

# The Structure of *wh*-Questions in Igbo

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In this paper I shall investigate two constructions used in Igbo (or, more properly, the dialect of Igbo spoken around Enugu) for direct *wh*-questions.<sup>1</sup> I shall argue first that there are two rather different structures available in Igbo for this function, one very much like a *wh*-question in English, the other little more than a noun phrase preceded by the interrogative morpheme *kèdú*. In the latter part of this paper, I shall consider more closely how best to express the constraints on extraction, and argue that certain occurrences of "returning pronouns" must be considered as syntactically bound.

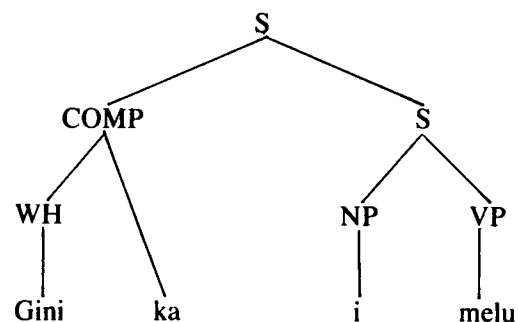
## 1. TWO CONSTRUCTIONS

The two constructions available in Igbo for questions (other than yes/no questions) are illustrated in (1), and a first proposal for the respective structures is shown in (2). There is no semantic or pragmatic difference between these two constructions.

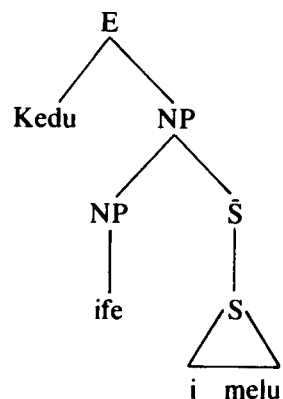
- (1) a. *Wh*-movement: Gíní kà í mèlù?  
           What (that) you did?  
           'What did you do?'  
       b. Relative Clause: Kèdú ífé í mèlù?  
           Wh thing you did?  
           'What did you do?'

<sup>1</sup> I would like to thank Charles Ukwu and Victoria Ilochi-Ukwu for their invaluable assistance in learning and working on the intricacies of Igbo. I am also grateful to Murtadha Bakir and Saadun Suaieh for much discussion of the issues in Section 10 of this paper.

(2) a.

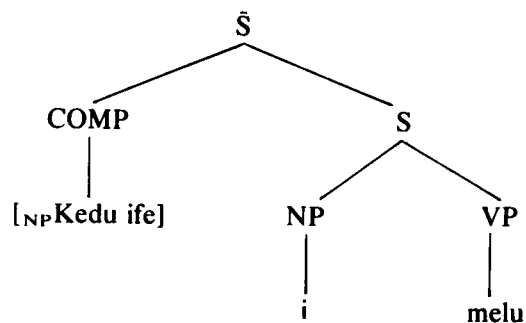


b.



For purposes of organization, I shall assume that the structure of (1a) is uncontroversially as sketched in (2a), and I shall take the point to be argued to be that the (1b) forms are to be analyzed as in (2b) rather than as in (3), which would be parallel to (2a). In other words, I shall be arguing *against* a *wh*-movement analysis of (2b) in which *kèdú ifé* is a *wh*-constituent (either N or NP), as in (3).

(3)



The most striking difference between the two constructions is the shape of the question-initial word(s) that roughly corresponds to the English *wh*-word. In this respect, the two constructions do not overlap at all. The *wh*-questions begin with words such as in (4a), while the *kèdú*-sentences all begin with words as in (4b).

(4)	a.	b.	gloss
i.	gíní	kèdú ifé	'what'
ii.	èbéé	kèdú ébé	'where'
iii.	ònyé	kèdú ónyé	'who'
iv.	étú òné	kèdú étú	'how' étú 'manner'
v.	ógè òné	kèdú ógè	'when' ógè 'time'
vi.	òné		'which'

The claim implicit in the two structures posited in (2a) and (2b) is that, on the one hand, the words in (4a) form a morphologically natural class, and that, on the other, the words following *kèdú* in (4b) are simply nouns. Both of these appear to be true, the second more unambiguously than the first. With respect to the words *ifé*, *ébé*, *ónyé*, *étú*, and the like, these indeed are simple nouns meaning 'thing,' 'place,' 'person,' and 'manner.'

The *wh*-forms in (4a), on the other hand, are morphologically unusual. Two are rather clearly related (though *not* productively) to the simple nouns in the (4b) column (*èbéé* vs. *ébé*). *Gíní* is the odd man out in this respect; perhaps it is a borrowing from Yoruba *kíní* (idem). Such forms as *èbéé* are unusual from a morphological standpoint in that they have a long vowel with two separate tones.

*Kèdú*, as well, is an unlikely choice for a determiner, as one might suspect if *kèdú ifé* were viewed as parallel to "what thing." Determiners, with almost no exceptions, appear *after* the head noun, as *òné* does in (4).

## 2. PLACEMENT OF *wh*-WORD

Side by side with *wh*-questions as in (5a), we find the equivalent and synonymous (5b). Corresponding to (6a), however, there is no \*(6b).

- (5) a. Gíní kà í lílù?  
'What (that) you ate?'  
b. Ì lílù gíní?  
'You ate what?'

- (6) a. Kèdú ífé í lílù?  
 'Wh thing you ate?'  
 b. \*\*Ì lílù kèdú ífé?  
 'your at *kedu* thing'

The absolute impossibility of (6b), the central fact, follows, of course, from the proposed structure (2b), in which *kèdú* is generated only sentence-initially. The possibility of (5b) simply illustrates the optionality of *wh*-movement; (5b) is a surface form closer to the underlying form than in (5a).

### 3. OCCURRENCE OF *ka*

*Kà* (as in (1a)) is one of three major complementizers in Enugu Igbo: *nà*, *mà*, and *kà*. *Nà* introduces complements of verbs of saying and believing; *mà* is a close equivalent of English *whether*. *Kà* is semantically somewhere in between, and is used in expressions as in (7), for example; its precise semantic function need not concern us here.

- (7) Ó dì m kà . . .  
 It is me that  
 'It seems to me that . . .'

