The prosodic and semantic limits of serialization in the diachronic syntax of Benue-Kwa
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Summarising and updating sections of three talks given in 2005 and posted separately here in buggy ('legacy') form:
Tense parameters and serial verbs
Aspect versus the serialization parameter
Conjoint/disjoint in western Benue-Kwa

ABSTRACT:
The serial spandrels of Benue-Kwa
On one linguistic battlefront in the postwar "mind fields" (Goldsmith & Laks 2019), generativist notations achieved "catastrophic success" (Downes 2021) by smoothly transposing the taxonomic labels of missionary-colonial scholarship into ostensibly formal categories denoting natural language 'tenses' and 'tones'. The inertial weight of translation-based glosses was effectively deployed to deflect critiques by Africanists like Welmers and Westafrican speaker-theorists like Bám̄gbóṣ́ and Awóyalé, so that traditional functional notions still entrammel synchronic modern treatments of 'serial verb' phenomena. Similarly with respect to diachrony, empirically unfounded ethnoracial ideologies like 'Bantu' were shielded by the lexicostatistic handwavings of Schadeberg and Williamson from the cogent strictures of comparatists like Greenberg and Stewart. Here is presented an alternative: to treat historical innovations of grammar as "external evidence" (Kiparsky 1973) for mind-internal representations couched in more consistently derivational terms like pitch accent and phrasal SpellOut (McCawley 1964, Chomsky 2001). Switching the metaphor from tactical warfare to fine arts: it's less plausible "to understand architecture by studying only frescoes" (Heffernan 2022) displayed on uncountable baroque spandrels (cf. Gould & Lewontin 1979) than by reconstructing the virtual *duomo* of Benue-Kwa from its supporting paradigms, briefly sampled here.

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The prosodic and semantic limits of serialization in the diachronic syntax of Benue-Kwa*
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1. Circular constructions
'Serial verb' (SVC) phenomena are standardly defined with inductive (taxonomic, e-language) characteristics (1), but vacuously so.
(i) In Yorùbá and other cognate languages, coordinating conjunction is morphologically diverse between expressions of argument type (2a) and predicate type (2b), falsifying (3a) and the neo-Fregean *Begriffschrift* that glosses natural language connectives with the propositional operators of mathematical logic (Krifka 1990, 186, Jacobsen 1996, 93*f.*, cf. Moro 1997).[1] (ii) The vaunted absence of overt conjunction—neo-Fregean or otherwise—still fails to distinguish "veiled coordinations" from "*serial verbs proper*" (Baker 1989, 514*f.* original italics), (3b).[2]

(1) a. "A serial verb construction is a succession of verbs and their complements (if any) with one subject and one tense value that are not separated by any overt *marker of coordination* or subordination."   (Collins 1997, 462 italics added)

b. "SVCs are constructions in which more than one verb appears in sequence with a single overt subject and no *markers of coordination* or subordination." (Baker & Stewart 1999, 24 italics added)

Yorùbá (Awóyalé 2008, cf. Abraham 1958, 75, 589)

(2) a. (**à-ti**) owó **à-ti** ọmọ
___ money ___ child
'(**both**) money **and** progeny'

b. kí ènìyàn-án bá ti-lè ṣubú sí-lè, kí olúwa-arẹ̀ **sì** kú
C person-FIN meet P-ground fall P-ground C ANAPH-K.3S__ die
'somebody should just fall down **and** die'

(3) a. "[W]e do not know of any languages that lack a word that is more or less synonymous with *and*, joining expressions from different syntactic (and semantic) categories—sentences, noun phrases or prepositional phrases—by using what can be seen as the same semantic operation."   (Chierchia & McConnell-Ginet 2000, 9*f.*)

b. "[I]t is legitimate to use the term 'serialization' in a broad sense referring both to 'true serialization' and 'covert conjunction' since the same principles and parameters make both structures possible."   (Baker 1989, 549*n.* 27)

The collapse of morphological criteria leaves semantic-pragmatic props, which crumble under further facts. Lord lets "consecutives" express "unspecified meaning relationships" with "interpretation left to pragmatic inference" but maps "action-result interpretation" to language-particular formats: SVCs in Yorùbá, "V-V compounds" in Ìgbo (1975, 38). O. Stewart defines "covert coordination" as "quantification over two completely separate events" notated as "separate VPs which are dominated by separate (symmetric) projections of E[vent] P[hrase]s, and …separate Voice P[hrase]s…" whereas SVCs denote "one macro-event which may be resultative *or consequential*" (1998, 23, 39, 201 italics added). The consequential loophole (cf. also Collins 1997, 485*f.*) amnesties (4a) as serial but only by breaking the erstwhile rule that serial "verbs must share external *and internal* arguments" (1998, 320 italics added), then (5a) ends up being ill-formed not because the verbs don't share an internal argument—even an "optional" one (Larson 1988, 348, Baker 1989, 537)—but because the causal ontology is farfetched. Under the looser consequential template, Ìgbo (4b) should be no less serial than Yorùbá (4a) but instead it gets lumped with (5b) as covert coordination thanks to an overriding "SVC parameter" for which Ìgbo is pre-disqualified (19a below).

