Ìgbo bipositional verbs in a syntactic theory of argument structure[*]

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1. Some Ìgbo verb types

Ìgbo 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", predicators of Indo-European languages, for instance:

(1)   (a) Ọ́bá à wa-ra a-wá.
           gourd this split-Asp Nom-split
           'This gourd has been/is split open'

        (b) Èbelé 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) Ọ̀kụ́kọ́ ahụ̀ fụ-rụ a-fụ́.
           hen that exit-Asp Nom-exit
           'That hen went out/exited'

It is a well known Ìgbo characteristic that a verb in the *-rV* form (as here) typically has a complement at s-structure (cf. Émḗnanjọ 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 Ìgbo grammatical tradition. Setting this feature aside for the moment, we 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 (*ọ́bà, ọ̀kụ́kọ̀*), 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), Ìgbo 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 Ìgbo grammar. Sentences (2a-c) all contain a bipositional verb (or "V-V compound") which has causative semantics. Ìgbo bipositional verbs are the main Ìgbo 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) Ézè kụ-wa-ra ọ́bà.
          Ézè knock-split-Asp gourd
          'Ézè split the gourd open (by knocking it, not necessarily directly)'

      (b) Ézè zọ-wa-ra ọ́bà (n'ụ́kwụ).
          Ézè stomp-split-Asp gourd at leg
          'Ézè split the gourd open (by stomping on it)'
          'Ézè stomped the gourd open'

      (c) Ézè kụ́-fù-rụ ọ́bà n'ezí.
          Ézè knock-exit-Asp gourd at yard
          'Ézè knocked the gourd into/out of the yard'

      (d) Éghu à vu-ru ívù.
          goat this fat-Asp fatness
          '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)   Ọ́bá à kụ-wa-ra a-kụ́-wa.
      gourd this knock-split-Asp Nom-knock-split
      'This gourd split open (as a result of knocking)'

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[1]Other bipositional verbs which anticausativize in this way include: *dọ́-ka* 'tear', *gbá-ji* 'snap in two', *kpọ̀-ghé* 'unlatch', *kpọ́-jà* 'smash to pieces', *kụ́-zē* 'knock to rubble', *pḥyá-wa* 'flay open', and various permutations thereof.

As in the case of the monadic verbs of (1), so also in this monadic use of *kụ́-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 Roeper (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)   *Ọ́bá à zọ-wa-ra a-zọ-wá
      gourd this stomp-split-Asp Nom-stomp-split
      ['This gourd split open (as a result of stomping)']

Thus, our *first* problem is to explain why the alternating transitives exhibit the transitivity alternation for which they are named, while verbs belonging to the class represented by (2b), *zọ̀-wá* '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 transitives, 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, *kụ́* and *fù*, each of which occurs elsewhere intransitively. The first component, *kụ́* 'by knocking', appears in the alternating transitive verb *kụ́-wa* 'split (by knocking)'; the second component, *fù* 'exit, go out', appears as the simple monadic verb in (1c). But the compound *kụ́-fù* 'knock out, expel by knocking' has only the transitive form. Thus, the illformedness of (5) must be explained:[3]

(5)   *Ọ́bá à kụ́-fù-rụ n'ezí (à-kụ́-fù).
      gourd this knock exit at yard Nom-knock-exit
      ['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

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[2]Other items which block the anticausative form of any bipositional verb in which they occur as the initial member include: *kú* (*aka*) 'ladle', *kwá* (*aka*) 'push', *pí* (*aka*) 'squeeze', *tà* (*éze*) '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: *bà* 'enter', *dḥà* 'fall', *dú* 'reach', *fè* 'bypass/cross', *hú* 'bend down', *jú* 'fill', *lá* 'depart homewards', *nyé* 'give/for', *tù* 'down from'.

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)   *Ézè [CV]-vu-ru éghu à ívù.
        Ézè [verb root]-fat-Asp goat this fatness
        ['Ézè 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: *gbá, kú* and so on. The problem in (6) is not that the element *vù* is incapable of entering into "diathesis increasing" derivational morphology. The applied construction in (7), from Nwachukwu (1987), is perfectly well formed:

(7)   Éghu à vu-(r)u-ru anyí ivù.
        goat this fat-App-Asp 1p fatness
        'This goat is fat for us'

The question is rather this. Why don't "stative verbs" like *vù ívù* '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 Ìgbo 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.

