Ígbo transitivity in a derivational framework

Victor Manfredi
African Studies Center, Boston University
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1. Lexical transitivity

According to the theory of Universal Grammar (Chomsky 1965, 6), data which may appear typologically ‘exotic’ can in principle turn round to explain previously ‘familiar’ phenomena by demanding more abstract analysis than first imagined. The work of Ken Hale sprang from this anti-Eurocentric imperative, as when he proposed a universal “lexical syntax” underlying the traditional morphological category labels noun, verb, adjective and preposition. Hale observed that canonically agentive, one-word predicates like English dance and Italian ballare, called “unergative” by Permutter (1978, 186 fn. 4, citing G. Pullum p.c.), form a natural class with their translational counterparts in Igbo and Navajo, based on shared syntactic traits such as the failure to directly causativize: *dance the child* (Hale 1966b). By UG’s rationalist logic, Hale analyzed all unergatives as lexical entities of phrasal size, namely as lexically transitive expressions noted [v* V NP], whose PF shape may be reduced at the point of morphosyntactic spellout by conjugation: [v* [v ʔ laugh] → [v [laugh] t]], But even in English, confonation leaves untouched some superficially transitive unergatives like [v* dance a jig], [v* have puppies], which are to that extent more obviously parallel to Igbo [v* -e egu], [v* -chi ọbụ]. Hale’s intuition is that, if the class of unergatives is inherently—albeit abstractly—transitive, more of its syntactic behavior is explained.

Most unergatives in most languages include a morphological V (an item directly combinable with finite inflection), despite the fact that more detonation resides in the nominal complement than in the V itself—hence the “light verb” label (Jespersen 1942). Greater diversity exists for two other types, encoding duplex relations; both of these are spelled out in Igbo as V, whereas they are respectively P and A in English, and either P or V or P and N in most other languages. Finally, a lexical item may be an atom with no relational structure at all: in most languages this is morphological N. Table (1) is lightly adapted from Hale (1995).

Because UG allows at least the freedom of spellout sampled in (1), lexical relational structure (LRS) is crosslinguistically more predictable than morphosyntactic category (pace Baker 2003). Thus, assuming that [v* -ti egu], [v ʔ -ti aya], [v p -kpa ọkụl] and [v* p -di [NP ụgụ]] represent the four LRS types in (1), distinct inflectional patterns arise in Igbo approximately as in (2).

**Tone orthography.** Throughout the Benue-Kwa (BK) branch of the Niger-Congo language family, [ ’ ] = high, [ ’ ] = low, but BK divides into two prosodic types which are suited to two different principles of marking economy. In BK2 (comprising the Gbê, Yorùbá, Nupe and Ìdòmá macro-clusters) with its ternary pitch contrast H/M/L, the most efficient marking is paradigmatic i.e. syllable-by-syllable, thus no mark = tonelessness = N (Akinlabi 1985). In BK1 (Akán, Êdó, Igbo, Tw, Cross, “Bantu” and elsewhere in BK) with binary lexical tone, the best marking is syntagmatic, i.e. computed from one syllable to the next, thus no mark = same as preceding syllable and a sequence of two marks = downstep starting on the second mark (Swift et al. 1962, 49); Welmers & Welmers 1968a, 1968b, 1969a, 1969b; cf. Roberts 2011, 84), e.g. both Êdó ìpóhù ‘old person’ and Êdó Òlùkì ‘putative supernatural’ are pronounced HH/MM. BK2 operates a limited form of downstep preceding M; this can be marked by a word-internal period, e.g. Yorùbá Òlòkun MM/MM ‘possessor/epitome of ëkun LB [the ocean]’ vs. òlòkun MM ‘possessor/epitome of ëkun MM [energy]’ and the same notation generalizes across BK to mark a non-spreading word-internal juncture in any language with automatic spreading from H onto a following L, e.g. Yorùbá òlùkùn MM/MM ‘possessor of an ëkùn LL [clay cauldron]’ vs. òlùkùn MM ‘possessor of an ëkùn LL [8-bit oracle sign]’, and Êdó nádì HH/LL ‘yesterday’ which is not pronounceable as [nádì] HH/LL, cf. Bángbọ̀gẹ̀ (1966b, 1972), Ámáyo (1976).

