Igbo bipositional verbs in a syntactic theory of argument structure

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1. Some Igbo verb types

Igbo verbs of the type represented in (1) below project the simplest verbal argument structure in the language. They belong to the class which corresponds closely to the “intransitive”, or “monadic”, predicatives of Indo-European languages, for instance:

(1) (a) Ọbá à wa-ra a-wá.
    gourd this split-Asp Nom-split
    ‘This gourd has been/is split open’
(b) Ẹbelé è rha-ra a-rhá.
    calabash this fall-Asp Nom-fall
    ‘This calabash is fallen [i.e. is on the ground after falling there]’
(c) Ọkúkó ahú fu-rú a-fú.
    hen that exit-Asp Nom-exit
    ‘That hen went out/exit’

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It is a well-known Igbo characteristic that a verb in the \(-rV\) form (as here) typically has a complement at s-structure (cf. Eménejuj 1984, Nwáchukwu 1987). In (1a-c), this requirement is met by post-verbal copies of the verbs themselves: the so-called “bound verb complements” of the Igbo grammatical tradition. Setting this feature aside for the moment, take these verbs to be basically monadic — they are thematically monadic in the sense that, while they take two overt syntactic arguments, only one of these, the s-structure subject (\(\text{ọbụ, ọkụko}\)), is a thematic argument associated with a theta-role in the traditionally understood sense.

In addition to monadic verbs of the sort illustrated in (1), Igbo has an impressive range of dyadic and triadic verb types as well (see Nwáchukwu 1987). In this paper, we are concerned primarily with four kinds of verb, exemplified in (2).

Each of these sentences presents a particular problem in Igbo grammar. Sentences (2a-c) all contain a bipositional verb (or “\(V-V\) compound”) which has causative semantics. Igbo bipositional verbs are the main Igbo equivalent of the serial construction found in many other Kwa languages (see Lord 1975); their make-up and derivation will be of interest to us as we proceed. Sentence (2d) contains a stative predicate comprising a verb root plus an inherent complement; the notional meaning is adjectival.

(2) (a) \(\text{Ẹzè ụk-
wa-ra ọbà.}\)
    \(\text{Ẹzè knock-splitt-Asp gourd}
    \text{‘Ẹzè split the gourd open (by knocking it, not necessarily directly)’}\)

(b) \(\text{Ẹzè zo-
wa-ra ọbà (n’ụkwụ).}\)
    \(\text{Ẹzè stomp-splitt-Asp gourd at leg}
    \text{‘Ẹzè split the gourd open (by stomping on it)’}\)

(c) \(\text{Ẹzè ụk-
fu-rjọ ọbà n’ezí.}\)
    \(\text{Ẹzè knock-exit-Asp gourd at yard}
    \text{‘Ẹzè knocked the gourd into/out of the yard’}\)

(d) \(\text{Eghu à vu-
u iù.}\)
    \(\text{goat this fat-Asp fatness}
    \text{‘This goat is fat’ [lit. ‘fats fatness’ or perhaps ‘carries weight on it’]}\)

We will address four problems in relation to these verbs. First, the bipositional verb of (2a), like English break, split has both the transitive form given here and also an intransitive, or “anti-causative”, form as in (3):\(^1\)

(3) \(\text{Obà à ụk-
wa-ra a-ụk-
wa.}\)
    \(\text{gourd this knock-splitt-Asp Nom-knock-splitt}
    \text{‘This gourd split open (as a result of knocking)’}\)

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\(^1\)Other bipositional verbs which anticausativize in this way include: \(dù-kà ‘tear’, ọghọ-ị ‘snap in two’,
\(kpọ-ghẹ̀ ‘unlatch’, kpọ-jà ‘smash to pieces’, ụk-
zu-ẹ̀ ‘knock to rubble’, p żeby-ạ ‘lax open’, and various permutations thereof.\)

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As in the case of the monadic verbs of (1), so also in this monadic use of \(kù-
wa\) ‘to split (by knocking), the \(-rV\) form of the verb generally requires an overt s-structure complement, represented here, as in (1), by a copy of the verb which bears a nominalizing prefix.

Let us refer to the verb of (2a), and to the class it represents, as “alternating transitive” verbs — these are the “ergative” verbs of Burzio (1986) and Keyser and Roeppeer (1984). Their existence, in and of itself, is no surprise and no problem. However, the existence of an outwardly very similar class of verbs which fails to alternate is something which needs to be explained. The verb of (2b) represents just such a class, as shown by the ungrammaticality of its anticausative counterpart:\(^2\)

(4) \(\ast \text{Obà à zo-
wa-ra a-zo-
wa.}\)
    \(\text{gourd this stomp-splitt-Asp Nom-stomp-splitt}
    \text{[‘This gourd split open (as a result of stomping’)]}\)

Thus, our first problem is to explain why the alternating transitive verbs exhibit the transitivity alternation for which they are named, while verbs belonging to the class represented by (2b), \(zh-
-
wa\) ‘split by stomping’, do not. When it is necessary to distinguish them, we will refer to the latter verbs as “strict transitives”. The strict transitives of concern to us here, like the alternating transitive verbs, are compounds (bipositional verbs), a fact which will be relevant to our discussion.