The behavior illustrated by (2c) and (5) is, we suspect, linguistically related to the behavior of so-called location and locatum verbs like *shelve* and *saddle*. These verbs, which are abundant in the lexicon of English, have only a transitive form, the hypothetical intransitive counterpart being quite generally ill-formed, as seen in (11) and (12):

(11)   (a) The professor shelved her books.   cf. (2c), (5)
        (b) *The books shelved.
              (cf. The books got on the shelf.)

(12)   (a) Papa saddled Zebra Dun this morning.
        (b) *Zebra Dun saddles in the morning.
              (cf. Zebra Dun gets a saddle in the morning.)

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 Ìgbo (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 Ìgbo and English examples. Before turning to these theoretical considerations, however, we need to point out a difference between Ìgbo 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 Ìgbo grammar: unlike their English counterparts, none of them undergoes the causative-inchoative alternation. For example, (1a) has no causative counterpart (16):

(16) *Ézè wa-ra ọ̀bà.
        split-Asp gourd
      ['Ézè broke/split the gourd']

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

(17) Ézè wa-ra ọ́jị.
          split-Asp kola
      'Ézè broke/split [the] kolanut'
      'Ézè 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 *wá.* 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):

(18) *Ọ́jị à wa-ra a-wá.   cf. (1a)
        kola this split-Asp Nom-split

      The ungrammaticity 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) Ọ́jị   á-bya-la.
            kola Agr-split-Perf
            '[Some] kola has come', i.e. 'There is some kola ready to be presented'

      (b) *Ọ́jị   á-wa-ala.
            kola Agr-split-Perf

      (c) Ọ́bà   a-wá-ala.
            gourd Agr-split-Perf
            '[A certain] gourd has split/is broken'

      These observations support the claim that *wà-ra ọ́jị* in (17) is not causative, leaving the ungrammaticality of the causative form *wà-ra ọ̀bà* in (16) as a difference between Ìgbo 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 Ìgbo. This distinction is difficult to state in terms of theta-theory, since in all cases *ọ́jị* '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

[4]And pragmatically comparable examples: *Ézè wa-ra jí* 'Ézè prepared [the] yam for cooking by splitting it into chunks', and so on.

structural relations of complement, specifier, predicate. These categories do, however, correspond to "semantic" relations—thus, for example, the structure [$_{V*}$V NP] as in (17) is associated with the "meaning" of *creation, manufacture, effect*, or the like, and the structure [$_{V*}$V VP] as in (2a) involves the semantic notion *cause*. Accordingly, the subject of any of these V*s is associated with the "meaning" *agent*. It is in this sense that the subject is "thematic". For the Ìgbo verbs of (1), however, we will claim that the lexical argument structure is *not* [$_{V*}$V NP], despite surface appearances. We will suggest that the basic lexical category of the root *wá* of (1a), for example, is not V, but rather (the universal category) A, or more precisely an archi-category A/N. From this categorial status, we claim, follow both its monadicity and the semantic character ("patient" or "theme") of its surface subject.

3. An elementary theory of lexical argument structure

Recent work on argument structure has taught us a number of things which are relevant to the problems being examined here.[5] 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[6]—never, so far as we know, exceeds that attributed, say, to the 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). These limits are rather mysterious, given the brute ability which humans possess to memorize impressively large numbers of semantically diverse, and often morphophonologi-cally irregular, lexical items. The limits on argument structure are perhaps doubly mysterious in the face of the human capacity to handle extraordinarily complex, multiply embedded, sentential syntactic structures, untrammeled by constraints on either length or depth. We believe that the limits on lexical argument structure derive from two fundamental aspects of grammar—namely, (i) the lexical categories (V, N, A, P) and their inherent properties cf. (20), and (ii) the principles according to which syntactic structure is projected from the lexicon, cf. (21):

(20) *Properties of lexical categories*
   (a) V takes a complement and forms an expression denoting a dynamic event;
   (b) N denotes an entity;
   (c) A is a predicate and denotes a state or attribute;
   (d) P takes a complement and forms a predicate.