**Grammaticality diacритic.** An asterisk * at the end of any string denotes ungrammaticality. String-internally, an asterisk immediately after an open parenthesis *…* indicates that the parenthesized item is grammatical but its omission is ungrammatical. Caveat: the notation V* (to be read, V-star) is unrelated; this was Hale’s original label for the unergative type of lexical relational structure, and I preserve it here. 1. In Germanic, unergatives are also described to form impersonal passives (Perlmutter & Postal 1984, 107-12, citing Curme 1952, 338).


3. Hale regarded the a in the adjectival LRS as a pure formal requirement (cf. Hale & Keyser 2002, 159), but on it could denote the inchoative nature of this predicate type, which attains nondynamic Aktionart only derivatively (Guercsel 1986, 75f.; Hellwig 2010, 809f.).

4. Corrections invited. The picture in (2) becomes much more informative if dialect data are included, cf. Emènájuo (1981).
Details of (2) aside, the essential point is that Igbo keeps distinct the inflectional paradigms of all four LRS types, even though three of them share the morphosyntactic category of V, as noted in (1). If so, why? So far, the most credible, concertedly analysed couched in strictly morphological terms have failed to predict these forms on the basis of their lexical (open-class) and inflectional (closed-class) ingredients. Green & Igwé (1963), Winston (1966), Nwachukwu (1976a,b) and Clark (1989) were all forced to use diacritic homophony—a solution which is technically possible, but neither psychologically learnable nor implementable in computation (Stabler 2009) because it amounts to restating the data at hand with arbitrary, content-free affix labels -V’1, -V’2… The remaining possibility is to appeal to independently generalizations which are not taxonomic but derivationletal. i.e. stated as interactions across several autonomous components of grammar, each of which is learnable/computable in its own right.5

Appropriately indispensable in any such attempt is LRS, depending in turn on Hale’s idea that both lexicon and morphosyntax include phrasal-syntactic representations.6 Accordingly, the generalization in (2) could be that one token of -V’ occurs for every predicate—lexical or postlexical—which doesn’t c-command its subject.7 On this view, -V’ is not inherently a marker of tense, though it may incidentally translate English tense manifestations in particular examples. Instead, -V’ is a resumptive argument-type clitic licensing secondary predication (Manfredi 2005b). Applicatives, inchoative (static=dynamic) aspectual operators and remote past interpretations all plausibly count as secondary predicates, each demanding its ‘own’ -V’ by hypothesis and as observed. The availability of past or nonpast reference for a given predicate is assumed to be determined apart from morphology, by pragmatic principles of temporally-interpreted event structure quantifying over aspect.8 In sum, tense is not denoted by any inflectional morpheme per se, but is interpreted across the entire derivation, including both lexical and postlexical strata.9

A good test of the above hypothesis, and therefore of the LRS theory overall, is the derived stativity effect described in Igbo by Welmers & Welmers (1968b) and Íhionú (1988). In a multi-event (“consecutive”) serial construction like (3a), lexically dynamic, unergative [yę ’gbo ọsụ] ‘run, escape’ shows the same inflectional pattern as it does in nonserial (3b). But in a single-event (subject dependent) serial like (4a), the surface inflection of [yę ’gbo ọsụ] shifts to match that of lexically nondynamic [pp ’kìwụ ọsụ] ‘stand up’ in simplex (4b), correlated with an inflection shift from ‘run [somewhere]’ (3a) to ‘be a refugee’ (4a).10

The contrast of (3a) and (4a) shows that the basis of inflection in LRS, arguably responsible for the four -V’ paradigms in (2), is recalculated relative to the aspectual composition of the entire sentence, at least as late as the point of spellout, and does not rely on lexical structure alone, otherwise (4a) should be ungrammatical. But the converse implication also holds: morphology alone is inadequate to parse Igbo inflection, as sampled in the four columns of (2), without access to LRS representations. Monostratal (nonderivationetal) analysis fails absolutely to handle this.