The transitive location verb of (2c) presents a second problem. It is transitive only, but it is a compound of two elements, \(kù\) and \(ị\), each of which occurs elsewhere intransitively. The first component, \(kù\) ‘by knocking’, appears in the alternating transitive verb \(kù-
wa\) ‘split (by knocking)’; the second component, \(ị\) ‘exit, go out’, appears as the simple monadic verb in (1c). But the compound \(kù-
ızị\) ‘knock out, expel by knocking’ has only the transitive form. Thus, the illformedness of (5) must be explained:\(^3\)

(5) \(\ast \text{Obà à kù-
fu-rjọ n’ezí (à-kù-
-
fu).}\)
    \(\text{gourd this knock exit at yard Nom-knock-exit}
    \text{[‘This gourd got knocked into/out of the yard’]}\)

Third, the verb of (2d) represents a subclass of “inherent complement verbs” (cf. footnote 2 above). In this particular example, the “inherent complement” (IC) is a nominal based on the same stem as the verb itself. An IC differs from a “bound complement” (BC) in that it is a free noun, whereas BCs are dependent elements.

\(^2\)Other items which block the anticausative form of any bipositional verb in which they occur as the initial member include: \(kù-
(aka) ‘ladle’, kwà (aka) ‘push’, pị (aka) ‘squeeze, tà (Ọceb) ‘chew’. In all these citation forms, the parenthesized noun denoting an instrument is an “inherent complement” (IC) of the verb root. When the verb occurs by itself, the IC is obligatory, but it is excluded with a bipositional verb (Lord 1975).

\(^3\)Other roots which block the anticausative form of any bipositional in which they occur as the second member include: hà ‘enter’, địa ‘fall’, dù ‘reach’, Ṣe ‘bypass/cross’, hà ‘bend down’, pị ‘fill’, là ‘depart homewards’, nyè ‘give/for’, tụ ‘down from’.

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hare, ihìqnú, manfredi

- Igbo Bipositional Verbs

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having no function outside the verbal construction. The problem which these verbs pose is the fact that there is no “causative” variant. While the goat can ‘be fat’, there is no (monoclausal) derived causative form corresponding to ‘fatten the goat’:

(6) *Èzè [CV]-vu-úghu à ívù.
Èzè [verb root]-fat-Asp goat this fatness
[Èzè fattened this goat’]

The verb [CV]-vu-ru in (6) is entirely hypothetical. The surface form would be a compound, the first member of which has the shape [CV-]. If such causative forms existed, this initial [CV-] component could presumably be drawn from the set of verbs which regularly appear as initial members in compound verbs: gbú, kú and so on. The problem in (6) is not that the element v∞ is incapable of entering into “diathesis increasing” derivational morphology. The applied construction in (7), from Nwachukwu (1987), is perfectly well formed:

(7) ëghu à vu-(ru)-ru anyí ìvù.
goat this fat-App-Asp 1p fatness
‘This goat is fat for us’

The question is rather this. Why don’t “stative verbs” like v∞ óv∞ ‘be fat’ enter into a transitivity alternation comparable to that of the alternating transitives?

A fourth problem to be addressed, relating to cross-linguistic properties of causative verb formation, is described in the next section.

2. A cross-linguistic perspective

The above observations have parallels in other languages, as might be expected on the reasonable assumption that they reflect the operation of universal principles of grammar and lexical structure. We will exemplify this, very briefly, with observations from English.

The behavior of Igbo alternating transitives, as illustrated by (2a) and (3) corresponds exactly to that of English verbs like split and break, and to de-adjectival verbs like clear in (8):

(8) (a) She cleared the screen. cf. (2a), (3)
(b) The screen cleared.

The contrast between alternating and strict transitives is seen in minimal pairs like the following, in which the verb of (9) is an alternating transitive, while the otherwise quite similar verb of (10) is a strict transitive, cf. (2b) vs. (4):

(9) (a) The kids splashed mud on the wall.
(b) Mud splashed on the wall.
(10) (a) The kids smeared mud on the wall. cf. (2b), (4)
(b) *Mud smeared on the wall.

There is of course an “intransitive” use of these verbs, the so-called middle, as in the following sentences:

(13) (a) LI and NLLT (don’t) shelve easily.
(b) Zebra Dun saddles easily.

But this is a different matter. The point here is that there is no intransitive, or monadic, lexical alternate for any location or locatum verb; there is no lexical transitivity alternation corresponding to that associated with alternating transitives like clear, split, break. It seems reasonable to require of a theory of the lexicon that it explain this circumstance.

We take the fact represented by Igbo (2d) and (6) to be the same as the fact that English unergative verbs do not have a transitive alternant:

(14) (a) The baby sneezed. cf. (2d), (6)
(b) *I sneezed the baby.

Many English light verb constructions and fixed verb-object expressions have this characteristic as well. There are no lexical causatives corresponding to make trouble, throw a fit, gain weight, and the like. Hence (15):

(15) (a) The baby gained weight.
(b) *I gained the baby weight. (cf. I fattened the baby, got the baby fat.)

In section 3, we briefly describe the linguistic elements and principles which we believe to be at work in constraining the lexicon in the manner indicated by these Igbo and English examples. Before turning to these theoretical considerations, however, we need to point out a difference between Igbo and English, which is the fourth problem alluded to at the end of section 1 above.