On the *wh*-movement analysis of (1a)/(2a), the presence of the complementizer *ka* is parallel to the presence of the complementizer following the *wh*-word in such languages as Québec French and other popular dialects, as in (8).

- (8) Où que Jean habite?  
 Where that John lives  
 'Where does John live?'

The nonoccurrence of a complementizer in (1b)/(2b), however, follows from the more general fact that in this dialect of Igbo, no complementizer may occur in a relative clause, as we observe, for example, in (9).

- (9) a. Nwānyì í fùlù bù nwúnyè m.  
 woman you saw was wife my  
 'The woman you saw was my wife.'

- b. \*nwānyì  $\left\{ \begin{array}{l} nà \\ kà \\ mà \end{array} \right\}$  í fùlù . . .

Thus, although we cannot give a principled account for the occurrence of the complementizer *ka* in the *wh*-question (and, in fact, I would expect this to vary from dialect to dialect, as in French), we do have a principled explanation for the exclusion of *kà* in the *kedu*-question.

### 4. RELATIVE CLAUSE TONE

In the perfect aspect sentences we have been looking at, the tone on the verb is low, except in those relative clauses where the element relativized in the lower clause is the subject NP, as in (11). There we find a Mid tone. We would expect, then, that if *kedu*-questions as in (1b)/(2b) are actually built from relative clauses, then a *kedu*-question where the subject position is questioned should have a Mid tone; real *wh*-questions should retain their normal Low tone. This prediction is correct, as we see in (12).

- (11) Nwóké mēlú yá  
 man did it  
 'The man who did it'  
 (12) a. Kèdú ífé kpátálú yá?  
 Wh thing cause it  
 'What caused it?'  
 b. Gínì kpàtālù yá?  
 what caused it  
 'What caused it?'

### 5. OTHER USES OF *kedu*

Finally, the structure in (2b) suggests that *kedu* should, all other things being equal, be followed by NPs other than those that we have looked at so far, all of which have contained relative clauses. In fact, this is true, as we see in (13), which is not, this analysis suggests, the abbreviated (or post-deletion) form of some longer sentence.

- (6) a. Kèdú ífé í lilù?  
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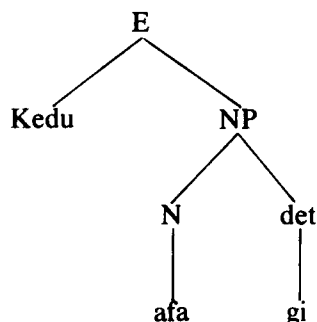
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- (13) Kèdú áfà gí?  
*kedu* name your  
 'What is your name?'



It should also be pointed out that there is no rule of copula-deletion in Igbo. Observe the possibilities in (14); in no other construction, other than the *kedu*-construction at hand, is there a verbless juxtaposition of two constituents.

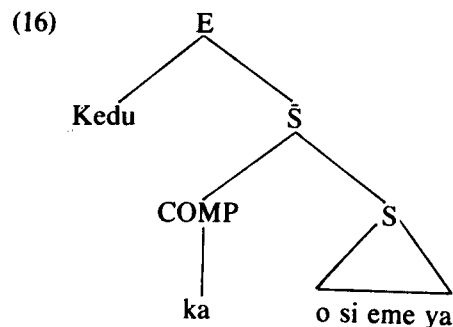
- (14) a. Kedu afa gí?  
       *kedu* name-your  
       b. \*Kedu bu afa gí?  
       *kedu* is name-your  
       c. \*Gini afa gí?  
       'what name-your?'  
       d. Gini bu afa gí?  
       'What is name-your?'

It should be noted, as well, that *kèdú* can be followed under certain conditions by a sentence introduced by *kà* (though this in no way weakens the argument in Section 3 above). Parallel and synonymous to (15a) we also find (15b).

- (15) a. Kèdú étú ó sì èmé yá?  
       *Kedu* manner he Aux do it  
       'How does he do it?'  
       b. Kèdú kà ó sì èmé yá?  
       *Kedu ka* he Aux do it?  
       'How does he do it?'

Under the analysis argued for here, (15b) must have the structure as

in (16):



If the word *kedu* is a fairly vague interrogative marker, as suggested here, one might well wonder why the sense of a sentence like (15b) is so clear—why is the translation of *kedu* here 'how' rather than 'when' or 'where'? In fact, all cases of a *ka*-clause following *kèdú* (as in (15b)) are clauses containing the auxiliary *si*, an auxiliary that is also used in (15a), and that (through a specification I will not formalize here) makes unambiguous the fact that the topic is manner. The only exception to this uniform occurrence of the auxiliary *si* is in formulaic expressions like *Kèdú kà í mèlù*—literally "How (or *kedu*) that you did," but idiomatically "How are you?"

## 6. SUMMARIZING SO FAR

Thus there are several good reasons to analyze *kedu*-constructions as constituents of a rather special sort. Forms such as (13) are not obviously sentences, and by parity of intuitions, neither is (2b). We may avoid the terminological discomfort of calling these *Ss*, and, looking ahead, acknowledge the fact that these constructions never occur in embedded contexts, by proposing a base rule as in (17), where "E" stands for "expression" (cf. [8]).

- (17)  $E \rightarrow \text{kedu} + \text{NP}$

Part of the interest of the *wh*- and the *kedu*-question constructions lies in the way that a principle is violated according to which two constructions synonymous in meaning and differing only in grammatical elements must be transformationally related. This principle, most active in the syntax of generative symanticists, insured that paraphrase



We shall return to this treatment of the phenomena in Section 9, after considering an alternative approach (Section 8).

## 8. UNBOUNDED MOVEMENT

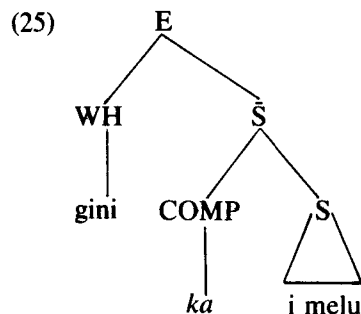
The syntagmatic relationship between the position of the complementizer and the position of a displaced *wh*-element has received considerable discussion in the literature. Baker [1] and Bresnan [4] suggested that the recurring cases in which these two positions may be identified in fact reflected a strong universal principle. Following these studies, Chomsky [7,8], Chomsky and Lasnik [10], and quite a few others have posited a constituent ("comp") containing both the position to which *wh*-elements move and the position of the complementizer(s).