[5]For particularly valuable contributions, see Grimshaw (1990), Walinska de Hackbeil (1986, 1989).
[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 contradition here. Rather, languages simply vary according to how they *realize* these universal categories, morphophonologically speaking.

Regarding lexical property (20a), we have mentioned all Ìgbo verbs with the -*rV* inflection require a surface complement of some sort (cf. Éménanjọ 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 Ìgbo is eventive. Consider the "stative verb" *vù ívù* in (2d), repeated here:

(22) Éghu à vu-ru ívù.
goat this fat-Asp fatness
'This goat is fat'

Given that the complement *ívù* is a free form, if we can further ascertain that the expression *vù-ru ívù* 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 *vù-ru ívù* 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 event interpretation:[7]

(23) Éghu à vu-(r)u-ru ívù.
goat this fat-Asp fatness
'This goat was once fat (but is, necessarily, no longer fat)'

As a second test, the suffix -*ghe*/-*gha*[8] combines with *rí akpụ* 'eat cassava' to form a progressive, but with *vù ívù* 'be fat' the same suffix gets an inchoative reading:

(24) (a) Éghu à rí-ghe akpụ.
goat this eat-Prog cassava
'This goat is eating cassava'

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

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

(b) Éghu à vu-ghe ívù.
goat this fat-Prog fatness
'This goat is getting fat' 'This goat is fattening up' (inchoative)

Substituting a human subject *Ézè* in place of *éghu* 'goat', renders (24b) infelicitous, but leaves (24a) unchanged. With other statives such as *má mmá* 'be beautiful', -*ghe*/-*gha* yields a "activity" reading corresponding to the English gloss of (25):

(25) Àdhá má-gha mmá taà.
Àdhá V-Prog beauty today
'Àdhá is "being beautiful" today' (i.e. she is acting the *prima donna*)

Another clue as to the category of Ìgbo "stative verbs" is their morphologi-cal makeup. Many of those described by Nwáchukwu (1984) follow the model of *vù ívù*, 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 ílu* | 'be bitter' | *tó ùtó* | 'be tall/long' |
| *kú ilu* | 'be bitter' | *tó ogologo* | 'be tall/long' |

(b) | *má mmá* | 'be beautiful' | *jọ njọ* | 'be ugly' |
| *dị mmá* | 'be good' | *dị 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 Ìgbo "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)
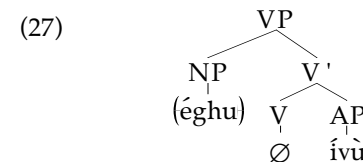
(We will modify this picture, as to the category of *ívù*, directly below.)

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) | *vú ọnụ* | 'be fasting' | *dhà ógbù* | 'be dumb' |
| *gbá ọnụ* | 'be fasting' | *dhà ngwọrọ* | 'be lame' |

(b) | *kpè ókhụ* | 'be hot' | | |
| *dị ókhụ* | 'be hot' | | |

Thus, to distinguish the representation in (27) from the "dynamic event" structure [$_{V*}$ V NP] defined in (20a), it would be enough for a learner of Ìgbo 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 *ívù, ógologo* etc. as APs. (29) shows that these free forms have the distribution of NPs:

(29)　(a) Ívù yá màsị-rị gị́.
　　　　fatness 3sg.Gen be.pleasing-Asp 2s
　　　　'Her/his/its fatness pleases you'

　　　(b) Ógologo yá dị̀ égwù.
　　　　height 3sg.Gen Copula fear
　　　　'S/he is terribly tall'

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

(30)　(a) ógologo nwoké à
　　　　tallness man this
　　　　'the tallness of this man'
　　　　OR (for some speakers) 'this very tall man'

　　　(b) ḿkpụmkpụ ụlọ́ à
　　　　shortness house this
　　　　'the shortness of this house'
　　　　OR (for some speakers) 'this very short house'

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

(31)　(a) nwoké ọma à
　　　　man good man this
　　　　'this good man'

　　　(b) ḿma nwoké à
　　　　goodness man this
　　　　'the goodness of this man'

(32)　(a) úlọ̀ ọ́jọọ́ à
　　　　house good man this
　　　　'this bad house'

　　　(b) ńjọ ụlọ́ à
　　　　badness house this
　　　　'the badness of this house'

