]]
Who is it that they said [that [who wanted Emeka]]

(25) **Ònyé kà há kwùrù** [[**e** **Èméká**]]
Who comp they say PAST [[**e** want PAST Emeka
Who is it that they say [e [wanted Emeka]]

Example (23a) is also a direct object question. The logical subject cannot be moved to the empty category. Therefore, **ònyé** moves but was constrained by the subjacency rules which according to Radford (2004) states that no constituent can be moved out of more than one clause containing NP – or S – node (in any single rule – application)." NP and S are therefore bounding nodes in respect of (23a), since they limit the number and nature of the constituent boundaries that any moved constituent may cross in any single movement. **Onyé** cannot move directly to the matrix subject position. It takes a step wise movement as in (23b)

(23) b. $_{ei}$ **kà há kwùrù nà ọ́$_i$ chọ̀rọ̀** ***ei*** **ị́hụ́ ònyé**?

$_{ei}$ **kà há kwùrù nà** **ònyé?**
ei COMP they say PAST that he/she want PAST ei to see who
ei that they said that he/she wanted ei to see who

Mbah (2006) provides the answer for examples (24) and (25). According to him, example (24) is supposed to be lexically governed. But since it is not co-indexed with the wh– head, the government became impossible. But in (25), because of the absence of head complementizer, it makes co-reference possible between the wh– head and the trace possible. It becomes lexically governed. Based on the above exposition, (24) is ungrammatical while (25) is grammatical. The ungrammaticality and grammaticality of (24) and (25) respectively stem from the fact that in (24), the trace and the wh– head are too far apart. The **na** – clause, which is an embedded sentence containing the wh– phrase does not contain the trace. But in (25), the **na**– clause does not exist, and the sentence containing the wh– head also contains the trace. This makes it possible for it to C-command (X c-commands Y iff the first branching node dominating X dominates Y, and X does not dominate Y, nor Y, X) and bind it as an anaphor. An anaphor according to Radford (2004) is an NP with no independent reference but rather takes its reference from some other expressions in the sentence, its antecedent."

3.2 NP – MOVEMENT

NP movements are generally movements from one NP position to another, that is, argument movement or A – movement, as in NP raising, passivization, dative movement, etc. It can also be from an A – position to a non-argument position, (A → $\bar{A}$) according to Dalrymple, Kaplan and King (2001). The extraction site is generally an A – position. But the extraction site can also be in A or $\bar{A}$ position. The popular assumption from literature has been that a trace is always an empty category (EC), hence the empty category principle (ECP), which states that a category must be properly governed. Recent research in African languages (see Uwalaka 1988 and Mbah 2006), have shown that the trace of a

moved NP can have phonetic content and therefore can be visible in syntactic structures. Such a trace is known as resumptive pronoun. As we stated earlier, NP movement involves the following:

3.2.1 Raising

This is the movement of an NP in an embedded sentence or COMP to the subject of a higher clause. There can be raising from subject – subject or from subject – object.

(26) **Nà ò ŕighí nri wùtèrè ḿ.**
That she/he did eat not pain PAST I
That she/he did not eat pained me

(27) **Ó wùtèrè m̀ nà ò ŕighí nri.**
It pained PAST I that she/he eat not
It pained me that she/he did not eat

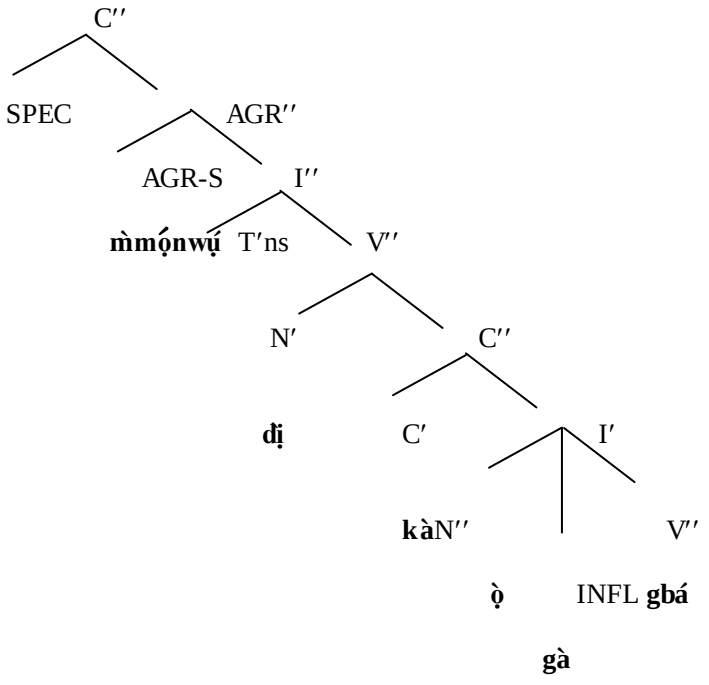
The above can also be called sentential **na**-clause.
Subject Raising: Example

(28) **M̀mọ́nwụ́ dị kà ọ gà-àgbá.**
Masquerade be like it will dance
Masquerade appears that it will dance