More recently, evidence against the universality of this analysis has been brought forward; Lefebvre and Muysken [15], for example, examine the case of Cuzco Quechua and show that the *wh*-position (i.e., that position in which displaced *wh*-elements are found) is clause-initial, while complementizers are clause-final.

On the basis of clear cases such as this, we may conclude that, for some languages at least, a *wh*-position quite distinct from the Comp(lementizer) position must be generated. All *wh*-movement will, of course, be only into the *wh*-position in these languages.

Once we recognize this distinction, it becomes natural to expect that the distribution of the *wh*-position may differ radically from that of the Comp node. Igbo, in this view, may naturally be described as a language with a *wh*-position only in main clauses, with a Comp node in each (main and embedded) clause.

On this analysis, then, the structure of (1a) is as in (25); the phrase structure rules are as in (26), and embedded or indirect *wh*-questions as in (18) are never generated because there is no embedded *wh*-position.



$$(26) E \rightarrow wh + \bar{S}$$

Compare the phrase-structure rules of (26) with that posited in (16), repeated here:

$$(16) E \rightarrow kedu + \left\{ \begin{array}{c} NP \\ \bar{S} \end{array} \right\}$$

In the discussion of *kedu*-questions, it will be recalled, it was crucial to the analysis that the morpheme *kedu* be generated only in main clauses, and thus only under the E-node. In the earlier discussion, no category was assigned to *kedu*, lacking any reason to do so, but a move to integrate (26) and (16) forces a decision to treat *kedu* as an element generable under the category "*wh*," a natural result. Put another way, if we assume that phrasal categories (which includes E) do not immediately dominate terminal elements, or, nearly equivalently, that all morphemes are either assigned a word category or are parts of a unit assigned word category, then (16) *must* be more properly written as (27), where *kedu* is assigned the category *wh*.

$$(27) E \rightarrow wh + \left\{ \begin{array}{c} NP \\ \bar{S} \end{array} \right\}$$

The result that was argued above, then, for why *wh*-movement occurs only in main clauses follows from the earlier analysis of *kedu*-sentences.

## 9. A COMPARISON OF THE TWO ACCOUNTS

Two accounts have been considered, then, for how to account for the impossibility of indirect *wh*-questions. One (Section 7) is based on a filter as in (24), and the other (Section 8) follows from the earlier analysis of *kedu*-questions, along with the assumption that *wh*-movement is not achieved by movement through successive Comp positions. The simplicity and coherence of the second approach for Igbo argues in its favor.

Additional evidence points in favor of such an analysis. It was observed in Section 2 that *wh*-movement of elements such as *gini* is optional. If we assume that unmoved *wh*-elements are associated with the *wh*-position that defines their scope (following virtually all linguists who have worked on this problem (cf. [1], [8], e.g.), then the impossibility of an indirect question such as (28), in which a *wh*-word in an

embedded clause cannot be given an indirect question interpretation, is automatically accounted for, since there is no embedded *wh*-position to associate it with.<sup>2</sup>

- (28) \*O julu  $\left\{ \begin{array}{c} \text{na} \\ \text{ma} \\ \emptyset \end{array} \right\}$  i lilu gini.

He asked *comp* you ate what.

## 10. DISCUSSION

The discussion of *wh*-movement in this paper has assumed uncritically an unstated theory of unbounded movement. Let us consider the analysis of *wh*-movement in Igbo from the point of view of various approaches currently being discussed. The possibility of *wh*-movement applying over an unbounded variable is related to, but distinct from, the analysis of the nature of the Complex Noun Phrase Constraint (CNPC). In Chomsky [7], [8], an account of the CNPC is given according to which any movement, including *wh*-movement, is limited in application to cross at most one cyclic boundary (or "bounding node"). Apparent cases of unbounded movement are, on this analysis,

<sup>2</sup> The strength of this argument is not entirely clear at this point, however, since there exist languages, such as popular French, in which *wh*-words may appear initially in indirect questions, and in which *wh*-movement is optional in direct questions, but in which the *wh*-word may not be left unmoved in indirect questions. Thus the translation of (28) is also ungrammatical in popular French (i).

- (i) \*Il a demandé  $\left\{ \begin{array}{c} \text{que} \\ \text{si} \end{array} \right\}$  tu as mangé quoi.  
He asked  $\left\{ \begin{array}{c} \text{that} \\ \text{if} \end{array} \right\}$  you ate what.

While the account given for the ungrammaticality of (28) in Igbo cannot directly be transferred to French, this constitutes a vitiation only in a tortuous sense. It may be the case that some general principle applicable to both French and Igbo will account for the ungrammaticality of (28) and (i) without appealing to the unboundedness of *wh*-movement, but in the absence of any such proposal (or even a plausibility argument for such), the fact that the unbounded analysis of Section 8 extends automatically to an explanation of (28), though the filter approach (Section 7) does not, weighs in favor of the analysis of Section 8. The filter approach does not, it should be clear, since on this account, each embedded clause has a *wh*-position in it which must simply be empty at the surface because of filter (24). Nothing would prevent association, wrongly, of the *wh*-element with the embedded *wh*-position, on this account. On the filter account, the rule associating unmoved *wh*-elements with a *wh*-position could conceivably be made a root rule, on the assumption that such interpretive rules are not constrained by subadjacency (cf. Chomsky [8]), but, again, this leaves the facts unexplained.

the result of successive movement through COMP (or, in present terminology, WH) positions.

Bresnan and Grimshaw [6]<sup>3</sup> have pointed out that Chomsky's insight regarding the island-character of relative clauses and indirect *wh*-questions may be reformulated in terms of a more sophisticated notion of how two terms in a transformation may—or rather, must—be related. Bresnan and Grimshaw suggest that an apparently preposed *wh*-element is syntactically linked or "bound" to what might be construed as its underlying position in the relative clause or sentence, and it is this binding that is subject to Chomsky's notion of subadjacency. In short, an apparently preposed element may be linked indirectly through a series of COMP-positions which are thus themselves bound, extending in a chain to the position traditionally viewed as the underlying source position, as illustrated in (32).

- (32) [Who<sub>i</sub> did Bill say [<sub>S</sub> that<sub>i</sub> he thought [<sub>S</sub> that<sub>i</sub> Mary would invite e<sub>i</sub>]]]?