Yorùbá (Awóyalé 1988, 14*f.*, Bámgbóṣé 1974, 28)
(4) a. O gba oyè kọ iwé.
2S collect title scratch paper
'You graduated from school and became literate'

Ìgbo
b. Í gà-ra skúù (wè-é) g(h)ụ-ọ akwụkwọ.
2S go-FIN school take-FIN count-FIN leaf
'You went to school and became literate'

(5) a. *O ta iṣu wá.
2S sell yam come
"[T]here is nothing wrong with the sequence of actions… One could say that the transformations deriving serial verb constructions will not be constrained from producing ill-formed sentences such as [(5a)]. This is the attitude taken by Awóbùlúyì (1967, 93*f.*). …It may be easier in some languages than others to build in syntactic constraints" (Bámgbóṣé 1974, 28 and *n.* 18)

b. Í rè-re jí (wè-é) bị a.
2S sell-FIN yam take-FIN come.FIN
'You sold [the] yams and (then) came [here]'

The abundance of "V-V compounds" in Ìgbo stoked Lord and Stewart's claim that Ìgbo lacks SVCs entirely, but more mysteries then ensue. (i) Compounds alternate with serials sporadically across *Yorùbá* dialects (6) so the choice between these formats can't be global.[3] (ii) "Ìgbo does seem to have R[esultative] SVCs underlyingly…" (Baker & Stewart 2002, 15*n.* 6, cf. Nishiyama 1998) but *contra* (7a), all compounds don't stack "multiple" roots in "the closest possible position" according to local economy of movement (Collins 2002, 9*f.*). Instead, Ìgbo compounds divide between nonreversing (8a) and reversing (9a) compared to their Yorùbá paraphrases (8b,9b), depending on the status of the second root as [± PREDICATE] (7b).[4] This feature is not legible in event or *theta* diacritics but only from the phrasal heads "conflated" at the "the lexicon-syntax interface" governing diathesis (Hale & Keyser 2000, Zubizarreta & Oh 2007 cf. Talmy 1985).

Standard Yorùbá (Awóbùlúyì 1969)
(6) a. O gbàgbé-e wọn.
2S forget-μ 3P
'You forgot (about) them'

southeast Yorùbá (Awóyalé 1996, 'S.Oyèlá.ràn *p.c.*)
b. O gbà wọ́n gbé
2S take 3P lost
'You forgot (about) them'

(7) a. "The order of verbs in a verbal compound is the same as the order of verbs in a corresponding serial construction. …As far as I know, there are no exceptions…"   (Collins 2002, 5*f.*)

b. Logical order is reversed in a compound unless the second root is [+PREDICATE]. Order-preserving (6a) is causative (formed with the the little *v* operator), order-reversing (7a) is applicative (the roots share an EPP-type subject).   (paraphrasing Ken Hale *p.c.* 1991)

Ìgbo (Lord 1975; Nwáchukwu 1987; Hale & *al.* 1995)
(8) a. Í zò-fụ-rụ há.
2S **lift-out**-FIN 3P   ←*nonreversing*→
'You hid them'

Yorùbá (Bowen 1858, 11, 32)
b. O pa wọ́n mọ́.
2S **hit** 3P **invisible**
'You hid them'

(9) a. Í rì-gbu-ru há.
2S **eat-cut**-FIN 3P   ←*reversing*→
'You cheated them'

b. O ré wọn je.
2S **cut** 3P **eat**
'You cheated them'

1. Neo-Fregean conjunctions appear in quasi-serial "pseudo" or "fake coordination" (Ross 1967, 168-70, Carden & Pesetsky 1977, Giusti & *al.* 2022).
2. Collins' diagnostic of multiple future auxes in Gbè "covert coordination" (1997, 467) may more simply be *overt* conjunction of a non(neo)Fregean type.
3. After intransitive *gbàgbé* (6a) but not transitive *gbà* (6b), a skeletal slot—the toneless mora μ—spells out a right phrase boundary (Awóyalé 2018, 389*f.*).
**4.** Beyond (9a), Ígwè (1999) attests several open sets of examples where two EPP-type roots reverse the 'serial' order of their Yorùbá quasi-translations.