The set of morphological adjectives in Ìgbo is very small, including (besides *ọ́ma* 'good' and *ọ́jọọ́* 'bad') perhaps three other members: *ójiì* 'dark', *ọ́cha* 'pale' and *úkwu* '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 *ọ́ma* 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 Ìgbo lexicon; but it goes together with the predicational reading of copula+N as illustrated in (26) and (28) to suggest that at least some Ìgbo 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 Ìgbo lexicon apart from a very few items which are morphosyntactically marked. In Mádụ̀ká's words, "Ìgbo 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, [± complement], [± predicate]:

(33)

	[+ predicate]	[− predicate]
[+ complement]	P	V
[− complement]	A	N

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[10] 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, Ìgbo abounds in apparent examples of nouns functioning predicatively, as in the class of stative verbs composed of copula plus N:

(34)　*dị́ anya*　'be far'　　　cf. *ánya* 'eye'
　　　dị́ ndụ̀　'be alive'　　cf. *ńdụ̀* 'life'
　　　dị́ ogologo　'be tall'　cf. *ógologo* 'length'
　　　dị́ ọ́khụ　'be hot'　　cf. *ọ́khụ* 'fire'

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[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) Ézè kpu ókpu.
　　　Ézè wear cap
　　　'Ézè has a cap on'

　　　(b) Ézè kpu-ghe ókpu.
　　　Ézè wear-Prog cap
　　　'Ézè is putting his cap on'

(ii)　(a) Ézè má akwà.
　　　Ézè wear cloth
　　　'Ézè has a wrapper on'

　　　(b) Ézè ma-gha akwà.
　　　Ézè 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).

[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 categorially [– complement].

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

(35)   (a) Ọ́bá à wa-ra a-wá.
           gourd this split-Asp Nom-split
           'This gourd has been/is split open'

       (b) Èbelé è rha-ra a-rhá.
           calabash this fall-Asp Nom-fall
           'This calabash is fallen [i.e. is on the ground after falling there]'[11]

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

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

If *wá* and *rhà* 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 *rhà* 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 *rhà* 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]. This predicts that one and the same lexical root can be eventive or stative in different syntactic contexts. (37) lists a few examples of such roots:

(37)   *Ó chì ńtị̀.*   'S/he is deaf'   cf. *chị́* 'block up', *ńtị̀* 'ear'
       Ó kù nwá.   'S/he is cradling/nursing a child'   cf. *kú* 'scoop/ladle out'
       Ó tí trawụzà.   'S/he is wearing long pants'   cf. *tí* 'put/add'

---

[11]With an animate subject, *-rhà* gets an eventive interpretation:

(i)   (a) Ó rhà-ra arhá.   (b) Ó rhà-ra árhà.
           3s fall-Asp falling   3s fall-Asp falling
           'S/he failed'   'S/he [tripped and] fell'

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) Ọ́ kwù̀ ọ̀là ńtị̀.
           3s hang jewelry ear.Gen
           'S/he is wearing an earring' (nonpast)
           (Nwáchukwu 1984: 86)

       (b) Ánụ kwù̀-rụ n'ánya ọkú.
           meat hang-Asp in-eye fire-Gen
           'There is [some] meat hanging in the chimney' (nonpast)
           (Nwáchukwu 1987: 23)

       (c) Ézè khwù̀-wa-ra ebelé yá n'osisi.
           Ézè hang-incep-Asp calabash 3s.Gen in tree
           'Ézè'hung his calabash in [the] tree' (past)[12]

(39)   (a) Ánụ shì-ri n'ọ́khụ.
           meat boil-Asp on fire
           '[Some] meat is cooking [in a pot]' (nonpast)
           (Nwáchukwu 1987)

       (b) Ézè shi-ri ánụ (n'ọ́khụ).
           Ézè boil-Asp meat on fire
           'Ézè 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 nonpast 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:
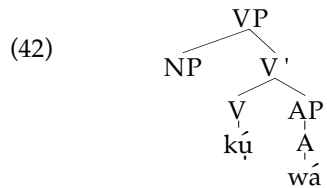
(40)   (a) Ọ́bá à wa-ra a-wá.
           gourd this split-Asp Nom-split
           'This gourd has been/is split open' (nonpast)