Both of these approaches are aimed primarily at explaining the Complex Noun Phrases Constraint, which is to say that they account for the difference in accessibility of different embedded sentences. A preposed *wh*-element cannot be linked to a position inside a complex NP (i.e., an S inside an NP) because the linkage to the lower S would cross two cyclic boundaries, the NP and the lower S, assuming that S is cyclic. Chomsky [8] suggests, furthermore, that the well-known cases in which relativization, topicalization, etc., can reach into complex NPs by the "strategy" of leaving a returning pronoun, as in (33), are in fact not cases of movement at all, or anything of the sort. He proposes that languages permitting such sentences as the equivalent of (33) (e.g., Arabic and Hebrew), generate the sentence essentially as it is on the surface, and the sentence-initial element is related to the pronoun in just the same way that any element in a discourse may be related to a pronoun. This behavior of pronouns is, of course, relatively unrestricted by strictly syntactic conditions, or so it has been assumed.

- (33) The theory<sub>i</sub> that my friend married the woman who invented it,  
...

<sup>3</sup> See also Brame [3], Hale [13], and McCloskey [16]. Although I have not made specific reference in the text, the discussion of the interpretation of null and bound anaphors in Igbo has been influenced and stimulated by Koster [14]. However, as the reader will observe, I do not believe that a satisfactory solution is available within the framework Koster proposes.



In the way I have just sketched, all current approaches to syntactic islands predict that there will be essentially two syntactic "districts": those accessible to what looks like movement and thus in a position to display a syntactic gap, and those positions not permitting such gaps. The latter are the traditional islands. Furthermore, it has been suggested, certain languages can apparently link preposed elements into positions within islands through the device of permitting the linking to be one that makes use of discourse linkage of pronouns.

Igbo, however, quite distinctly shows three levels of linkage between apparently preposed elements (*wh*-words and the heads of relative clauses). Complex Noun Phrases are unquestionably islands; no such sentences as (34), with or without returning pronouns, are possible in Igbo.

- (34) a. \*Nke-a bụ uno m maalu nwoke lulu (ya).  
This is house I know man built (it).  
'This is the house that I know the man who built (it).'
- b. \*Nke-bụ uno m maalu onye lulu (ya).  
'This is the house that I know who built (it).'

On the other hand, no returning pronoun is ever possible in direct or indirect object position, nor in subject position when no complementizer precedes, as in (35). These latter are the positions, then, of clear syntactic accessibility. Most interestingly, however, there is a third zone of positions within a sentence in which a returning third person pronoun is obligatory. These positions include determiner of a NP, a member of a coordinate NP, an object of a preposition, or a subject preceded by a complementizer. These are illustrated in (36).

- (35) Gini ka o cholu ka m mee (\*ya)?  
What *ka* (s)he want that I do (it)?  
'What does (s)he want me to do?'
- (36) a. Kedu onye i maalu afa ya? (\*... afa?)  
Kedu person you know name his?  
'Whose name do you know?'
- b. Onye ka i fulu ya na Eze?  
Who *ka* you saw him and Eze?  
'Who did you see *t* and Eze (i.e., along with Eze)?'

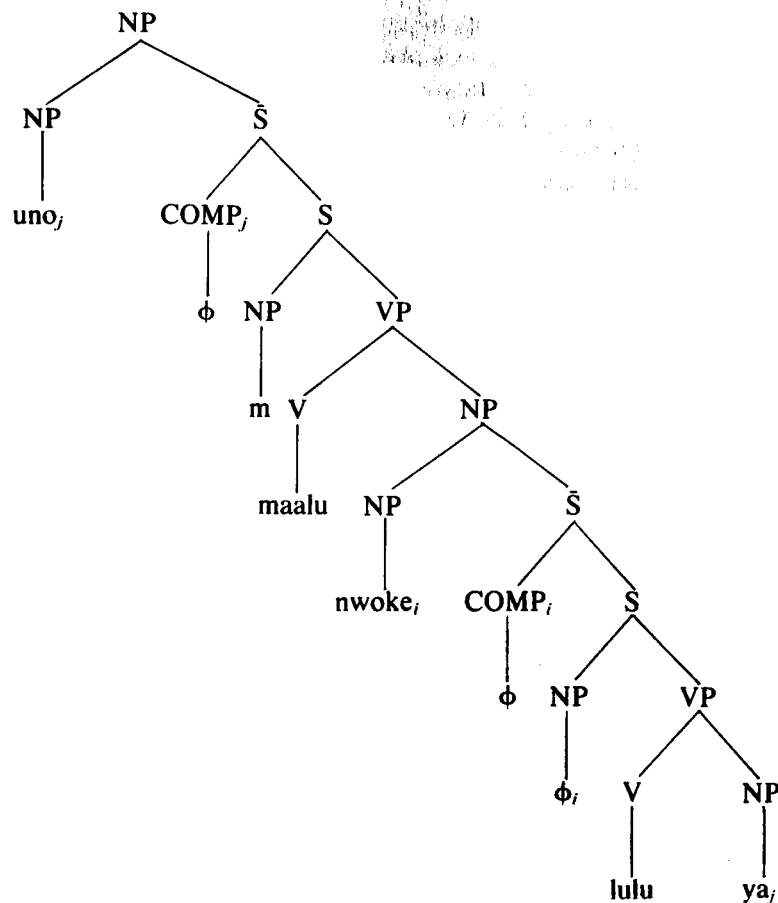
- c. Onye ka fa kwulu maka ya? (\*... kwulu maka?)  
Who *ka* they talked about him?  
'Who did they talk about?'
- d. Onye ka i cholu ka o mee ya?  
Who *ka* you want that he do it?  
'Who do you want to do it?'
- e. \*Onye ka icholu ka mee ya?

I would like to suggest that a modification of the Bresnan–Grimshaw approach can account for the distribution of facts in Igbo, whereas the sort of analysis suggested in Chomsky [8] cannot.<sup>4</sup> The crucial point is that conditions on binding between the antecedent and the anaphor may in some cases be less stringent than the conditions that permit the deletion of a bound pronoun. Thus, any pronoun not in a complex NP may be bound to an antecedent; only a small subclass of these bound pronouns, however, will then be (obligatorily) subject to deletion.