The interim moral of the story is that transitivity has an inescapably lexical dimension, which happens to be reflected more transparently overall in Igbo than in English. Igbo’s unergatives like [yę ’tị egwu] are transitive both lexically and superficially, whereas many or most English unergatives shed their nominal complement by conflation at PF spellout. Thus the above data show, less that transitivity is “redundant” in Igbo (Emenam¾ 1984) than that English surface intransitives are not a privileged window onto LRS. The English situation is nevertheless learnable, thanks to bootstrapping cues like the sporadic presence of quasi-cognate objects (danc ọ, jíjí, the boogaloo…), cf. Massam (1985) and the absolute failure of unergatives to causativise (“dance the child”). Perlmutter was clever enough to isolate the unergative LRS class based on Dutch and Italian data alone, but the road from there to Hale’s theory of unergatives as LRS transitives would have been longer, and less convincing, without the help of Igbo and Navajo.

5. By definition, a derivational grammar reduces neither to a single representational stratum (a context-free phrase structure) nor to output constraints filtering random inputs (a nonstratal optimization procedure). Evidently the generative capacity of natural language falls somewhere between these extremes (Chomsky 1956, Schieber 1985), nor does this problem disappear from mere handwaving at an architecture of modular interfaces (OT etc). Given a derivation, a minimum of intermodular interaction is inescapable (Schecter 2010).


7. The first -V’ in -V’/V’ is descriptively ‘reduced’ but could inversely reflect partial spellout e.g. if -V’ is a resumptive pronoun. Here I assume that the copula -di of pure N predication is not part of the lexical entry, but merges in postlexical (i.e. functional, closed-class) syntax.


9. For a purely morphosyntactic analysis, it’s pure coincidence that all finite tokens of the -V’ suffix coincide with a so-called tone rule: Welmers’ “low tone replace” (1970, 51) process morpheme or its restatement in “autosegmental” notation (Goldsmith 1976, 121-23). This fact opens a fresh analytical possibility, that Igbo finite inflection is fundamentally prosodic, and only secondarily inflectional, in PF spellout. In other words, the primary cue to inflectional morphosyntax in Igbo is the effect of phrasal constituency on categorical pitch (“surface tone”).

10. The inchoative version of [pp ’kìwụ ọsụ], with a derived dynamic meaning, inflects with obligatory single -V’ like a basic unergative, cf. (i).

2. Morphosyntactic transitivity

Lexical Relational Structure is not just a shiny new gadget bolted on to previously existing (and slightly rusty) morphosyntactic machinery. To adopt LRS is to explicitly dismiss thematic (“theta-”) roles—a list or ordered set (“grid”) of lexical diacritics adopted by generative semanticists from the Aristotle/Frege tradition of treating argument structure as function application (Gleicher 1965; Fillmore 1968, 1969; Jackendoff 1972; Higginbotham 1985). Because theta-theory has been central to most frameworks of grammar in the past half century, its rejection has radical consequences both for the shape of UG and for analyses of particular languages.