***ei* dị kà m̀mọ́nwụ́ gà-àgbá**
it be like masquerade will dance

(Adapted from Anagbogu, et al 2001)

Fig. 2



In Fig. 2, the matrix clause does not have any subject against the extended projection principle (EPP), which needs every sentence to have a subject. Because of the sentence in question, this should have a grammatical subject. But since the logical subject position is empty, an element needs to move to occupy that position. **Ǹmọ́nwụ́,** which is the subject of the embedded clause, will then move. During the movement, its first landing site is AGR, which enables it to move to SPEC based on its feature specifications. The above type of movement leaves behind at its extraction site a phonologically realized trace in the form of resumptive pronoun which is co-referential to the moved constituent (the resumptive pronoun) and binds it as an anaphor. Subject raising in Igbo is also called tensed clause movement (see Uwalaka 1995). In his own investigation, Nwachukwu (1995) avers that topic and focus can be achieved in Igbo using move - α. In both the subject and object topic, an appropriate resumptive pronoun occurs somewhere in the lower clause, the relative clause does not result in topic. But in focus, while focus is possible in declarative sentence, it is not in relative clause. The resulting trace is an empty category properly governed.

3.2.2 Question Formation

(29) **Èméḱá gbùrù ágwọ.́**
Emeka killed a snake.

[**Èméḱá**]$_i$ [**o**]$_i$ **gbùrù ágwọ́**
[**Emeka**]$_i$ [he]$_i$ killed a snake
Emeka, did **he** kill a snake?

(30) **Èméḱá nà Ẹjịọfọ́ gbùrù ágwọ́.**
Emeka na Ejiọfọ killed a snake.

[**Èméḱá nà Ẹjịọfọ́**]$_i$ [**ha**]$_i$ **gbùrù ágwọ́**?
[Emeka and Ejiọfọ]$_i$ [they]$_i$ killed a snake?
Èméḱá and Ẹjịọfọ, did **they** kill a snake?

Èméḱá gbùrù ọ̀gụ̀ is a declarative sentence. But [**Èméḱá**]$_i$ [**ò**]$_i$ **gbùrù ọ̀gụ̀**, is a question. This is because the presence of the resumptive pronoun **O**, which carries the low tone **ò** makes it a question and that is why **Emeka** and **O** have the same index **' i '.**Examples (29) and (30) above are phonologically filled. Even though **Emeka**, and **Emeka na Ejiọfọ** are at the beginning of the above sentences, they are not the subjects of the above sentences. Again, the resumptive pronoun filling the phonological space must agree with the subjects of the declarative sentences in their question forms in number and person, thus **o** and **ha** in (29) and (30)

The above discussions show that we have two types of traces in Igbo: e – empty category and resumptive pronoun. The standard assumption is that a trace is an empty category. An empty category is a null symbol or something lacking phonological shape or form. Facts from the Igbo language show that trace can have a phonological form. The traces are NP traces. Examples:

(31) **Ọ̀bí chọ̀rọ̀ òsìkápá.**
Obi wanted rice.

Òsìkápá kà Òbí chọ̀rọ̀$_{ei}$
It is rice that Obi wanted.

The moved item is now an antecedent of the trace, in other words, we have antecedent trace relationship. So, it obeys the rule of subjacency. Observe example (32) where we have an instance of pronominalization instead of trace.

(32) **Mụ́ nà Òbí sòrò gáá**
I and Obi went together.

***Òbí kà mụ́ nà $_{ei}$ sòrò gáá**
It is Obi and I $_{ei}$ that went together.

Òbí kà mụ́ nà yá sòrò gáá
It is Obi that I and he went together.

From the study of Igbo trace, the nature of a trace can be a resumptive pronoun (something with a phonetic form, no longer a null symbol but a real morpheme). In English, the equivalent of the above sentence will allow the stranding of preposition. That is:

(33) It is Obi that I went out with$_{ei}$

But in Igbo, we say

(34) It is Obi that I went out with him (see **ya** in the above)

So, in Igbo, the replaced NP must be replaced with a resumptive pronoun.

Again, movement from the predicate to sentential – initial (SPEC) position is A – movement and as such is properly governed. By this we mean that it has a θ function and case. Example:

(35) **Chọ̀ọ̀ m ńrí ọ̀k nà ọ́kụ́**
Want I food maize and okro
I want maize flour and okro.

Ńrí ọ̀k nà ọ́kụ́ kà mḿ chọ̀ọ̀$_{ei}$
Food maize and okro COMP I want PAST$_{ei}$
It is maize-flour and okro that I want$_{ei}$

However, when you move a constituent from the subject position, a resumptive pronoun is used in place of the trace. In this case, the inflection which is the head is not properly governed. Therefore, movement from NP subject position requires a resumptive pronoun. It appears to be the case that movements out of the subject position leave a resumptive pronoun trace, whereas movement from object position leaves an empty category. In such a situation, an empty category appears to be always properly governed, thus, satisfying the rule of ECP.