The monadicity of the verbs in (1) has an additional consequence in Igbo grammar: unlike their English counterparts, none of them undergoes the causative-inchoative alternation. For example, (1a) has no causative counterpart (16):
splitting it into chunks', and so on.

As suggested, for example, by Larson (1988) in his study of the English double-object construction.

prepared [the] yam for cooking by

‘zå prepared [the] kolanut for use [by splitting it into its segmented lobes]’

We argue that (17), while transitive, is not a true causative comparable to the hypothetical *aw of (16); in fact the verb of (17) is underlyingly different in tone. As suggested by the second English gloss, (17) involves a creation verb, similar to English *bake a cake or do the dishes. In support of this interpretation, notice that (17) has no anticausative alternant parallel to (1a):

*Ojì à wa-ra a-wá.

cf. (1a)

kola this split-Asp Nom-split

The ungrammaticality of (18), with an -rV inflection, is paralleled in the perfective aspect; thus, there is a minimal contrast between (19a) and (19b) on the one hand, and between (19b) and (19c) on the other:

(19) (a) Ojì å-byà-la.

cf. (19)

kola Agr-split-Perf

‘[Some] kola has come’, i.e. ‘There is some kola ready to be presented’

(b) *Ojì å-wa-ala.

cf. (19)

kola Agr-split-Perf

(c) Ôbà a-wá-ala.

gourd Agr-split-Perf

‘[A certain] gourd has split/is broken’

These observations support the claim that wà-ra ojì in (17) is not causative, leaving the ungrammaticality of the causative form wà-ra òbà in (16) as a difference between Igbo and English, something we need to explain.

Our approach will be to account for the distinction between (16) and (17)—the fourth problem—in terms of how the universal system of lexical categories is instantiated in Igbo. This distinction is difficult to state in terms of theta-theory, since in all cases ojì ‘kola’ would presumably be assigned the role of theme. However, in the framework adopted in this paper, there are technically no theta-roles. Instead, there are just the universal categories N, V, P, A, and the projected

4And pragmatically comparable examples: Òzè wa-ra Òbà.

split-Asp gourd

[‘Ózè broke/split the gourd’]

Instead of allowing an English-type zero-derivation (from inchoative break to causative break), the causative counterpart of Igbo wa requires a bipositional verb like (2a) or (2b). However, there is a transitive verb of similar surface form, exemplified in (17):4

(17) Òzè wa-ra ójì.

split-Asp kola

‘Ózè prepared [the] kolanut’

‘Ózè prepared [the] kolanut for use [by splitting it into its segmented lobes]’

4 Observationally, perhaps the most important thing is that argument structures (unlike sentential syntactic structures) are highly constrained and limited in variety. There aren’t many different types of argument structures (configurations), and the total number of thematic arguments is very small. This is reflected in argument structure research by the fact that the number of “theta-roles” (theme, goal, agent, etc.) which have been proposed rarely exceeds a half-dozen, and that these are “assigned” according to a strict hierarchy. Furthermore, the “depth” of a lexical argument structure—where that is represented as a syntactic structure—never, so far as we know, exceeds that attributed, say, to English verb put or to the transitive verb lengthen. From this it follows that the number of “direct” arguments which a lexically basic verb can have does not exceed three (subject, direct object, indirect object).

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6 As suggested, for example, by Larson (1988) in his study of the English double-object construction.
(21) *Principles of projection*

(a) Full interpretation (phonetics, semantics);
(b) Asymmetry of syntactic relations (complement, specifier, predicate).

An issue which must be kept in mind is the typology of lexical categories or “parts of speech”. We take it to be unquestionable that a universal inventory of lexical categories is present in some sense in all natural languages. This assumption is, of course, strongly at odds with what we observe. Many languages do not have a class of adjectives (verbs or nouns serving this function); some languages lack stative verbs (nouns or adjectives taking their place); a semantic “verb” in one language might be an adposition in another, an adjective in another; and so on. We think that there is no contradiction here. Rather, languages simply vary according to how they realize these universal categories, morphophonologically speaking.

Regarding lexical property (20a), we have mentioned all Igbo verbs with the -rV inflection require a surface complement of some sort (cf. Eménanjo 1985). However, even restricting attention to complements which are free forms (i.e. excluding the “bound complement” illustrated in (1a–c) above), not every surface verb of Igbo is eventive. Consider the “stative verb” ʋu ɨvù in (2d), repeated here:

(22) Êghù à vu-ru ɨvù.

goat this fat-Asp fatness

‘This goat is fat’

Given that the complement ɨvù is a free form, if we can further ascertain that the expression vu-ru ɨvù is not eventive, then its lexical category comes into question, since if it were an instance of [V V NP] we would expect an eventive reading.

The stativity of the expression vu-ru ɨvù is readily shown by various language-internal and cross-linguistic tests. First, with a single -rV inflection it has a nonpast interpretation; for this lexical item to receive a past reading, an extra -rV inflection is needed, effectively adding an eventive interpretation.7

(23) Êghù à vu-(r)u-ɨvù.

goat this fat-Asp fatness

‘This goat was once fat (but is, necessarily, no longer fat)’

As a second test, the suffix -ghe/-ghè combines with ri ak$pù ‘eat cassava’ to form a progressive, but with vu ɨvù ‘be fat’ the same suffix gets an inchoative reading:

(24) (a) Êghù à ri ghe ak$pù.

goat this eat-Prog cassava

‘This goat is eating cassava’

7In some Northern dialects, the extra suffix needed for a past reading is -bu (Nwáchukwu 1984: 94).