Theta-theory has several incorrigible defects: (i) The set of thematic labels is unconstrained. Osser (1979, 89%) names at least 48 distinct “participant roles” in Sanskrit with no upper bound in sight, whereas LRS posits a small and complete set of lexical entities conforming to standard syntactic laws. (ii) The choice of which thematic labels to apply in a given sentence is arbitrary, thus there's no explicit and general way to distinguish an animate Theme from a Patient or Cause; an animate Goal from a Recipient or Experiencer; or an animate Instrument from an Agent. LRS avoids multiple labels by pushing the lion's share of thematic interpretation out of the lexical input and into semantic-pragmatic output alias LF, which is closer to linguistic performance as opposed to competence, at the interface with general cognitive or conceptual systems and not specific to grammar. (iii) Linking of thematic roles to argument positions relies on a templatic prominence hierarchy, all of whose versions (Fillmore 1968; Permutt & Postal 1984; Grimshaw 1990; Jackendoff 1990) among many others) mysteriously ape surface syntactic prominence, e.g. thematic Agent is consistently linked ‘higher’ or ‘later’ than Patient, just as a grammatical subject is necessarily merged ‘higher’ or ‘later’ than any of its objects. Given this systemic coincidence, Ocham's Razor should eliminate one or the other of the two redundant formats; either by reducing a large part of syntax to a “shell” or “cascade” of participant-role diacritics (Baker 1988; Larson 1988; Pesetsky 1994) or by treating some thematic interpretation as predictable from syntactic relationships at some level (Hale & Keyser 1993). (iv) Thematic structure is sensitive to morphosyntactic processes like aspect shift (Zuechi 1998), e.g. in Germanic and Romance the various lexical verbs meaning ‘jump’ (springen, saltar…) systematically alternate between an atelic, unergative manner of motion (John jumped in the ditch for hours) and a telic, ergative change of location (John jumped in the ditch in a split second), and in only the latter frame is the subject classed as a Theme (Hockstra & Mulder 1990, 8, cf. Carter 1977; Permutt & Postal 1984, 101f.). The same shift correlates with a change of finite auxiliary have→be, in languages which allow both possibilities; but in English where have is the only option, the only audible cue for these matched structural and thematic differences is the for→in alternation of the optional adjunct phrase diagnosing telicity (Vendler 1967). In sum, theta-roles don’t even provide a generally reliable encoding for the lexical semantic information of a given predicate, far less do they predict the interpretive effect on a given argument of its superficial morphosyntactic environment.

In defending a Fregean linkage of transitivity and theta-roles in Igbo, Nwachukwu (1987) faced the dilemma of whether to treat the so-called “inherent complement” (IC)—the nominal that accompanies a semantically light verb root as in the unergative class—as a thematic argument of thematic prominence hierarchy, or as a participant role diacritic. In effect, he chose both, analysing gbọ gbọ ‘shoot [with a gun]’ as lexically monotransitive and syntactically ditransitive: gbọ, the IC in this expression, is a “non-argument” (1987, 77), making ‘shoot’ systematically parallel in Igbo and English and so preserving translational (notional-semantic) equivalence, but at the same time on compelling syntactic grounds is assigned the interpretation of a thematic “patient” or “direct argument” (1987, 73), which is decisively un-English. So, which analysis of gbọ is correct, or how can both be true? This dilemma recalls the general problems of theta-roles reviewed above, but also fails elementary descriptive adequacy in Igbo-specific terms: Nwachukwu’s claim that inherent complements are morphosyntactic arguments but not lexical ones, predicts that the presence of an inherent complement should have no consequences for lexical transitivity, but Ihionú (1989) observes that this prediction is false. In fact Igbo has no verb taking an IC in addition to a double object (IO plus DO), plus or minus the applied object (APPL) or the BVC (see below, i.e. Igbo has no sentence with any of the linearizations in (5). Why not? Nwachukwu’s analysis can’t avoid generating these unattested strings.12

(5a.) *verbroot-rl’ IO DO IC (BVC)

b. *verbroot-V-rl’ APPL IO DO IC (BVC)

A second problem with treating Igbo transitivity as function application was observed by Éménanjo (1984). The “bound verbal complement” (BVC) is not lexically listed and not even a word in its own right. Instead, it’s generated productively at PF spellout in absolute-final position, as a sentential affix with prosodic properties reminiscent of nuclear stress (Ihionú 1989; Manfredi 2005b). The BVC’s interpretation is not invariant but depends on surface structure, thus in (6a-b) and (7a-b), it triggers a polarity focus (“emphasis”) reading similar to English affirmative do-support, giving the lexical predicate a topical or presupposed status, but in (6c) the BVC is obligatory and adds no “emphasis”—i.e. the example doesn’t mean that the container(s) were expected to be full—and is interpreted as mere “complement” or “meaning specifier… like all other complements” (Éménanjo 1984, 18). “emphasis” is also lacking in (7c), where the internal argument is reported to be merely anaphoric in context (Hale & al. 1995, 94). The fact that the BVC remains adverbial (i.e. “emphasis”) in (6b), despite the lack of an overt lexical complement to the verb, is not a problem, since—as noted by Uwalikà (1981) following Fillmore (1966)—the internal argument of gbọ and similar deictic expressions is always recoverable directly from context, whereas the same is not true for jú and tà, items which lack the special property of intrinsic deixis. In sum, the BVC’s interpretation is a matter of both lexical and surface transitivity.