(iii) If Ìgbo is for any reason declared nonserialising, the root *-jì* in (10a) must be somehow set aside e.g. as marking a grammaticalized "case relationship… [of] Instrumental" (Lord 1973, 270) in "a fixed instrumental construction" (Baker & Stewart 2002, 39*n.* 17). In fact, *-jì* optionally takes the same finite inflection in construction (10b) that it needs in isolation (11b), and parallel spellouts occur with a large and open set of stance/manner phrases (12a) built with over a dozen distinct depictive CV roots (12b) including the P-based class of (38) *infra*, all of which would have to be cloned in homophonous verb ~ casemarker pairs—a computational explosion redolent of underanalysis.[5]

Ìgbo (Welmers & Welmers 1968, 162*f.*, Winston 1973, 151*f.*, Nwáchukwu 1976b, 135, Ùwaláàka 1982, 66, Íhìọ́nụ́ 1988, Úchèchúkwu 2004)

(10) a. Í **jì** ọpị a a-b(ḥ)á jí.
2S ___ sword ASP-peel yam.GEN
'You are peeling yam(s) **with** a sword'

b. Í **jì**(-rì) ọpị a b(ḥ)á-a jí.
1S ___-FIN sword peel-FIN yam.GEN
'You peeled yam(s) **with** a sword'

(11) a. Í jì ọpị a.
2S hold sword
'You are holding a sword'

b. Í jì-ri ọpị a.
1S hold-FIN sword
'You were holding a sword'

(12) a.

-*bú ọ nụ* 'starve/fast'	-*kwú ọ tọ* 'stand upright'	
-*gbá aka* 'be emptyhanded'	-*má akwà* 'wear a loincloth'	
-*gbá motò* 'ride in a car'	-*nyà mótò* 'steer/drive a car'	
-*gbá ọ sọ* 'hasten/escape'	-*sù ákpụkpọ ụkwú* 'wear shoes'	
-*gbà ọ́là* 'wear a ring'	-*tí tiraụzà* 'wear long pants'	
-*kpú òkpú* 'wear a hat'	-*yì uwé* 'wear a uniform' […]	

b.

-*bí* 'inhabit [location]'	-*kpú* 'hold [in mouth]'
-*bú* 'carry [on head]'	-(*k*)*pú* 'drag [with rope]'
-*gbá* 'move abruptly'	-*kwọ̀* 'hold [on back]'
-*gbà* 'place onto'	-*nọ̀* 'stay [location]'
-*jì* 'hold [in one hand]'	-*sí* 'come from/via [location]'
-*kù* 'carry [in arms]'	-*sò* 'follow [moving entity]' […]

In sum, descriptive adequacy eludes 'serial verbs' as taxonomic artefacts of pre-coded semantic *homunculī* (events or *theta*-roles) arranged by a "finite-state grammar" (Chomsky 1956). The remaining possibility is that SVC phenomena are not constructions at all but "spandrels" (*scuffie*) or "pendentives" (*pennacchi*) i.e. unselected evolutionary "byproducts" (*sottoprodotti*) filling negative niches like the non-euclidean gaps between freestanding cathedral arches and domes (Gould & Lewontin 1979, figs. *infra* from Gould 1997, 10751).
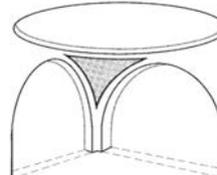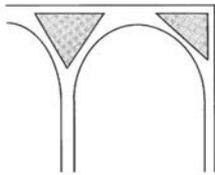
The null hypothesis—that audible (PF) and interpretive (LF) characteristics of the 'serial verb' profile vary crosslinguistically as accidental residues of available sentence derivations—is empirically fulfilled in historical outcomes (§2) and synchronic inflection (§3).

2. Species and spandrels

[O]*n peut dire que les africanistes se divisent en gros en soudanaisants et bantouisants, division dont les conséquences sont encore sensibles aujourd'hui.*
(Alexandre 1967, 31, cf. Greenberg 1949, 315)

[I]*t has proved extremely difficult to find regular sound correspondences across Èvè and Akan… It has in fact proved much less difficult to find regular sound correspondences across Akan and* [Guthrie's] *Proto-Bantu…*
(Stewart 1994, 176)