       (b) Ézè wa-ra ọ́jị̀.
           split-Asp kola
           'Ézè broke/split [the] kola' (past)
           'Ézè prepared [the] kola [for use] by splitting it'

Accepting that elements like *wá* and *rhà* are not categorially V, we now turn to examine the effects of the interaction of lexical categories with principles of projection in the formation of bipositional verbs in Ìgbo. Consequences of our proposal can be seen in almost any example. Consider (3), repeated here as (41):

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[12]Parallel to (38c), Nwáchukwu (1987: 93f.) observes a half dozen other "stative verbs" whose causative requires the *-we/-wa* suffix: *bì* 'inhabit', *dhà-bi/gbá-bi* 'be leaning on', *khò* 'be spread out/hung up', *kpò-ghu* 'be sitting', *túkhwù* '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.

(41)   Ọ́bá à kụ-wa-ra a-kụ́-wa.
      gourd this knock-split-Asp Nom-knock-split
      'This gourd split open (as a result of knocking)'

For now, we can set aside the BC, which is a feature of s-structure, not a lexical argument.[13] The same applies to the -*rV* suffix, glossed 'Aspect', which belongs to the system of functional projections and is not present in the lexical representation of the verb. This leaves the verb, *kụ́-wa*, and its subject. The syntactic projection defined by the verb is depicted in (42); the subject (occupying the specifier position of VP) is represented simply by the maximal projection NP, to be understood as a "positional variable" indicating the point at which lexical insertion will take place in forming the sentential syntactic representation headed by the verb:

(42)

```
            VP
          /    \
        NP      V '
              /    \
             V      AP
             |       |
            kụ́      A
                    |
                   wá
```

As just discussed, we take the surface "verb" *wá* to belong lexically to the universal category A(djective). This category assigment is independently based on its aspectual properties, e.g. the nonpast reading (40a). In (42), *wá* appears as the complement of a head belonging to the category V. Since *wá* is an adjective, it is a predicate and must, therefore, take a subject in order to satisfy Full Interpretation. Its subject appears in the immediately surperordinate specifier position, which here is [Spec, VP]. This is the only way for a V to "acquire" a subject in the lexical argument structure representation.[14] The structure in (42) is lexically complete, and therefore subject only to requirements sentential syntax—i.e., lexical insertion, to realize the subject overtly; compound formation, driven presumably by the requirement that the two "verbs" (actually V and A) *inflect* as a unit; verb raising, to I(nfl), and phonological realization of the verbal copy (the BC).

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 predicated of it, (42) also illustrates the Asymmetry of Syntactic Relations, requiring the c command relation to hold such that:

---

[13]As 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^0 category) or that of a complement (an XP).

[14]In 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 Ìgbo.*
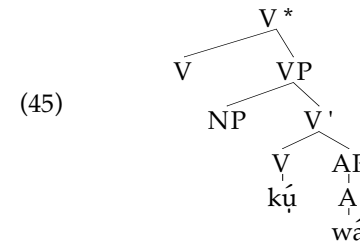
(43)   If *A* c-commands *B*, where *A* and *B* are at the same level of projection (X°, X', XP), then *B* does not c-command *A*.

It will follow from (43) that, among other things, a head may take no more than one complement and that the subject-predicate relation is 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 *kụ́-wa*. There is a transitive use as well, exemplified by (2a), repeated here as (44):

(44)   Ézè kụ-wa-ra ọ́bà.
      Ézè knock-split-Asp gourd
      'Ézè split the gourd open (by knocking it)'

We assume the following lexical syntactic representation of transitive *kụ́-wa*, with NP corresponding to the surface object (lexical subject) *ọ́bà* 'gourd':

(45)

```
            V *
          /     \
        V        VP
               /    \
             NP      V '
                   /    \
                  V      AP
                  |       |
                 kụ́      A
                         |
                        wá
```

The transitive involves an abstract V taking as its complement the intransitive VP (42). Semantically we may think of the abstract V as "implicating" the dynamic event denoted by VP, hence the meaning typically associated with the notion "cause"—(45) is thus the "causative" of (42), though for our purposes it is nothing more than the structure given. Since VP is not a lexical predicate, by (20a), the matrix V does not project a specifier (this is the sense of the asterisk, merely a notational device for a VP lacking a specifier).[15]