Chomsky's proposed explanation of the CNPC, it will be recalled, is that both NP and S (or  $\bar{S}$ ) are cyclic, or bounding, nodes, and that no rule may directly relate terms separated by two such cyclic boundaries. While this will correctly mark as illicit the proposed movement or binding illustrated in (37), it will also incorrectly mark as illicit the parallel case in (38), which is grammatical (cf. (36)).

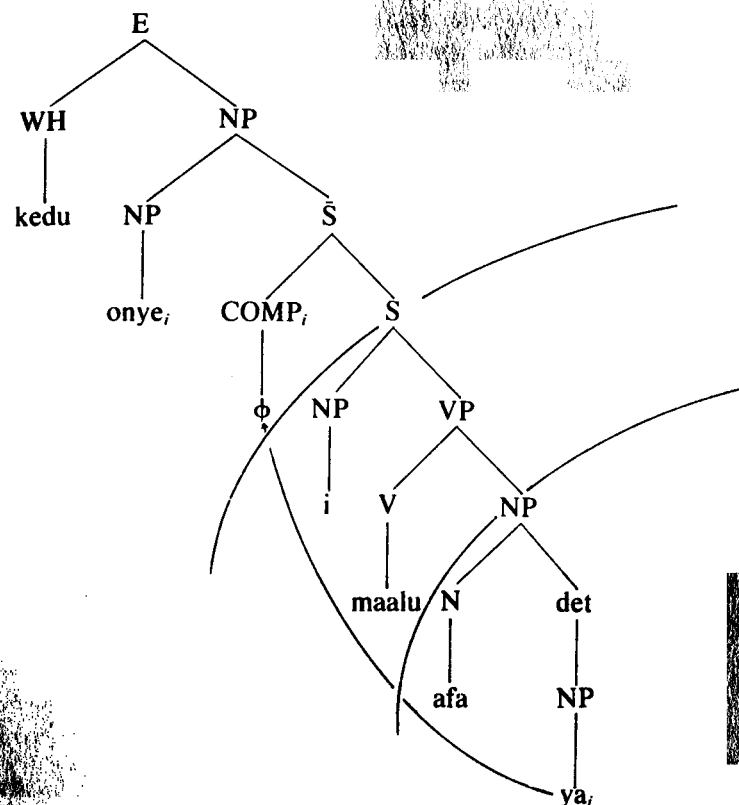
<sup>4</sup> Borer [2] attempts to treat a related phenomenon in Modern Hebrew within Chomsky's framework by the postulation of rules that "spell out" certain traces as pronouns. The partial success she achieves does not appear to carry over to the rather similar situation in Igbo, and her analysis, in any event, requires certain assumptions about the grammar that, while they may be correct, have not yet been justified, to my knowledge.

(37)



\*uno m maalu nwoke lulu ya  
 house I know man built it  
 'the house that I know the man who built it'

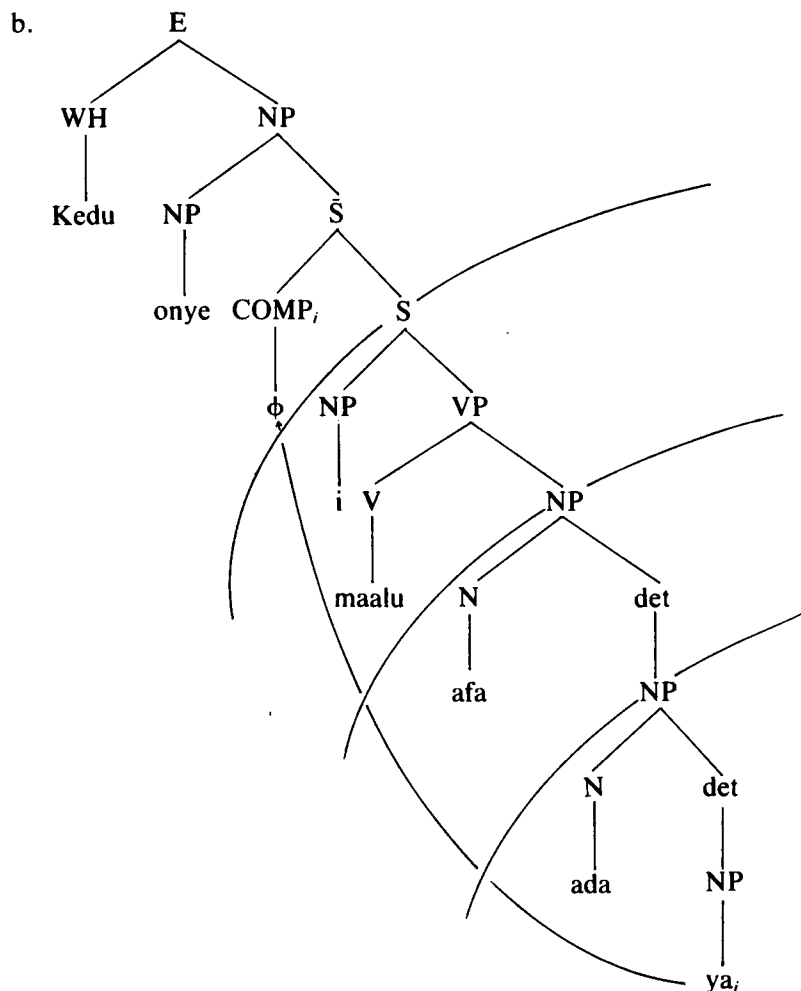
(38)



Kedu onye<sub>i</sub> i maalu afa ya<sub>i</sub>?  
 Kedu person you know name his  
 'Whose name do you know?'

In fact, any number of NP nodes within a simple S is, in principle, no obstacle to grammatical binding, as we see in (39).

- (39) a. Kedu onye i maalu afa ada ya?  
 Kedu person you know name daughter him?  
 'Whose daughter's name do you know?'



Kedu onye<sub>i</sub> i maalu afa ada ya<sub>i</sub>?

Kedu person you know name daughter his  
'Whose daughter's name do you know?'

c. Kedu onye i maalu afa di ada ya?

Kedu person you know name husband daughter his?  
'Whose daughter's husband's name do you know?'

and so on.