The scale of Niger-Congo in time and space has proved daunting to comparatists. Rather than attempt the heights of Neogrammarian phylogeny, "lexicostatisticians" take the low road of indexing brief bilingual wordlists (Williamson 1973, 1989, Bennett & Sterk 1977, Schadeberg 1986) although this speculative procedure accrues false negatives from stray translation error and confounds innovations with inheritance in "showy but meaningless number games" (Lunt 1964, 252, cf. Cross 1964, Ọ́nwụ ẹjịógwụ̀ 1977, Armstrong 1983, 146*f.*, Alinei 1991, Lehmann 1993, 37, Campbell 1998, 186).[6] It's equally pointless to cite "reconstructed Proto-Bantu" (Schadeberg 2003, 143) alias "the original Bantu language" (Vansina 1995, 186) or compile "lexical innovations" (Meeussen 1956, Ehret 1999) without first identifying common traits of the hypothetical "Bantu" node that don't occur more widely across West Africa as scattered archaisms—a prerequisite perpetually unfulfilled (Nurse & Philippson 2003, 5, cf. Thomas 1927, Greenberg 1972, Welmers 1973a, Gerhardt 1980, Miehe 1991, Williamson & Blench 2000, 35, Marten 2006, Bostoen & Grégoire 2007, 76).[7] Stewart found "Savanna Bantu" to be reconstructible but only by excluding Guthrie's northwest ABC zones (2002, 205), and Güldemann retreated to treating Meinhof-Guthrie "Bantu" as a "spread zone" that "cannot be well explained by genealogical inheritance" (2011, 110*f.* cf. Nichols 1992). A related riddle is how to classify the fuzzy transition euphemistically called "Semi-Bantu" (Johnston 1917, Talbot 1926, 87), "Bantoid" (Greenberg 1963a, 9) or "wide[r] Bantu" (Voorhoeve & de Wolf 1968). Pursuing Westermann's goal of uniting the Meinhof-Guthrie area with its "West Sudanic" collaterals and ancestors, Greenberg judged the "Bantu" label "irrelevant" (1949, 316 = 1963a, 37) and toppled another diachronic domino along the way: "Kwa and Benue-Congo are particularly close to each other and in fact legitimate doubts arise concerning the validity of the division between them" (1963a, 39n. 13 cf. Williamson 1971, 252).

Taking the high road instead, J. Stewart (1993, 1994, 2002) charted consonants in cognates across "Tano-Congo" (1983, 20) alias "East Volta-Congo" alias the Benue-Kwa (BK) "dialect continuum" (Williamson & Blench 2000, 17*f.*) although "few people joined him in the strict application of the comparative method to the reconstruction of West African languages" (Mous 2007, 72).[8] In contrast to faint fossil *Lautgesetze*, what's more vivid across large spans of BK is an east>west cline from agglutinating>isolating type—the same morphological trend whose idealised endpoint furnished the only (negative) criterion for a "Kwa" subgroup up to now: "In den Kwa-Sprachen herrschen

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5. Stahlke points out similar circularities in constructionist analyses of Yorùbá and Yátyè-Ìdọmà (1970, 83-87).

6. GIGO data (*en.wikipedia.org/wiki/GIGO*) can be algorithmically hashed to generate multiple Bayesian network maps (Holden & Gray 2006).

7. For Bleek the Ur-Bantuist, "Bantu" extended "as far west as Sierra Leone" (1862, 2) i.e. his sweeping usage anticipated the generic *apartheid*-era meaning of 'Black African' as in Hendrik Verwoerd's notorious neologisms *Bantoestan* and *Bantu education* (*en.wikipedia.org/wiki/Bantu_Education_Act*).

8. Tano-Congo/BK is coextensive with de Wolf's "B[enue-]C[ongo]-Kwa" (1971, 180), while Stewart's "Volta-Congo" sits one node higher in the tree, incorporating also Gur (1976, 7). The westward demographic expansion of BK may have an archaeological *terminus post quem* of "25 or 30 centuries" ago (Posnansky 1982, 265). Complexities of western BK subgroups are discussed by Capo-Chichi (2012) and Dakubu (2012, 2017).

die Stämme einfachster Form vor" (Westermann 1927, 20, cf. Williamson 1985, Hyman 2004).[9] Memorable snapshots of this kind can gather dust as souvenirs of "an archaeologist's field trip" (Givón 1971) or they can prompt a testable conjecture.

Syntactic change being slower than phonetic or affixal mutation and ranging over fewer total outcomes, some comparatists consign its output to typology and insist that "a shared typological trait… [is] not in itself sufficient evidence of genetic relationship" (Campbell & Poser 2008, 133) beyond the uniformitarian requirement that "postulated reconstructions are typologically plausible and do not imply things that are impossible or highly unlikely in human languages" (Campbell 1998, 202). Such scepticism may be suitable for toy formulae like VO/OV, but less so if linearization and co-occurrence patterns can be described in more granular detail.[10] (i) Greenberg worked the method of implicational universals—first applied by Trubetzkoy (1929) to vowels—into 45 inferences about "the order of meaningful elements" holding "with greater than chance frequency" across a convenience sample of 30 natural languages (1963b, cf. Cinque 2005). (ii) Watkins reconstructed five "connective" VP particles to Proto-Indo European, concluding that "[t]he 'tractability' of the syntactic system for historical investigation is only in degree different from that of the phonological or the morphological [ones]" (1964, 1035). (iii) Longobardi & al. sampled 56 syntactic traits from 26 modern Indo-European descendants from which they detected a "genealogical signal" (2013, 147) closely convergent with the internal filiation of the family as determined separately by the well-known sound-shifts.