(6a.) Há búsqueda orú (á-bía).
3p come-AFF work NOM-com
‘They came here to work on the farm13 (as expected)’

b. Há búsqueda (á-bía).
3p chew-AFF NOM-chew
‘They came here (as expected)’

c. Há jú-ru *[e-iù] 3p full-AFF NOM-full
‘They [i.e. the containers] are full’

7a. Há tà-ra ñíjì (á-tà).
3p chew-AFF oda asiminità NOM-chew
“They chewed oda asiminità (as expected)”

b. Há tà-ra ñÉ (á-tà).
3p chew-AFF thing NOM-chew
“They chewed chewable things (as expected)”

c. Há tà-ra *[a-tà] 3p chew-AFF NOM-chew
“They chewed pragmatically identifiable, chewable things”

12. It would be interesting to know whether Igbo-acquiring infants ever produce examples of the strings in (5), and if so, when they cease doing so parallel to the abrupt and spontaneous disappearance of causatives of unergative structures from infant production (Bowermann 1982).

13. In Igbo, farmwork is work par excellence (Igwe 1999, 695).
A third failure of Fregean (lexically diacritic) transitivity occurs in Igbo’s “V-V compounds” (Lord 1975; Êménâajo 1984, 29; Nwåchukwu 1987, 98-100; Hale & al. 1995; Williams 2007). The root -wá is not productively causative when used by itself (8a), although it does occur transitively in a range of unergative creation-type idioms of conventionalized division as in (8b), cf. Êgwê (1999, 828). However, -wá does freely and regularly occur in a causative sense (9a) in a secondary (resultative) predication with a lexically transitive expression such as -ị ụkwụ ‘tread’ (cf. 9b).

\[(8a). \text{Há wá-ra ụkwụ.} \]
\[3\text{p} \text{tread-}\text{AFF gourd} \]
\[\text{[n.b. intended reading 'They split [the] gourd is unavailable]} \]

\[(8b). \text{Há wá-ụkwụ n'ala.} \]
\[3\text{p} \text{tread-AFF leg LOC-ground} \]
\[\text{They stamped on [the] ground’} \]

As generally recognized since Lord (1974), resultative constructions like (9a), where causative transitivity is acquired positionally through secondary predication, are closely paralleled by Yorùbá and Êdo serial constructions, so much so that the respective phrase structures are presumably identical up to PF spellout, at which language-particular restrictions affect the linearization of phrase markers as PF strings (Chomsky 2001; Birnerauer & Roberts in press). In the GB-era, consensual opinion attributed Igbo’s compound form resultative linearization to a morphological rule of head movement alias “incorporation” (Baker 1989, 521 fn 4; Manfredi 1991, 149; Stewart 1998; Collins 2002, 5, cf. Baker 1988), but if that were strictly true, the two roots should spell out in reverse order yielding *Há wá-ụkwụ ụkwụ, contrary to fact (K. Hale p.c.)

Beside the characteristic linearization in (9a), Lord (1975) and Êménâajo (1984) identify a second general rule in the spellout of Igbo “V-V compounds” namely obligatory suppression of the LRS complement of V1. In whatever way it would be formulated, this deletion rule evidently doesn’t care whether the target is a unique IC (10a), an unergative nominal complement ranging across a closed set of items (10b) or an unspecified, Êménâajo-style “general complement” (10c). Such a rule can’t be limited to the lexicum unless the entire productive morphosyntax of resultative secondary predication also would be prefigured there as a homunculus, in effect stating the whole syntax of the language twice over and falling into the infinite regression of merely listing or precompiling all possible outputs for every lexical item—a mathematically impossible and cognitively unrealistic task. 