8In most Northern dialects, the corresponding form has a stative auxiliary nà- plus a nominalization that is homophonous with the bound verb complement, cf. Eménanjo (1981).

Substituting a human subject Êzè in place of ëghù ‘goat’, renders (24b) infelicitous, but leaves (24a) unchanged. With other statives such as má mmà ‘be beautiful’, -ghè/-ghà yields a “activity” reading corresponding to the English gloss of (25):


Ad hà V-Prog beauty today

‘Ad hà is “being beautiful” today’ (i.e. she is acting the *prima donna*)

Another clue as to the category of Igbo “stative verbs” is their morphologi-cal makeup. Many of those described by Nwáchukwu (1984) follow the model of vu ɨvù, i.e. with a complement that is a free form cognate to the verb. For some such expressions, there exists a roughly synonymous form where the surface verb and its complement are non-cognate (26a). In another pattern (26b), the cognate verb root is replaceable by the copula, yielding a “weaker” meaning.

(26) (a) lù îlu ‘be bitter’

kù îlu ‘be bitter’

tò ūtò ‘be tall/long’

tò ogologo ‘be tall/long’

(b) má mmà ‘be beautiful’

jó njọ ‘be ugly’

djì mmà ‘be good’

djì njọ ‘be bad’

In neither subtype is the form of the complement predictable from the verb root, but the reverse direction is possible in both. Accordingly, we could imagine that Igbo “stative verbs” are lexically specified just for the complement of V, with the verb root filled in at phonetic interface. For (22), this gives a lexical item like (27):

(27) V;

{NP V

(eghu) V

AP

∅

ɨvù}

(We will modify this picture, as to the category of ɨvù, directly below.)

For many other “stative verbs”, to be sure, the verb root is not copied from the complement, nor is it replaceable with a dummy (copula), cf. (28a). However, Nwáchukwu (1984) also observes the doublet in (28b), which bridges between a noncognate verb root and a copula (dummy verb root).

(28) (a) ʋù ọnu ‘be fasting’

gbà ọnu ‘be fasting’

dhà ọgbú ‘be dumb’

dhà ngwọ́ ‘be lame’

(b) kpë ọkhù ‘be hot’

dì ọkhù ‘be hot’

íghó bipositional verbs

(b) Êghù à vu-ghe ɨvù.

goat this fat-Prog fatness

‘This goat is getting fat’ ‘This goat is fattening up’ (inchoative)
Thus, to distinguish the representation in (27) from the “dynamic event” structure \([V \cdot V \, N]\) defined in (20a), it would be enough for a learner of Igbo to notice that the verb root in very many stative examples is transparently copied from the complement, or is otherwise a copula (dummy). \(^9\)

Now, it is not exactly right to analyze ìvù, ògologo etc. as APs. (29) shows that these free forms have the distribution of NPs:

(29) (a) ìvù yá màṣ-rijí.
   fatness 3sg.Gen be.pleasing-Asp 2s
   ‘Her/his/its fatness pleases you’

(b) ògologo yá dí àögwù.
   height 3sg.Gen Copula fear
   ‘S/he is terribly tall’

As it happens, even in the absence of a copula, Igbo examples have been cited of nouns functioning as nonreferential attributes (Màdúkà 1990, cf. Êménànañjó 1978):

(30) (a) ògologo nwọké à
tallness man this
‘the tallness of this man’
OR (for some speakers) ‘this very tall man’

(b) ìnkpmkpùwlúò à
shortness house this
‘the shortness of this house’
OR (for some speakers) ‘this very short house’

As Màdúkà observes, the two readings which overlap in the forms in (30) are distinguished if a morphologically distinct attributive adjective exists, e.g.:

(31) (a) nwọké òma à
man good man this
‘this good man’

\(^9\)Nwáchukwu notes that a subset of “stative verbs”—of both cognate (i) and non-cognate (ii) types—optionally license an activity interpretation, thereby passing the progressive test, e.g.:

(i) (a) ìzè kpu ọkpu.
   ìzè wear cap
   ‘Ézè has a cap on’

(b) ìzè kpu-ghe ọkpu.
   ìzè wear-Prog cap
   ‘Ézè is putting his cap on’

(ii) (a) ìzè má akwà.
   ìzè wear cloth
   ‘Ézè has a wrapper on’

(b) ìzè ma-gha akwà.
   ìzè wear-Prog cloth
   ‘Ézè is putting his wrapper on’

If this phenomenon is parallel to what occurs in (25), it does not undermine the representation in (27), so long as there is an independent basis for treating the complement of V as a predicate. Such a basis—call it location on the body—is hinted at by Nwáchukwu’s label for this set, which has more than a dozen members: “Verbs of dressing, ornamentation and carrying: a special class” (1984: 86).

The set of morphological adjectives in Igbo is very small, including (besides òma ‘good’ and òjọ̀ ‘bad’) perhaps three other members: ìjìl ‘dark’, ìchà ‘pale’ and ụkwù ‘big’. Apart from their postnominal position, these items are distinguished by their failure to bear the tone pattern of genitive case (cf. Welmers 1973): e.g. in (31a) if òma were a noun, there should be a downstep on its second syllable.