Syntactic philology is not only feasible as in the aforementioned pilot studies, it's strategic in Niger-Congo, where published phonetic descriptions are uneven, morpheme labels inconsistent and premodern data scarce to nil. However, which syntactic characters to compare is not self-evident. König finds few examples of Comriean "grammaticalised case" in Niger-Congo (2008, 291, 300f.) but she tallies this thin harvest by explicitly—and inexplicably—excluding *structural* case whose oppositions may be privative, with one member phonetically null (Jakobson 1936, 1939).[11] Niger-Congo is awash with Jakobsonian case especially in clitic pronouns, a highly salient domain (Manfredi 2003, 2010). At the opposite ideological extreme, a doctrinally "universal" inventory of syntactic categories (Baker 2003) is predisposed to overestimate "linguistic invariants" beyond "bare grammar" (Keenan & Stabler 2003) and "is not supported by any independent evidence" (Matushansky 2019, 81). Both styles of circularity crash on the proving ground of historical change (Kiparsky 1971, 1973).

Aquisition of a primary language (L1) responds to audible cues at "some threshold" below which "catastrophic" restructuring can occur (Lightfoot 1997, 183). Comparison of the main clusters of BK isolates an abrupt bifurcation, reconstructible as the prehistoric birth of a nontrivial subclade—call it BK2—comprising Ìdọmà, Nupe, Yorùbá and Gbè, whose descendant languages are still spoken today across a roughly contiguous area and characterised by four concurrent properties, two each at PF (13) and LF (14).[12]

(13) a. Obligatory inflection exclusively precedes a finite root.   {BK2, *BK1}
    b. Three surface 'tones' (levels of perceived pitch, F_0) contrast on roots of the same category.[13]   {BK2, *BK1}

(14) a. A finite telic predicate freely denotes either present-perfect or past.   {BK2 (?Nupe), *BK1}
    b. Aspectually unrelated events are excluded from a single finite clause.   {BK2 (?Ìdọmà), *BK1}

These descriptions can be illustrated with Ìgbo and Yorùbá sentences standing in for the archaic BK1 and innovative BK2 clades.[14]

    Ìgbo (BK1)   Yorùbá (BK2)

(15) a. Ìge vu-ru   ábọ̀   (*ùgbú à).   b. Ìgè-é gbé agbọ̀n (báyìi).
      lift-FIN basket now   -FIN lift basket *hīc&nunc*
      'Ìgè lifted up [a/the] basket (*right now)'   'Ìgè (has) lifted up [a/the] basket (right now)'

(16) a. Ìge jụ-rụ   Ngige (fụ-ọ́).   b. Ìgè-é bi Ǹgìgè (*jádèe).
      ask-FIN   out-FIN.   -FIN ask   exit
      'Ìge questioned Ǹgige (and then left)'   'Ìgè (has) questioned Ǹgìgè (*and then left)'

The BK2 paradigm cascades from acquisition of (13a) consequent on phonetic erosion-to-zero of inherited finite inflection:

(17)   *ad* (13a) Obligatory inflection on/after the finite root (BK1) makes VP and TP spell out together in an "extended phase" (den Dikken 2007), conversely its loss (BK2) lets VP and TP externalise in separate phases—maybe by derivational economy.

        ad (13b) Ternary F_0 contrast (BK2) arguably diagnoses a branching foot internal to the rime (Manfredi 1995) which requires 'isolated' root spellout—something precluded in an extended phase (BK1), whose F_0 contrast is therefore binary.[15]

(18)   *ad* (14a) Optional present-perfect is a 'second bite of the apple' adding deictic "Topic time" in referential TP (Enç 1987) on top of temporally interpreted *Aktionsart* (Welmers & Welmers 1968, 76, Déchaine 1991, cf. Dowty 1986). If the two cycles are separate (BK2) so are the two interpretations, but from one (extended) spell-out (BK1) no ambiguity arises.[16]

        ad (14b) A quantized event must be tense-marked (Enç 1987). A complex event is automatically tense-marked if any of its segments is, therefore ontologically disconnected events can't serialise in BK2 where roots are nonlocally marked. The sharing of finite inflection across the roots of an extended spellout is mediated by viewpoint aspect [± DURATIVE].