\[(10a). \text{Njú MOPOL gùbù wá-ụkwụ Yúsúfù.} \]
\[3\text{p} \text{kill and go move-grip-AFF Y.} \]
\[\text{‘The MOPOL shot Yúsúfù dead (= killed Y. by shooting)’} \]

\[(10b). \text{Hà kwú-gídehhe-ř ọ́nà.} \]
\[3\text{p} \text{speak-grip-AFF J.} \]
\[\text{‘They criticized Ńánà (= spoke against J.)’} \]

\[(10c). \text{Njú ogó na e-ří-dhá mmádhá.} \]
\[3\text{p} \text{inlaw AUX NOM cat-down human.being} \]
\[\text{‘Inlaws tend to impoverish one (= lower one by consuming one’s wealth)’} \]

The overall conclusion is that, despite the theoretically pertinent and empirically founded criticisms voiced by Êménâajo (1984), transitivity is no more “redundant” in Igbo than it is in any other language. To defend transitivity in Igbo, however, the standard GB-era framework of argument structure assumed by Nwåchukwu (1987) must be reconstructed in derivational (non-templatific) terms, such that transitivity is not split into two accidentally related notions, one for the lexicon and one for morphosyntax. Such a split only adds a further, “redundant” difficulty of its own: the need for ad hoc relinking rules such as the aforementioned promotion of the IC ęghé from a lexical “argumentation” to a syntactic “patient” (Nwåchukwu 1973, 73, 77). To avoid merely restating the problem as a diacritic rule, the two notions of transitivity—lexical and morphosyntactic, respectively—must be intrinsically connected somehow. Hale elegantly accomplished this by replacing atomic theta-roles with phrasal lexical relational structure (LRS), at the same time preserving the distinction between the two grammatical components—i.e. not as in Lexical Functional Grammar or other monostratal systems which lack a generative syntax as the engine of phrasal combination.

As briefly reviewed here, the slightly more abstract, and significantly more universal, LRS analysis of thematic structure covers a wide range of Igbo data whose complexity prompted lively but inconclusive debate between the two greatest Igbo grammarians of the post-Bifa era generation—or indeed of any generation before or since. Conversely, the Igbo case study provides a compelling example of how allegedly ‘exotic’ languages feed back dialectically to reshape the basic format of UG. Across a remarkable range of such examples discussed throughout his career, Ken Hale always insisted that both dialectical steps are essential, in order to fulfill linguistic theory’s rationalist program.

14. The idiom -wá/ji ‘perform yam harvest ritual’ may belong to a distinct lemma of -wá, denoting the concept of ‘emergence’ as in ịfụ n’ụtụ anya anya ‘sunrise’, although some notion of ‘split’ or ‘break’ may still be somehow related, given the synonymy of English daybreak.

15. Conflation cannot be equated with Distributed Morphology’s “vocabulary insertion” which occurs after spellout (Halle & Marantz 1993, 114). As to how serial constructions themselves are formed, Hale’s general critique of theta-roles played out, in the context of the Lexicon Project, as criticism of the GB/Minimalist analysis of serial verb constructions as thematic role projection alias “argument sharing” (Baker 1989; Collins 1997; Stewart 1998). An alternative, compatible with the LRS approach although never explicitly integrated with it, invoked lexical secondary predicative alias “predicate ad jonction” (Awójyá 1988; Êhùnì 1988; Manfredi 1991; Déchaine 1993a,b). The choice between these two analyses is more than a matter of theoretical taste, and has far-reaching consequences for comparative grammar (Manfredi 2005a).

16. Lord herself recognized this dilemma (1975, 47, cf. Manfredi 2005a, 5) but the theoretical tools available at the time allowed no solution.

17. This conclusion deflates the fond hope of some generativists, that sufficiently close attention to any single human language should suffice to reveal UG’s basic contours. Closer to the truth is the antithetic claim, that typological space is vast and invariants/isomorphisms are few (Keenan & Stabler 1994, 2003). This is “the nonsufficiency of [any given number of] natural languages thesis (NNLT)” (Manfredi 2001).
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