The attributive reading of the Ns in (30) is puzzling if A and N are distinct in the Igbo lexicon; but it goes together with the predicational reading of copula+N as illustrated in (26) and (28) to suggest that at least some Igbo Ns have the categorial properties of A as defined in (20c). We are thus led to propose that the categories A and N are non-distinct in the Igbo lexicon apart from a very few items which are morphosyntactically marked. In Màdúkà’s words, “Igbo adjectives are semantically, syntactically and morphophonologically derived” (1990: 237).

To formalize this idea, consider again the definitions in (20); they partition the lexicon into a two-feature matrix, \([±\text{complement}], [±\text{predicate}]\):

(33) \[
\begin{array}{c|cc}
+\text{complement} & \text{P} & \text{V} \\
-\text{complement} & \text{A} & \text{N} \\
\end{array}
\]

In terms of natural classes, the categories V and N group together as non-subject taking; V and N can license a subject (i.e. a specifier position) only in combination with some nonlexical category such as Tense or Determiner. Again, the categories A and N share the property that they lack a complement; what distinguishes them is the ability to license a subject (i.e. the property of being a predicate) internal to the lexicon. However, Igbo abounds in apparent examples of nouns functioning predicatively, as in the class of stative verbs composed of copula + N:

(34) (b) ìmà nwọké à
goodness man this
‘the goodness of this man’

(a) ìlù ojọ̀ à
house good man this
‘this bad house’

(b) ìjọ̀ ìlù à
badness house this
‘the badness of this house’

\(^{10}\)I.e. a “functional” or closed-class category as in Fukui (1986), Abney (1987); see also footnote 13.
We have already suggested that this type can be analyzed with a null V, since it is widely held that copulas, being closed-class items, are not lexical verbs, but dummy elements which are inserted to bear inflection. Something must be said, however, about the category of the complement, since (20a) leads us to expect that an instance of [V* V NP] does not produce a predicate. We can now say that the expressions in (34) are predicative in terms of (20) just because the complement is potentially predicative, being defined in the lexicon as categorically [- complement].

The above considerations offer a way to understand the nonpast interpretation of the inflected expressions containing wá and rhá in (1a-b), repeated here:

(35) (a) Òbá á wa-ra a-wá.
    'gourd this split-Asp Nom-split'
    'This gourd has been/is split open'
(b) Ebelé e rha-ra a-rhá.
    'calabash this fall-Asp Nom-fall'
    'This calabash is fallen [i.e. is on the ground after falling there]'

This nonpast reading of -rV contrasts with the past reading of rí–rín in (36), which presumptively represents a lexical verb, i.e. [V* V NP], which is clearly eventive:

(36) (a) Ò rí–ri erí.
    3s eat-Asp Nom-eat
    'S/he ate [some pragmatically indentifiable entity]

If wá and rhá were elements of the same category as rí, we would be at a loss to explain this aspectual difference, which is systematic, and which correlates with a syntactic difference, namely that wá and rhá causativize in bipositional verbs, but rí does not. In the remainder of this paper, we will argue that something must be a predicate in order to causativize in this way; if, by hypothesis, something must be of category V to project a structure which denotes an event, then we account for the facts as stated if wá and rhá are not categorially V, but rather are A and P respectively. Before taking this step, a final comment on “stative verbs” is needed.

The definition in (20a) attributes the property of eventiveness, not to elements of the category V, but rather to expressions of the form [V* V NP], which is clearly eventive:

(37) Òchí ní tí.
    'S/he is deaf'
    cf. Òchí ‘block up’, ní tí ‘ear’

òkú nwá.
    'S/he is cradling/nursing a child'
    cf. òkú ‘scoop/ladle out’

òtí trawúzà.
    'S/he is wearing long pants'
    cf. ti’ ‘put/add’

The roots in question, cited by Nwáchukwu in “stative verbs”, involve elements which in the appropriate context can form an eventive expression. Many of these expressions, when stative, have a derived subject, and are eventive otherwise, e.g.:

(38) (a) Ò kwú ọló nítí.
    3s hang jewelry ear.Gen
    'S/he is wearing an earring' (nonpast)
    (Nwáchukwu 1984: 86)
(b) Ònú kwú-ru n’anya ọkú.
    meat hang-Asp in-eye fire-Gen
    'There is [some] meat hanging in the chimney' (nonpast)
    (Nwáchukwu 1987: 23)
(c) Ëže khwú-wa-ra ebelé yá n’oṣisí.
    Ëže hang-incep-Asp calabash 3s.Gen in tree
    'Ëže hung his calabash in [the] tree' (past)12

(39) (a) Ònú shí-ri n’òkúhù.
    meat boil-Asp on fire
    'Some meat is cooking [in a pot]' (nonpast)
    (Nwáchukwu 1987)
(b) Ëže shí-ri ònú (n’òkúhù).
    Ëže boil-Asp meat on fire
    'Ëže cooked some meat (on the stove)' (past)

The root wá undergoes the same aspectual alternation. In (1a) = (40a), it forms an AP and yields a past interpretation with the -rV suffix. In (17) = (40b) it forms a [V* V NP] and yields a past reading when combined with the same inflection:

(40) (a) Òbá á wa-ra a-wá.
    gourd this split-Asp Nom-split
    'This gourd has been/is split open'
(b) Ëže wa-ra òjí.
    split-Asp kola
    'Ëže broke/split [the] kola' (past)
    'Ëže prepared [the] kola [for use] by splitting it’

11With an animate subject, -rhá gets an eventive interpretation:

(i) (a) Ò rhá-ra árhá.
    3s fall-Asp falling
    'S/he failed’
(b) Ò rhá-ra árhá.
    3s fall-Asp falling
    'S/he [tripped and] fell’

12Parallel to (38c), Nwáchukwu (1987: 93f.) observes a half dozen other “stative verbs” whose causative requires the -ae/-aw suffix; bi’ ’inhabit’, ìbì-bi/ògbé-bi ’be leaning on’, khó ’be spread out/hung up’, kópé-gbó ’be squatting’. The relevant point is that the causative alternants of these statives have a past reading in the -rV form, i.e. they are aspectually eventive.
We consider this hypothesis to be biunique (assuming that predication is a local relation in lexical representations). Asymmetry may well follow from Full Interpretation, but these principles are conceptually distinct and we distinguish them for present purposes.

The structure depicted in (42) corresponds to the intransitive use of *kú-*wa. There is a transitive use as well, exemplified by (2a), repeated here as (44):

(44) Êzé kú-*wa-ra ògbà.

Êzé knock-split-Asp gourd

‘Èzè split the gourd open (by knocking it)’

We assume the following lexical syntactic representation of transitive *kú-*wa, with NP corresponding to the surface object (lexical subject) ògbà ‘gourd’:

(45)

As just discussed, we take the surface “verb” *wà* to belong lexically to the universal category A(djective). This category assignment is independently based on its aspectual properties, e.g. the nonpast reading (40a). In (42), *wà* appears as the complement of a head belonging to the category V. Since *wà* is an adjectival modifier, it is a predicate and must, therefore, take a subject in order to satisfy Full Interpretation.

In addition to the principle of Full Interpretation, requiring that any predicate have a subject and, vice versa, that any subject (NP in specifier position) have an XP predicating of it, (42) also illustrates the Asymmetry of Syntactic Relations, requiring the c-command relation to hold such that:

13As evidence that the BC is formed in the syntax, we offer two observations. (i) Although its structure is absolutely regular, it is a bound form. (ii) It does not readily occur in certain inflected verb forms such as the perfective, nor can it ever occur in uninflected, nominal forms like the infinitive. Of course, these facts do not tell us whether the BC lexicalizes the position of a syntactic head (an X° category) or that of a complement (an XP).

14In sentential syntax, of course, VPs are predicates and, accordingly, must have subjects. We assume that the predicate status of VP is activated by tense. This explains, for example, why a bare infinitive under a verb like consider, which does not impose a temporal interpretation, cannot function as a predicate: ‘We consider him speak lovely Igbo.’
structure subject position, specifier of IP.\textsuperscript{16}

We are now in a position to turn to a consideration of the problems introduced in the first section of the paper.

4. Particular limits on argument structures

We will begin with the third problem raised in section 1 above, namely the Igbo correlate of the fact that unergatives (like sneeze, laugh) do not participate in the transitivity alternation so freely entered into by so-called “ergative verbs” (like break, sink). We repeat (6) here as (46):

\begin{verbatim}
(46) *Ézè [CV]-vu-ru éghu à ivù.
   Ézè [verb root]-fat-Asp goat this fatness
   ['Ézè fattened this goat']
\end{verbatim}

There is apparently no Igbo verb which could take the place of the hypothetical \([CV-]\) of (46) to give a verb with the “causative” meaning indicated. We would like to argue that this fact follows from the Full Interpretation principle. The details of the argument depend on the lexical category to which \(\text{óv∞}\) belongs. In the preceding section we argued that the expression \(\text{v∞ \text{óv∞}}\) has the form \(\text{[V* V AP]}\), where the verb \(\text{is lexically empty and spelled out at the phonetic interface by a predictable CV syllable. This account implies that (46) projects as in (47):}

\begin{verbatim}
(47) (ungrammatical)
\end{verbatim}

\begin{verbatim}
V*  
\[CV-\]VP
NP \(\text{éghu}\) 'fatness'
\[\text{ívù}\] 'fat'
\end{verbatim}

Notice that (47) cannot be ruled out by Full Interpretation since, by hypothesis, \(\text{ívù}\) as an AP can license a subject in the immediately higher Spec position. Rather, we claim that (47) fails on morphological grounds, since \(\text{ívù} \text{‘fatness’}\) is a word, and not a bound root (A\textsuperscript{0}) like the \(\text{wà}\) in example (1a). In Igbo, evidently, only CV roots can incorporate; since \(\text{ívù}\) is unable to do so, the hypothetical highest verb in (47) cannot

\begin{verbatim}
\text{be licensed at PF, and the causative of }\text{vù ívù} \text{fails.}
\end{verbatim}

Next consider the impossibility of lexical causatives based on transitives.