If the quadruple correlation in (13) - (14) is inded exceptionless, it's less likely that all 14 mixed-feature outcomes are *spurlos versunken* than that BK2 fills the wake of one singular mutation jointly affecting LF and PF, consistent with the Minimalist architecture of *Merge* as the unique mapping between sound and meaning beyond Saussurean signs: "Surface semantic effects are restricted to narrow syntax"

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9. [In the Kwa languages, the simplest stem profiles prevail.]

10. Treating surface OV order as a syntactic type informed Givón's view of Proto-Niger Congo (1971, cf. Hyman 1975, Williamson 1986) as well as Koopman's remarkably 'Germanic' V2-style analysis of Vātā (1986, cf. Heine 1980, Manfredi 1997).

11. Comriean absolutism didn't stop constructionists appealing to Fillmorean semantic case to exclude some roots from phrasal syntax (§1 *supra*). The element glossed -FIN in the Yorùbá examples has the distribution of marked "ergative active" case alignment (Bittner & Hale 1996, Manfredi 2003).

12. Cluster names are trimmed to the standard glossonym of the major variety. The question marks in (14) reflect data gaps for (15) in Nupe and (16) in Ìdọmà. The list of consequences of prosodic bifurcation is longer, covering also copulas, modals, anaphors and 'relational' case (Manfredi 2009b).

13. Cf. Alexandre (1967, 50). Raw 'toneme' counts are not necessarily informative. Mambila (in "Bantoid") is called "a language with four level tones" but uninflected roots carry just two contrasting F_0 values (Connell 1996, 2000, 167). Kamba and Chagame (in "narrow Bantu") are also said to have "four tone levels" but these include "*secondary* superhigh and superlow" (Kisseberth & Odden 2003, 59, italics added). The ternarity of Gbè (13b) is enmeshed in phonotactic restrictions of onset phonation (cf. Haudricourt 1954), foot structure and phrase boundaries (cf. Gbètò 1995, 2022, Manfredi 2020).

14. Tone orthography is economised as follows. **BK2** scales are ternary {H, M, L} so each syllable paradigmatically bears H [ˊ] or L [ˋ] leaving M as the unmarked, neutral value (Siertsema 1958, 583, Akinlabí 1985). **BK1** scales, being binary {H, L}, allow simpler, syntagmatic spelling: an unmarked syllable copies the preceding pitch, and successive H marks are cumulatively downstepped (Christaller 1875, 15, Welmers & Welmers 1968).

15. Downstep is binary (Stewart 1965). Minimal triples are not fully exploited anywhere in BK2 even in Yorùbá, which is not surprising if the genesis of prosodic ternarity (Maddieson 1974, Stahlke 1974) is a lagging indicator of isolated root spellout, i.e. in languages that lost the extended VP phase.

16. Similar nonuniformity of present perfect is observed within Germanic (McCoard 1978, Beck & Gertel 2014) and Romance (Manfredi 2012).

(Chomsky 2001, 15).[17] Otherwise it's hard to fathom (i) how the novel, inaudible interpretive rules in (14) could be learned piecemeal from realistic primary data or (ii) why four substantively dissimilar vectors happened to "drift" (Givón 1975, 93) together and not separately. Beyond this *prīmā faciē* evidence favoring the scenario in (17) - (18) as a "forwards" reconstruction (Watkins 1962, 7) of BK prehistory, some of its indispensable premises are separately testable in the phonetics and semantics of finite inflection in the daughter languages.

3. Aspect versus the serialization parameter

Covert coordination theories (§1) assume that the immediate constituents of SVCs are of category VP, crediting the conventional label of "verb" for roots like Yorùbá *-mọ́* 'bright/clean/invisible' (8b) and Ìgbo *-fù* 'out' (16a) from the familiar glosses '*to be clean*' and '*to go out*' (Abraham 1958, 422, Williamson 1972, 441 italics added). Welmers however hedged the point—"*To my knowledge at present*, there is really no justification for distinguishing adjectives used as verbs from verbs used as adjectives; they all *appear to be* verbs" (1973b, 250 italics added)— and his hesitation was judicious because whether *mọ́* is a "predicative adjective" (Àfọ̀làyàn 1972) or "adjectivisable verb" (Awóbùlúyì 1972) is not inconsequential for the rest of the grammar. (i) Even if more data and finer taxonomy can eventually stabilise the "rather tenuous" (Welmers 1973c, 367) extensional semantic/pragmatic limits of SVCs, no VP-concatenation analysis is complete without a phrase structure "parameter" (19a) or "generalized transformation" (19b) ensuring that all languages don't automatically enjoy the same serial liberty, but no special leniency is needed if abstract VP-conjunction is never countenanced in the first place.[18]