The derivation of the actual verb of (44) illustrates another facet of Full Interpretation. An empty V which remains as such will violate this principle at phonological interface. In this instance, the compound verb raises to replace the matrix V, at once satisfying the requirement of phonetic interpretation and positioning the overt verb in its d-structure position to the left of the internal subject NP, that is to say, the s-structure object. The latter is lexically governed in sentential syntax and accordingly, unlike the same NP in (18), does not raise to the external s-

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[15]This transitive verb, like any other, *does* acquire a subject in sentential syntax, of course, once its predicatehood is activated as suggested. The subject of a transitive is an *external* argument in every sense of the word. The d-structure position of the external argument is debatable. We assume a particular version of the VP-internal hypothesis, that represented in Koopman and Sportiche (1991) and Bittner (1994). This issue is largely irrelevant to the present discussion.

structure subject position, specifier of IP.[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 Ìgbo 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):

(46)   *Ézè [CV]-vu-ru éghu à ívù.
          Ézè [verb root]-fat-Asp goat this fatness
          ['Ézè fattened this goat']

There is apparently no Ìgbo 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 *ívù* belongs. In the preceding section we argued that the expression *vu ívù* has the form [$_{V*}$ V AP], where the verb is lexically empty and spelled out at the phonetic interface by a predictable CV syllable. This account implies that (46) projects as in (47):

(ungrammatical)

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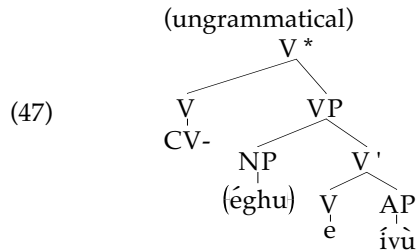
Notice that (47) cannot be ruled out by Full Interpretation since, by hypothesis, *ívù* as an AP can license a subject in the immediately higher Spec position. Rather, we claim that (47) fails on morphological grounds, since *ívù* 'fatness' is a word, and not a bound root (A[0]) like the *wá* in example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

---

[16]We have not accounted here for an important further restriction on argument structures, namely, limited depth of embedding. In terms of verbal projections in the *lexicon*, for example, the depth is not greater than that achieved by (45), so far as we can tell. If this is in fact correct, we believe that it should follow from existing principles. The principle most likely to be involved is Full Interpretation: a VP must ultimately be "thematically complete"—specfically, it must "get a subject". Since by hypothesis VP is not a lexical predicate, it can acquire an internal subject only from its complement—and a VP complement cannot contribute a subject, hence VP-recursion in the lexicon is limited. If a VP is not thematically complete in the lexicon, it must acquire its subject in sentential syntax, in which case it can only be the *matrix* VP (notationally V*) in the lexical projection.

be licensed at PF, and the causative of *vù ívù* fails.

Next consider the impossibility of lexical causatives based on transitives.

(48)   *Òbí [CV-]kù-wa-ra Ézè ọ̀bà.
          Òbí [verb root]-knock-split-Asp Ézè gourd
          ['Òbí had Ézè split the gourd open']

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 *Ézè*, 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" *kú* and *wá* (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).

(ungrammatical)

(49)
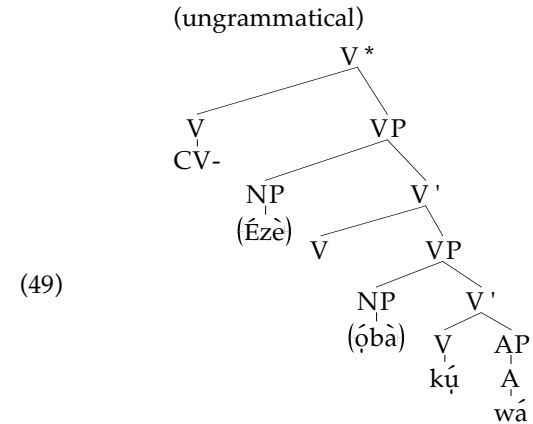
If the structure were legitimate, the verb thus created would raise and adjoin to the the matrix V. The structure is not legitimate, however, for the reasons already given. For one thing, the NP *Ézè* is not licensed by predication, and secondly, the VP dominated by V* is therefore not thematically complete—it 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).