These facts suggest strongly, therefore, that subadjacency (under the assumption that NP is a cyclic node) is not the correct condition for determining possible binding, where we take "binding" to involve either a null NP position or a bound pronoun, since not to interpret such pronouns as bound anaphora leaves the CNPC phenomenon in (34) unaccounted for, as noted.<sup>5</sup> Subadjacency does, however, appear to be an appropriate condition on the successive binding of COMP positions.<sup>6</sup>

On these grounds, then, I suggest that the rule that coindexes successive COMPs be separated from the rule that coindexes an anaphor to the COMPs in its sentence. As we have seen, only the former is blocked by the "intervention" of an NP-node. We thus have two rules of binding, (40) and (41), followed by a rule of controlled-pronoun deletion (42). It will be noted that (42) differs from a similar (unbounded) rule of Bresnan and Grimshaw [6] in that (42) is a "bounded" rule and applies to pronouns already bound, rather than being responsible for binding NP positions. The element "+pro" refers to third person pronouns.

(40) COMP-control

$$\text{COMP}_x \dots [\alpha \dots \text{COMP} \dots] \rightarrow \text{COMP}_x \dots \text{COMP}_x$$

Condition:  $\alpha \neq \text{NP}$

(41) Pro-control

$$\text{COMP}_x \dots \left[ \alpha \dots \left[ \begin{array}{c} \text{NP} \\ +\text{pro} \end{array} \right] \dots \right] \rightarrow \text{COMP}_x \dots [+pro]_x$$

Condition:  $\alpha \neq \bar{S}$

<sup>5</sup> There is one strong argument, in fact, that returning pronouns are *not* linked to their antecedents by the usual rules operative in discourse. In Igbo (and the same type of facts holds in Arabic as well), the returning pronouns for a first or second person NP is itself always third person, as in (i).

- (i) O bu mu ka fa na ekwu maka  $\left\{ \begin{array}{c} \text{ya} \\ *mu \end{array} \right\}$ .  
It is me that they are talking about  $\left\{ \begin{array}{c} \text{him} \\ \text{me} \end{array} \right\}$ .

Normally, in a discourse, of course, one cannot refer to a previous referent of a first-person pronoun with *ya*, at least not so long as the same speaker is speaking. Thus the linkage of returning pronouns to their antecedent differs in at least one clear way from

## (42) Controlled-pro deletion

$$\text{COMP}_x \dots \left[ \alpha \dots \left[ \begin{array}{c} \text{NP} \\ +\text{pro} \end{array} \right]_x \dots \right] \rightarrow \text{COMP}_x \dots \emptyset$$

Condition:  $\alpha \neq \text{NP, PP, } \bar{S}$  (i.e.,  $\alpha \neq \bar{x}$ ).

(40)–(42) depart from familiar assumptions about rule-formulation in that they require the rule-particular statement of the degree and nature of phrasal structure that can be “vertically crossed” in relating the two terms involved in the operation. Such extensions should not be used prodigally, and in fact it is not necessary to do so. Again, in line with recent work (see, e.g., Koster [14]), a hypothesis regarding the unmarked stipulation on  $\alpha$  will considerably simplify the rules involved; the clear candidate for such an unmarked condition is that “ $\alpha \neq \bar{x}$ ,” i.e., that such rules cannot cross phrasal boundaries. What is most peculiar about Igbo, furthermore, is that the rules of pro-control and pro-deletion do not coincide with respect to the syntactic domains accessible to them. Yet that is the case.

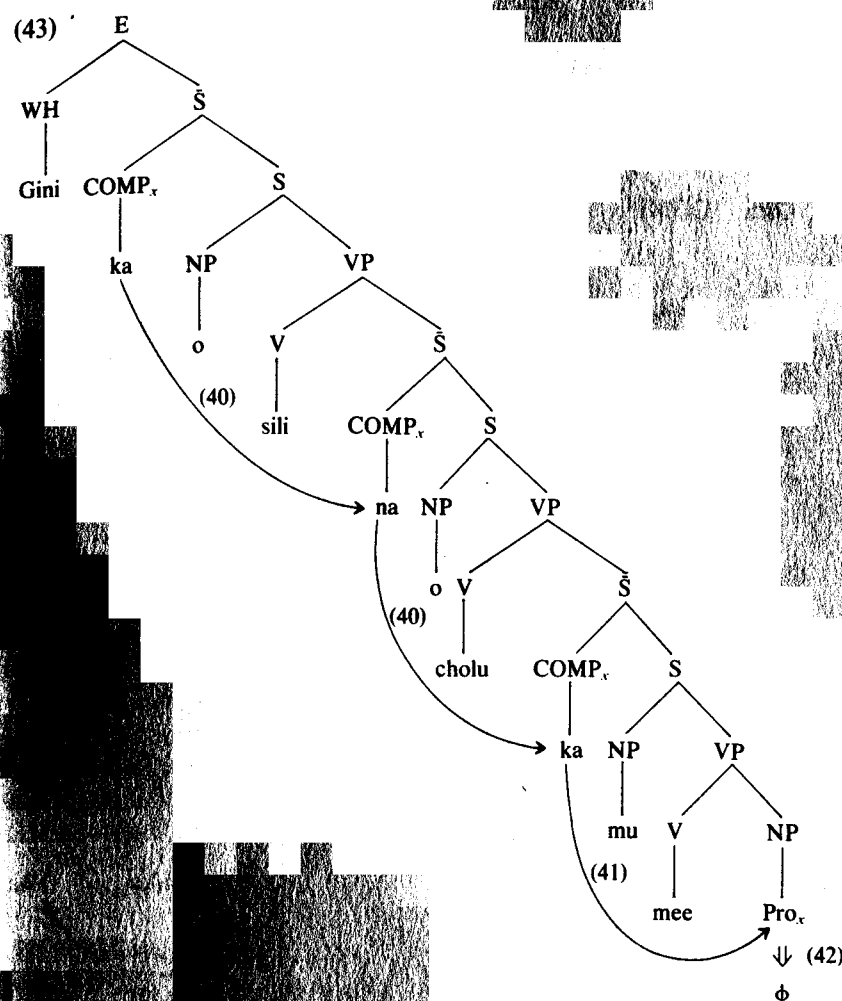
Thus (40), by permitting binding across an  $\bar{S}$ , though not an NP, permits “unbounded” effects via COMP-to-COMP binding. (41), by permitting binding across any phrasal boundary except  $\bar{S}$ , permits binding into any position within a clause. (42), however, need have no language-specific statement in its formulation; no phrasal boundary may intervene between the COMP and the pronoun being deleted.