\begin{verbatim}
(48) *Obi [CV-]kù-wa-ra Ézè òba.
   Òbì [verb root]-knock-split-Asp Òzè gourd
   ['Òbì had Òzè split the gourd open']
\end{verbatim}

Here a hypothetical matrix verb [CV-] takes as its complement the structure in (45). But this structure, notationally a V*, can have no subject, since its complement, VP, is not a lexical predicate. Hence there is no “place” for the NP Òzè, which therefore violates Full Interpretation, as does the highest V*, which cannot achieve thematic completeness (i.e., acquire a subject). The structure which would be assigned to the hypothetical complex verb of (48) is (49); the point is that the overt “verbs” kù and wà (by hypothesis, V and A) are required to form a compound and raise jointly to replace the empty V, just as in the derivation of the well-formed example (44).

\begin{verbatim}
(49) (ungrammatical)
\end{verbatim}

\begin{verbatim}
\[CV-\]VP
\[\text{NP Òba}\] \(\text{ívù}\) 'fat
\[\text{\text{ívù}}\] 'fat
\[\text{kù}\] 'split
\[\text{wà}\] 'open
\end{verbatim}

If the structure were legitimate, the verb thus created would raise and adjoin to the the matrix V. The structure is not legitimate, however, for the reasons already given. For one thing, the NP Òzè is not licensed by predication, and secondly, the VP dominated by V* is therefore not thematically complete—it cannot acquire a subject in sentential syntax, since it is not the matrix verbal projection. As before, the expression doubly violates Full Interpretation.

The sentence upon which the ill-formed (49) is based is itself well-formed, and it participates in the transitivity alternation exemplified in (50).
Although we are aware that a great deal of work remains to be done on the semantic properties of the elements, like kū and zo, which enter into the makeup of the verbs at issue here, we would like to propose a solution which appeals to semantics—specifically, to the semantic content of certain verbal components in transitive and intransitive argument structures. We think that the ability of kū-wa (50) to alternate freely is due to the circumstance that the matrix V in the transitive is entirely empty apart from categorial identification. In fact, we suggest that the entry for kū-wa is the intransitive form alone, the transitive being available as an “inescapable” option, freely available in principle—since no principle of grammar is violated by freely inserting the empty V and raising the lexical V to replace it. On this view of the matter, the observed transitivity alternation is inevitable.

By contrast, the verb zo-wa is lexically transitive: its matrix V has content and cannot be omitted. We can formalize these observations—tentatively, at least—by proposing that the lexical syntactic structure of zo-wa is not as depicted in (45), with the “lower” or complement V filled, but as depicted in (52), with zo, the first member, associated lexically with the “higher” or matrix V position:

[Diagram of the syntactic structure of zo-wa]

The syntactic difference between (45) and (52) corresponds to a semantically-pragmatic difference whose role in the formation of causative verbs in Berber has been extensively studied by Guerssel (1986). He distinguishes between two kinds of change of state, intrinsic vs. extrinsic:

If the LCS of a predicate involves intrinsicality, then the semantic role undergoing the change is external. If it involves extrinsicality, then it is internal. Introduce an agent… if and only if the change…is extrinsic.

(Guerssel 1986: 75f.)

We suggest that the change of state in (45) is intrinsic in this sense, namely that example (50b) does not entail that Èzè broke the gourd directly (he could have dropped it by accident, or even left it in a place where it was consequently broken). In (51b), by contrast, the change of state is extrinsic: Èzè’s direct participation was required in order for the gourd to break. Our tentative formalization of this difference is that the matrix verb has lexical content in (51b), but in (50b) the verb which as lexical content is the embedded verb. In both examples, of course, the final s-structure form assumed by the verb is derived by raising, as usual. In (52), representing example (51b), the adjective wa raises to replace the empty V that governs it and then further to adjoin to the overt matrix V.

English, as noted in section 2 above, presents an analogous problem, and one solution that has been suggested for that (cf. Hale and Keyser 1993) is essentially the same as that put forth here. English verbs like smear, daub, wipe, rub (mud on the wall) include as part of their lexical entries a “means” or “manner” component which is related “externally”, so to speak, and therefore implicates the external argument. We take this to mean that these manner features are lodged in the matrix V of a transitive structure. Like the matrix V of (52), that of smear and its cohorts is morphologically complex verbs with the appearance of derived transitives just like kū-wa in (50a) but which lack the expected intransitive like (50b). E.g. zo-wa:

(51) (a) Öbá à zo-wa-ra a-zo-wá.
    gourd this stomp-split-Asp Nom-stomp-split
    [‘This gourd split open (as a result of stomping)’]

(b) Èzè zo-wa-ra òbá.
    Èzè stomp-split-Asp gourd
    ‘Èzè split the gourd open (by stomping it)’
    ‘Èzè stomped the gourd open’

The alternation is accounted for, we have assumed, by simply embedding the intransitive structure (45) as the complement of an abstract verb, an option in this instance, and something which is perfectly possible in principle, given that the intransitive itself is thematically complete, having an internal subject, required by the adjectival complement. Head movement accounts for compound formation and the final forward position of the derived “causative” verb, as suggested above. While the formation of a transitive is expected in this circumstance, there is a problem of a different sort which is, in a sense, the opposite of that represented by unergatives and transitives, which resist lexical “causativization”. One part of the causative/inchoative problem in Igbo consists in the existence of a large number of morphologically complex verbs with the appearance of derived transitives just like kū-wa in (50a) but which lack the expected intransitive like (50b). E.g. zo-wa:

(50) (a) Öbá à kú-wa-ra a-kú-wá.
    gourd this knock-split-Asp Nom-knock-split
    [‘This gourd split open (as a result of knocking)’]

(b) Èzè kú-wa-ra òbá.
    Èzè knock-split-Asp gourd
    ‘Èzè split the gourd open (by knocking it)’

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For now, we have just one observation about the principles that determine which "first member" elements in verbal compounds are internally related, and which externally. In Igbo, at least, an externally related element such as *zå' does imply the involvement of a "wielded instrument", usually a body part belonging to the agent. With *zå', this instrument is *ukwụ 'leg', and it must be expressed overtly in any noncompound use of this verb root, such as (53):

(53)  Ézè zo-ro *ukwụ n'èla
     Ézè stomped-Asp leg at earth
'Ézè stamped his foot on the ground'

However, as observed by Lord (1974), *ukwụ like any other IC is suppressed as a direct argument of a bipositional verb containing *zå'. It appears in an optional PP, as shown in example (2b) above. Perhaps it is the underlying presence of an instrument IC which requires that verb roots such as *zå' be associated with the matrix "causative" verb rather than with the lower verb, forcing *zå' to be present in the lexical representation.

The next problem to be discussed has to do with "verbs" like fụ 'go out', appearing in transitive compounds like that of (2c), repeated as (54):

(54)  Ézè kụ-fụ ru-ụbà n'ezí.
     Ézè knock-exit-Asp gourd at yard
'Ézè knocked the gourd into/out of the yard'

We know from examples like (3) that the element kụ 'by knocking' does not force a verb to be transitive. It is therefore somewhat surprising to learn that the intransitive counterpart of (54) is ill-formed:

(55)  *Ọbà à kụ-fụ ru-ụbà (a-kụ-fụ),
     gourd this knock-exit-Asp gourd at yard Nom-knock-exit
'This gourd has been knocked into/out of the yard'

If the problem is not with kụ, it must be with fụ. While fụ is clearly a verb in Igbo sentential syntax, cf. (1c) above, perhaps it is not a verb lexically. If it were a preposition (P), say, we might be able to relate the Igbo fact in (55) to the apparent English parallel according to which location and locatum verbs (e.g., shelf, saddle) can only be transitive, cf. (11, 12). Let us pursue this line of thinking and explore the possibility that fụ is a lexical P realized morphologically as a verb in Igbo.

The primitive lexical category P has a pair of relevant properties, cf. (33): it takes a complement and it forms a predicate. Suppose that it is the substructure [\* P NP], i.e., P+complement, which has the predicate function, and that this takes its subject as an immediate sister, internal to the P-projection, as depicted in (31):
we need to know why it is not available with simple \( \text{\textsc{wa}} \). Otherwise, we would expect Igbo to allow transitive \( \text{\textsc{wa}} \) in the causative sense exemplified in (16) = (58), not just in the meaning of a creation verb as in (17).

A partial solution to this problem appears from inspection of the lexical structure which we posit for examples of monadic \( \text{\textsc{wa}} \) such as (1a), cf. (59):

\[
(59)\quad \begin{array}{c}
   \text{VP} \\
   \text{NP} \\
   (\text{\textsc{obi}}) \quad \text{V} \\
   \text{AP} \\
   \text{A} \\
   \text{\textsc{wa}}
\end{array}
\]

The problem posed by example (16) can now be restated: why isn’t it possible to affix an abstract V to the structure in (59), yielding (60)?

\[
(60)\quad \begin{array}{c}
   \text{V*} \\
   \text{VP} \\
   \text{NP} \\
   (\text{\textsc{obi}}) \quad \text{V} \\
   \text{AP} \\
   \text{A} \\
   \text{\textsc{wa}}
\end{array}
\]

Restating the problem in this way brings to mind a possible solution: an abstract V projecting “above” the VP-internal subject \( \text{\textsc{obi}} \) in (60) is unavailable just because there is already an abstract V in this structure, namely the V which takes AP as its complement. To exclude (60)—the causative version of (59)—it would suffice to stipulate a prohibition against recursion of abstract V, i.e. to require that one of the two verbs in (60) have content: either the lower one, as in (45) or the higher one, as in (52). Such a prohibition, however, would commit us to the view that monadic break in English does not have the lexical structure in (59); if it did, then the stipulated exclusion of (60) would incorrectly prevent break from forming a zero-derived causative. If this route is closed, how then to exclude (60)?

Recall from section 3 that the category A in Igbo appears to be lexically underspecified: the language has very few morphological adjectives, and many nouns have the lexical syntactic property of being predicates. This means that adjectives and nouns are really members of the lexical class defined in (33) above as \([-\text{complement}]\). This then implies the existence of a categorial redundancy:

\[
(61)\quad [-\text{complement}] \rightarrow [+\text{predicate}]
\]

We also observe that transitive \( \text{\textsc{wa}} \) as in (17) cannot be causative, i.e. cannot be based on a \([+\text{predicate}]\) category such as A. This implies a second redundancy:
REFERENCES


ÍGBO BIPOSITIONAL VERBS