In the Igbo language also, according to Nwachukwu (1995), tenseless clauses are in the infinitive and have verbs called verbs of forward-looking aspect whose sentence complements always express an open proposition. The verbs in Igbo are not obligatorily controlled verbs as they appear in English. Example:

(36) I want to win
I promise to come

In the above examples, PRO can be inserted

(37) I_i want PRO_i to win
I_i promise PRO_i to come

So, PRO and the subject are co-referential. They are the obligatory control verbs.
Note: PRO is an unexpressed subject of infinitival complements, which is associated with the above class of verbs. They are obligatory because in example (37), we have an expressed subject with no full sentence complement which is *that* ***….*** Therefore, we cannot say:

* I want to that I will win.

But in Igbo, it can permit full sentential complements. Example:

(38) **Òbí chọ̀rọ̀ kà ànyí PRO bịá**
Obi wants us PRO to come
[Obi wants [for us_i PRO to come]

Òbí chọ̀rọ̀ kà { yá / Ọ́ } bịá

Ọ́ is logophonic while **yá** is nonlogophonic

Òbí chọ̀rọ̀ kà ànyí bịá

[Comp [s]]
$\bar{S}$ $\bar{\bar{S}}$
S **S**

In the above, we have a full complement. Therefore, when the subject of the main clause is coreferential to the subject of the embedded sentence, we have infinitival complement.

(39) **$Òbi_i$ chọ̀rọ̀ PRO_i ịbịā**
Obi_i wanted PRO_i to come
(Obi and PRO are correferential)

The conditions of infinitival complement, both necessary and sufficient is possible iff

i. the verb must come from the purposive verbs. This first condition is necessary but not sufficient because:
ii. the correferentiality will be there. In English, the PRO is base generated just as it is in the Igbo language.

(40) John is easy PRO_i to please (people)
John is easy for PRO to please him_i

Consider example (41)

(41) **Ònyéi kà ˊsì nà Òkéké s̀ nà ♫i ♫♪ yá**
who$_i$ COMP you say that Okeke say that he/she$_i$ see PAST him/her
Who did you say that Okeke said that he/she saw him/her?

Ònyéi kà Òkéké s̀ nà x si na xi ♫♪ yá
Who COMP Okeke say that **x** say that x_i see PAST him/her
Who did Okeke say that x say that x_i saw him/her?

In example (41) **Ònyé** can be coindexed with the *PRO*

4. DISCUSSION OF THE FINDINGS

From the above analysis, we can say that wh – phrases and morphemes in most languages from the various stands of different scholars, have their position at the clause initial position. This is usually occasioned by the application of the rule of move – α which moves a wh – phrase from its base position to the SPEC or CP leaving a trace. A look at the English, French, Yoruba and Igbo examples presents substantial evidence that wh – phrase originates either from the object of the verb in the lowest clause or from the subject position but moved to the SPEC of CP through the rule of wh – movement. On the other hand, the filled trace is also called a resumptive pronoun, which results from NP– movement. NP –antecedent can only be found in an argument position (A – position), a position that is independently required and for which the projection principle legislates that must be filled, but was until NP – movement is empty.

5. SUMMARY OF THE FINDINGS AND CONCLUSION

The transformational rule of movement is present in the Igbo language. When syntactic elements are moved from the deep structure to the surface structure position, it leads to the trace of the moved elements to be left behind. The trace can be unfilled trace, otherwise called phonologically null trace (which is associated with wh – movement) and the filled trace. The filled trace is also called a resumptive pronoun, which results from NP– movement. From our illustrations above, usually a trace, apart from the features of the realized substance, must have an antecedent which must be properly governed. That by no means rules out the fact that a trace may have another trace as its antecedent, but whatever the chain of traces, the antecedental substance with a phonetic matrix is sitting some place. Again, all traces in Igbo must have a constituent commanding antecedent. Thus, a trace in Igbo is an index of a higher up phrase with or without a phonetic content. Therefore, it follows that wh– phrases have their traces way down the trace configuration. For the *that– trace*, it is not possible to extract from the subject position in the presence of an overt complementizer (see examples 31 and 32) but only from clauses without an overt complementizer (see example 34). However, objects can be extracted across overt complementizers. The reason is because a trace can be a direct object and direct objects are governed. Also, trace is governed as the subject of the finite clause. The government can be lexical government or antecedent government. In lexical government, a head lexically governs its complement. For antecedent government, Igbo traces must be co-indexed with, and c-command by a category that governs it.

Finally, in Igbo traces, while the traces of wh- and NP are all traces, because of similar movement rule, they have different triggers. This is so because the two types of trace c-command the extraction sites. But while wh– antecedent resides in [SPEC, CP], a non-argument position ($\bar{A}$ - position), NP –antecedent can only be found in an argument

position (A – position); a position that is independently required and for which the projection principle legislates that must be filled, but was until NP – movement is empty. It is equally observed that Igbo wh – traces are their proform and/or referential expressions, which have to be free everywhere and wh- trace in Igbo can also be co-indexed with a pronoun to its left or right depending on the construction. The leftward indexing is usually possible in a transformed structure in Igbo especially in pragmatics. Apart from the above condition, Igbo traces are usually co-indexed with pronouns on the rightward position. In other words, they are iterated to such positions before undergoing further raising.

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