(19)a. "**V-raising serial verb parameter**
A verb serializing language is one in which Tense (or other Infl-type categories) does not need to be checked, i.e. T has no V-feature."
(Stewart 1998, 228=327)

b. "An SVC arises when a language uses the particular Generalized Transformation (GT) below:
(a) Merge a verbal l-structure with the head of another verbal l-structure.
(b) Merge a verbal lexical item with the head of a verbal l-structure." (Zubizarreta & Oh 2007, 34)

(ii) A leading advocate of serial VPs in Èdó needs predicate adjectives as well, birthing nonidentical twins like *pẹ̀rhẹ́* "flat$_V$" ~ *pẹ̀rhẹ̀* "flat$_A$" (Baker 2003, 43*f.*) although this minimal difference in lexical 'tone' (contrastive F_0) forfeits the generalization that Èdó roots lack inherent pitch features and are distinguished only by vowels, consonants and moraic *skeleta* (Wescott 1963a, 22, Ogieraikhi 1973, Elugbe 1973, 171, Ámayo 1975, 21-23, 1976, 230). Prosodic underspecification of bare roots (23a), found across BK1 (Odden 1988, Kimenyi 2002, Manfredi 2005c, 2008), is mysterious if pitch-accent is banned from Africanist toolkits *a priōrī* (Hyman 2009) or by game-theory gambits (Clements & Goldsmith 1980, cf. Kaye 1988). (iii) The VP parameter (i) and 'tone' diacritic (ii) exoticise and obfuscate prosodic inflection (23b,c) and risk Wescott's *reductiō* that "a complete Biní [Èdó] verb has a theoretical complement of 16,384 forms in its paradigm" (1963b, 142).

Èdó (BK1, Melzian 1942, 21, 43, 72, Aikhiọnbare 1988 205*ff.*)

(20)a. Ọ̀ bọ́ òwá. [LH!H]
3S build.FIN house
'S/he built [a] house'

b. Ọ̀ bọ owá. [LLH]
3S build.FIN house
'S/he is building/habitually builds [a] house'

(21)a. Ọ̀ bọ́-(r)è [__].
3S build.FIN
'S/he built [something]'

b. Ọ̀ bọ́ [__].
3S build.FIN
'S/he is building/habitually builds [something]'

(22)a. òwa [n'ọ [bọ́-(r)è __]]
house DEF 3S build.FIN
'the house s/he built'

b. òwa [n'ọ [bọ́ __]]
house DEF 3S build.FIN
'the house s/he is building/habitually builds'

(23)a. "A key task of any parsing system is to find the verb stem as quickly as possible. Once found, the entire thematic grid of the sentence becomes available. …In many West African tone languages (Kru family: Vata, Dida, Bété etc.) tonal possibilities are much more limited [for verbs] than [for] other word classes. In verbs only the initial nucleus can bear a lexical tone mark, and this tone mark is limited to a high tone or else there is no tone mark at all (so-called mid-tone). The tones (or absence thereof) is predictable in all other nuclei of the verb stem. This is not at all the case for tonal patterns in nouns." (Kaye 2003)

b. "No verb in the serial verb construction can bear morphological tense inflection. FN: According to this generalization, *tone marking is not inflectional*." (Stewart 1998, 216, italics added)

c. "[T]he presence of the I-type adverb in the head of EP triggers tone spreading of an additional high tone to both the first and second verbs that it is a predicate of. …[T]he theme direct object moves through the Specifier of EP to Spec, CP. The signal of this movement is a high tone (relative tone) that spreads downward to the verb(s) which it c-commands/quantifies over." (Stewart 1998, 88, 92)

Metrical analysis (cf. Bamba 1991, Idsardi & Purnell 1997) is fortunately possible (24), consistent with hypothesised late SpellOut (17).

(24) **PF** A finite extended phase (TP) can get a trochaic (right-branching) pitch accent [*s w*], which cascades through the predicate heads (27a, 29, 32 *infra*) thanks to "*the 'cyclic' properties of prosodic phenomena… that stress is a hierarchically defined relation* (Liberman 1975, 199 original italics).[19] [*s*] is pronounced H (cricothyroid laryngeal gesture). As a last resort to save [*s w*] branching, a singleton, stray phrase-final [*w*] is pronounced L (sternohyoid laryngeal gesture) on an epenthetic carrier-syllable -(*r*)*e* (21a, 22a).[20] An unaccented finite root remains L (20b) but phrase-finally gets an extrametrical (stray, unfooted) H (21b, 22b) i.e. with no corresponding *w*.