(50)   (a) Ọ́bá à kụ-wa-ra a-kụ́-wa.
        gourd this knock-split-Asp Nom-knock-split
        'This gourd split open (as a result of knocking)'

      (b) Ézè kụ-wa-ra ọ́bà.
        Ézè knock-split-Asp gourd
   'Ézè split the gourd open (by knocking it)'

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 Ìgbo consists in the existence of a large number of morphologically complex verbs with the *appearance* of derived transitives just like *kụ́-wa* in (50a) but which *lack* the expected intransitive like (50b). E.g. *zọ̀-wá*:

(51)   (a) *Ọ́bá à zọ-wa-ra a-zọ-wá.
         gourd this stomp-split-Asp Nom-stomp-split
         ['This gourd split open (as a result of stomping)']

      (b) Ézè zọ-wa-ra ọ́bà.
        Ézè stomp-split-Asp gourd
        'Ézè split the gourd open (by stomping on it)'
        'Ézè stomped the gourd open'

Although we are aware that a great deal of work remains to be done on the semantic properties of the elements, like *kụ́* and *zọ̀*, which enter into the make-up 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 *kụ́-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 *kụ́-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 *zọ̀-wá* 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 *zọ̀-wá* is not as depicted in (45), with the "lower" or complement V filled, but as depicted in (52), with *zọ̀*, the first

member, associated lexically with the "higher" or matrix V position:

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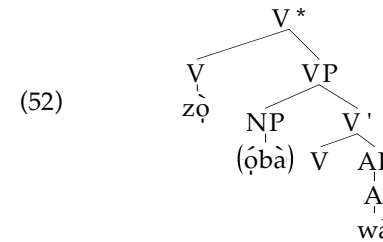
The syntactic difference between (45) and (52) corresponds to a semantico-pragmatic difference whose role in the formation of causative verbs in Berber has been extensively studied by Guerssel (1986). He distinguishes between two kinds of change of state, intrinsic vs. extrinsic:

> 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 *Ézè* 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: *Ézè*'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 *wá* raises to replace the empty verb 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 lexically present—so the verbs are consistently transitive. By contrast, verbs like *splash, drip, dribble (mud on the sidewalk)* have lexical entries which specify, or classify, the qualities and motion of the *internal* subject—the latter, therefore, is the only subject necessary for thematic completion of the verbal projection; an external argument is *not* a part of the lexical entry, therefore, and will appear only in the sentential syntax of the freely available *alternative* structure in which the overt verb raises to replace an empty V.

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 Ìgbo, at least, an externally related element such as *zọ̀* implies the involvement of a "wielded instrument", usually a body part belonging to the agent. With *zọ̀*, this instrument is *úkwụ* 'leg', and it must be expressed overtly in any noncompound use of this verb root, such as (53):

(53)   Ézè zọ-rọ úkwụ n'àla
        Ézè stomp-Asp leg at earth
        'Ézè stamped his foot on the ground'

However, as observed by Lord (1974), *úkwụ* like any other IC is suppressed as a direct argument of a bipositional verb containing *zọ̀*. 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 *zọ̀* be associated with the matrix "causative" verb rather than with the lower verb, forcing *zọ̀* to be present in the lexical representation.

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

(54)   Ézè kụ́-fụ̀-rụ ọ́bà 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 *kụ́* '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)   *Ọ́bá à kụ́-fụ̀-rụ n'ezí (à-kụ́-fụ̀).
        gourd this knock-exit-Asp at yard Nom-knock-exit
   'This gourd has been knocked into/out of the yard'

If the problem is not with *kụ́*, it must be with *fụ̀*. While *fụ̀* is clearly a verb in Ìgbo 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 Ìgbo fact in (55) to the apparent English parallel according to which location and locatum verbs (e.g., *shelve*, *saddle*) can only be transitive, cf. (11, 12). Let us pursue this line of thinking and explore the possibility that *fụ̀* is a lexical P realized morphologically as a verb in Ìgbo.

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 [$_{P'}$ 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):

(56)
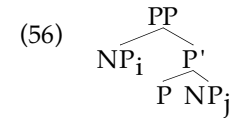
Here, the complement is represented by NP$_j$, and the internal subject, required by the predicate P', is represented by NP$_i$. If we make the assumption that the lexical requirements of P are met entirely within the projection of that category, we can account for the necessary transitivity of the verb *kụ́-fụ̀* ''knock out (of the yard)'.