The effects of these rules are illustrated in (43)–(45). In (43), COMP-control (40) coindexes successive COMP positions; (41) Pro-control coindexes the pronoun in place, and (42) deletes that controlled pronoun. In the next illustration, (44), the situation differs in that the controlled pronoun cannot be deleted by (42), although it is controlled by the combined effects of (40) and (41). Finally, in (45), no binding can reach into a complex NP because (40) cannot apply, nor can (41). In that case, the failure to bind the highest Comp node to a position within the sentence leads to an ill-formed (syntactico-) logical form.<sup>7</sup>

the use of discourse pronouns. Significantly, returning pronouns in true islands in Arabic share this characteristic (see footnote 6).

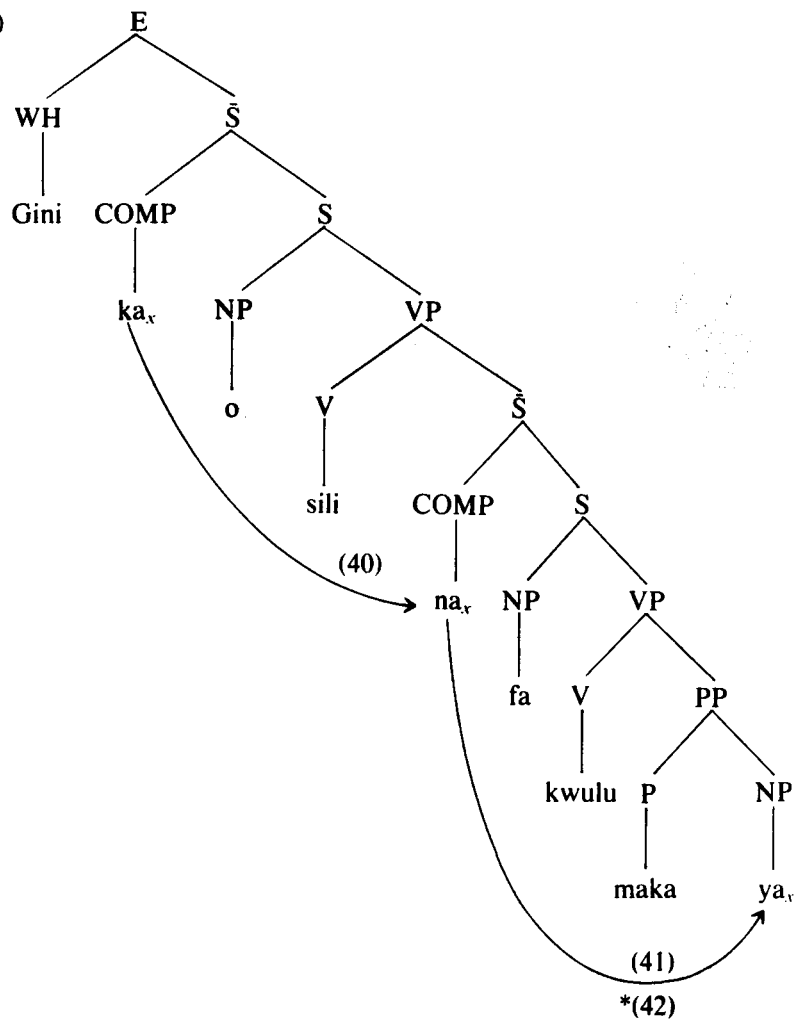
<sup>6</sup> This is, however, little more than an abstract restatement of Ross' original Complex Noun Phrase Constraint [18].

<sup>7</sup> I would speculate that such binding must be effected by the rule-types formulated here, and that languages like Arabic and Hebrew are not typologically different from Igbo. I presume, that is, that the rule of Pro-control in Arabic relative clauses differs from (41) simply in having *no* condition on  $\alpha$ . Arabic would retain (42), and possibly (40) as well, though (40) may be lexically governed. See footnote 4 as well.



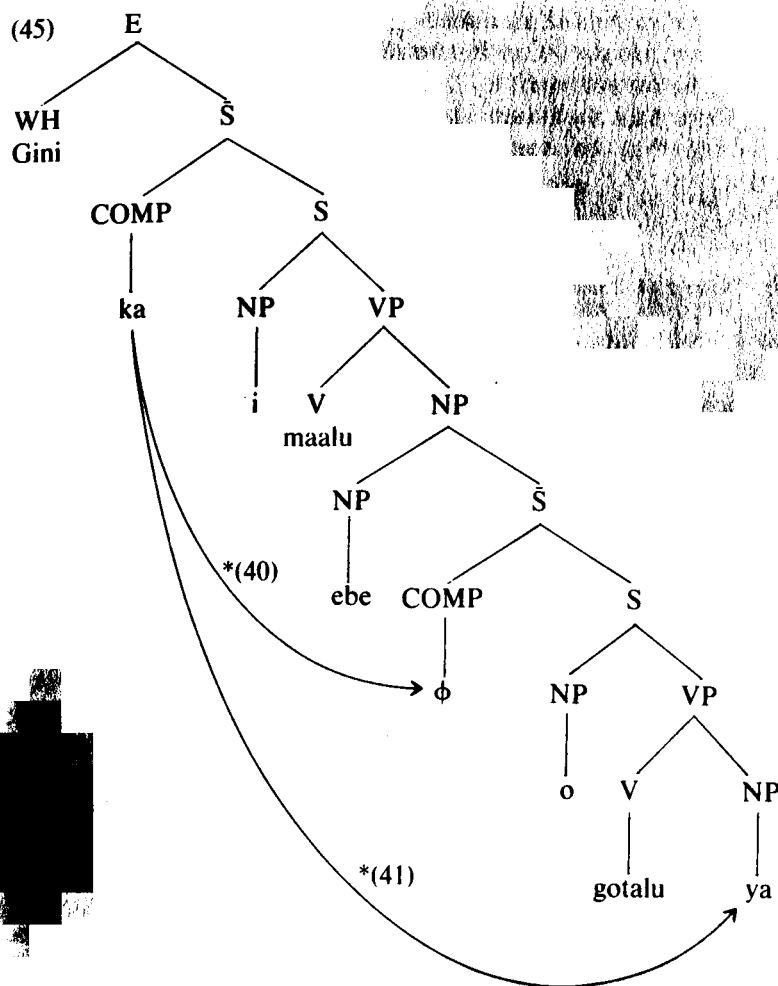
Gini ka<sub>x</sub> o sili na<sub>x</sub> o cholu ka<sub>x</sub> mu mee?  
 What that he said that she wants that I do?  
 'What did he say that she wanted me to do?'

(44)



Gini ka o sili na fa kwulu maka ya?  
 'What did he say that they talked about (*lit.*, it)?'

(45)



\*Gini ka i maalu ebe o gotalu (ya)?  
 'What do you know where he bought (it)?'

Finally, let us return to the problem illustrated by (36d). Any subject position not in a complex NP is potentially accessible to binding, but it must appear as a pronoun (*ya*) if and only if it is preceded by a complementizer (*na, ma, ka*). Complementizers in subordinate clauses generally do not delete; *na*, however, under certain conditions that remain unclear to me, may delete, cf. (46), (47).

- (46) a. Onye ka i cholu ka o mee ya?  
Who that you want that he do it?  
'Who do you want to do it?'  
b. \*Onye ka i cholu mee ya?  
Who that you want do it?
- (47) a. Onye ka i sili melu ya?  
Who that you said did it?  
b. \*Onye ka i sili  $\begin{Bmatrix} o \\ ya \end{Bmatrix}$  melu ya?  
Who that you said he did it?

The question now poses itself: why can't the bound pronoun following the complementizer be deleted? This is the Igbo version of the "complementizer-gap" restrictions that have recently received renewed interest in the literature. Three general types of explanations have been offered: (a) a "that-trace" filter (Chomsky and Lasnik [10]), ruling out a sequence of certain complementizers plus "gap" at surface structure (i.e., following all movement and deletion rules); (b) use of a "Nominative Island Constraint" of Chomsky [9], as argued by Pesetsky [17]; and (c) constraints on the application of transformational rules, as proposed by Bresnan [5] and Goldsmith [12]. Approach (a) rules the structure out as an ill-formed surface structure; approach (b) rules the structure out as corresponding to an ill-formed logical form; and approach (c) rules the ungrammatical sentences in (46)–(47) out as violations of a constraint on a transformational deletion.

Both approaches (a) and (b) can be easily seen not to apply correctly in the Igbo case. The "that-trace" is crucially proposed within a theory in which deletions do *not* leave traces ([10], p. 453). Chomsky and Lasnik write, "Note that there is a difference between [<sub>NP</sub> e]—a category with a null content—and 'nothing'—the result of deletion. This distinction in fact follows from our assumption, throughout, that deletion removes a category with its contents." Hence, if (42) is responsible for the gap in question, the "that-trace" filter is irrelevant.

The second approach, involving the Nominative Island Constraint, is slightly more intricate, but its irrelevance is also clear. The Nominative Island Constraint marks as ill-formed sentences whose logical form contains an NP in subject position that, if "anaphoric"—i.e., bound to something—is not bound to something within its own  $\bar{S}$ . In other words, an anaphor in a subject position may not appear to be unbound when viewed from the confines of its own  $\bar{S}$ . Pesetsky [17]

suggests that sequences of complementizer followed by trace in English, and certain other languages, may be ill-formed if the language in question does not permit both a specified *wh*-position and a filled Complementizer position. He suggests that in such a language, it is the *wh*-position, rather than the Comp itself, which is the "anaphoric link" between the antecedent and the bound anaphor. If the presence of the complementizer forces the deletion of the *wh*-position (or its contents), then the nominative anaphor will end up without any element within the  $\bar{S}$  to which it is bound.

Igbo has no prohibition per se against sentences with both filled *wh*-positions and Comp-positions. (1a) is an example of such a sentence. On an analysis along the lines of [17], a filter like (24) would be hypothesized. This, in turn, would predict that movement from the subject position of an embedded clause will never be possible when an anaphor is left behind, because such an anaphor will never be bound to a preceding *wh*-position within its own clause, thus violating the Nominative Island Constraint.

Hence if third person pronouns are anaphors and gaps are not, as I have suggested, this analysis predicts that (46a), which is good, is bad, and it is consistent with (47a) being either grammatical or ungrammatical, depending on the order of application of (42) Pro-deletion and the required *wh*-position deletion (the Igbo correspondent of free deletion in Comp). If both gaps and pronouns are considered to be anaphors, then this approach definitely predicts, wrongly, that (47a) will be ungrammatical.

If we consider the third approach to the analysis of sentences (46)–(47), in which the subject pronouns may not delete because of a constraint on the application of transformational rules when the element affected is adjacent to a complementizer, no problems arise parallel to those we have considered to this point. (41) Pro-control may apply to elements in subject position because it is not strictly a transformation, but rather affects coreferential indices. The No-Complementizer Condition as formulated in [12] correctly predicts that such pronouns may not delete when and only when the preceding complementizer deletes.<sup>8</sup>

<sup>8</sup> Bresnan's Complementizer Constraint [5] is specifically formulated to apply when a syntactic variable spans the distance between the two terms of the transformation, and this span, furthermore, must be nonnull. Such a condition is not met in the case of (42), and hence the formulation of the No-Complementizer Condition of [12] is preferred for the data discussed here. The approaches agree essentially, however, in ascribing the constraint to a condition on rule-application. It is worth noting that these facts also serve as a nearly insuperable obstacle to reinterpretation of the No-Complementizer Condition as a condition on interpretation, as Dubuisson and Lefebvre [11] propose.

## 11. CONCLUSION

We have discussed several aspects of the syntax of Igbo, a Kwa language of Nigeria, and presented several arguments for a bifurcation of “*wh*-questions” in Igbo into two quite different constructions. Both constructions, however, obey the same conditions on NP accessibility, and we have argued that the three zones of accessibility—free access with an NP gap, access with a returning pronoun, and inaccessibility in complex NPs—supports a view of unbounded transformational effects similar to Bresnan and Grimshaw [6]. We furthermore argued that the restrictions on gaps after the overt complementizer supports the No-Complementizer Condition as a condition on rule application, as proposed in [12].

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