Suppose that P of (56) is *fụ̀* and that the PP is embedded as the complement of a higher verb *kụ́*. The latter verb will of course c-command all of the material in PP and, crucially, it will be in the position, relative to the internal subject NP, which corresponds exactly to the circumstance in which the V+object relation holds in sentential syntax. In this sense, the structure will be transitive, necessarily. The lexical structure of the verb of (56) is accordingly that in (57):

(57)
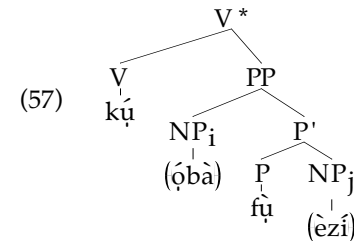
The lexical P, being a verb in Ìgbo sentential syntax, must raise and adjoin to the matrix V. It is conceivable that the semantically noncommittal surface preposition *nà* (orthographically: *n'*) is a "spelling-out" of the empty P, or trace, at the foot of the chain-defined movement of the overt verbal P when it raised to the matrix.

If (57) is a true lexical representation of the verb *kụ́-fụ̀*, then its failure to have an intransitive variant, and therefore the ill-formedness of (30), is explained. However, we are simply *assuming* that (57) is correct and, in particular, that P projects a specifier *internal* to its own categorial domain, unlike A, for example, which takes its subject *external* to its own projection. Why should these two categories differ in this way, if they do in fact? For now, we can only take comfort in the observation that Ìgbo and English behave identically under this analysis.
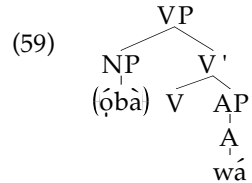
A final problem is the fact that morphologically simple inchoatives such as *wá* 'split, break' fail to causativize cf. example (16) repeated here as (58):

(58)   *Ézè wa-ra ọ́bà.
        split-Asp gourd
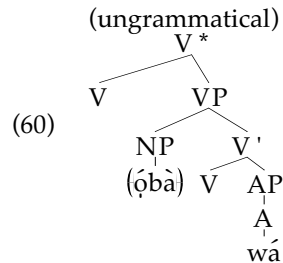   ['Ézè broke/split the gourd']

If the lexical operation affixing an abstract or empty V is not an *ad hoc* device, then

we need to know why it is not available with simple *wá*. Otherwise, we would expect Ìgbo to allow transitive *wá* 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 *wá* such as (1a), cf. (59):

(59)

```
          VP
        /    \
      NP      V'
      |      /  \
    (ọ̀bà)  V    AP
                 |
                 A
                 |
                 wá
```

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)

```
    (ungrammatical)
          V*
        /    \
      V       VP
            /    \
          NP      V'
          |      /  \
        (ọ̀bà)  V    AP
                     |
                     A
                     |
                     wá
```

Restating the problem in this way brings to mind a possible solution: an abstract V projecting "above" the VP-internal subject *ọ̀bà* 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 Ìgbo 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 [– complement]. This then implies the existence of a categorial redundancy:

(61)   [– complement]→[+ predicate]

We also observe that transitive *wá* as in (17) cannot be causative, i.e. cannot be based on a [+ predicate] category such as A. This implies a second redundancy:

(62)   [+ complement]→[– predicate]

Now, (62) cannot be a property of the entire Ìgbo lexicon, since it would incorrectly merge the category P with V. However, in surface syntax it does appear to be the case that all lexical prepositions are incorporated into verbs, aside from the case-marker *n'* seen in examples (2b,c), (38-39), (53) and discussed immediately following example (57). As support for the view that *n'* may be a syntactic casemarker and not a lexical preposition, notice that it is not semantically uniform: *n'* marks an instrument in (2b), an ambiguous source/termination point in (2c) and a nonsource/nonterminal location in (38-39). This fact counts as evidence for the claim that (62) holds in Ìgbo surface syntax, where, accordingly, the only option for interpreting transitive *wá* is as a member of the category V, i.e. forming [$_{V*}$ V NP].

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