LF An accented root is referential, similar to the biunique correlation of nonvacuous D with object reference (Longobardi 2005, 13). Thus "quantized" (Enç 1987, cf. Verkuyl 1993), a telic root like *-bọ́* 'build' (20a) refers to an endpoint in the past, while inchoative *-gọ́* 'bend' indicates the "completion" (Welmers 1973b, Ámayo 1975) of a process whose outcome persists until the speaker's *now*, like a present perfect (25a *infra*). By Full Interpretation, an unaccented finite root is coerced to progressive/habitual (20b, 21b, 22b, 25b *infra*), analogous to generic/indefinite/mass interpretation of a 'bare' (article-less) nP (Carlson 1977, cf. Manfredi 2018a).

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17. Exceptions like wordform analogy, ideophones and discourse deixis (Kuryłowicz 1945, Awóyalé 1981, Kuno 1987) are raised as examples of "direct phonology-semantics interface" to disprove "'syntactocentrism', the assumption that the combinatorial power of language stems from syntax *alone*… i.e. *all* its structure is *solely* derived from syntactic structure" (Jackendoff 2002, 33, 108 italics added, cf. 2007). Strawman Chomsky having been slain, the sole survivor is massive parallel processing optimised on unrestricted representational strata—regardless, as recognized for decades, this parsing method is prone to "overestimating the impact of statistical information" at the expense of "the transformational model" (Bar-Hillel 1960, 100, 155).

18. Overt conjunction should be freely available by parataxis, as with nonrestrictive modifiers and other parentheticals (Walkden 2019, cf. Thiersch 1826). Coordinate prosody could reliably signal the three-dimensional ATB format of Boolean intersection (Ross 1967, 161-96, Williams 1978, 32, Wagner 2005, Verkuyl 2008, Richards 2010, Keenan 2015) and economically avoid inscribing intensional semantics in core syntax (e.g. Munn 1993).

19. Lacking the expedient of metrical structure in order to skip intervening non-head material, Stewart writes a rule of "tense matching" to "copy the tone feature on X to Y" (1998, 246) although this move ignores his own rejection of inflectional "tone" (23b), on which the "SVC parameter" depends (19a), and also invokes discontiuous phonological action-at-a-distance (23c), flouting axiomatic autosegmental "well-formedness" (Goldsmith 1976, 48-53).

20. The lateral tap [l] spelled *r* is "elided with great frequency" (Wescott 1962, 91, cf. Elugbe 1973) and the vowel partly harmonises in [high] and [back].

Ẹ̀dó (BK1, Òmóruyì 1986, 291, cf. Wescott 1963b, 145, Aghẹyisi 1986, 50, 52, 160)

(25)a. Ọ̀ gó-(r)è.   'It became bent/is [now] crooked'   b. Ọ̀ gó.   'It's bending/habitually bends'

      Ọ̀ guọghó-(r)è.   'It broke/is [now] broken'   Ọ̀ guọghó.   'It's breaking/habitually breaks'

      Ọ̀ vboó-(r)ò.   'It became ripe/is [now] ripe'   Ọ̀ vboó.   'It's ripening/changing color/habitually ripens'

(24) applies (i) in a right-branching[21] complex predicate (27), where -(r)e would have been expected if it was actually a "verbal suffix" of "tense/aspect" (Stewart 1998, 217) and (ii) after a depictive reduplicated aux alias "adverb" (28).

Ẹ̀dó (BK1, Ògie 2009, 63, 110, 246, 262)

(26)a. Ù dẹ́   ìyán.   b. Ìyán ọ̀ré ù dẹ́-(r)è.

      2S buy.FIN yam   yam it.is 2S buy.FIN

      'You bought yam(s)'   'It is yam(s) you bought'

(27)a. Ù dẹ́   ìyán lé.   b. Ìyán ọ̀ré ù dẹ́-(*-(r)è) lé.

      2S buy.FIN yam cook.FIN   yam it.is 2S buy.FIN   cook.FIN

      'You bought yam(s) and cooked them'   'It's yam you bought and cooked'

(28)a. Ù gbé-(r)è.   b. Ù gié-gíẹ   gbé(*-(r)è).

      2S dance.FIN   2S short-short.FIN run.FIN

      'You danced'   'You quickly danced'

The aux glossed 'quickly' shows finite inflection, accented and unaccented (29). The medial downstep of the accented form is transparently due to reduplication of [s w] in the cyclic domain (30) that also yields the semantic type-shift from simplex -gíẹ 'short' (Wescott 1963a, 30). In (28b) the accent is recoverable from the metrical branching of gìẹ́-gíẹ [LH!H], obviating -(r)e epenthesis to pronounce a phrase-final [w].

Ẹ̀dó (BK1, Stewart 1998, 287, cf. Melzian 1937, 64, Ògie 2009, 109)

(29)a. Ù gié-gíẹ   dé   ìyán lé.   b. Ù gie-gie   dẹ   ìyán lè.

      2S short-short.FIN buy.FIN yam cook.FIN   2S short-short buy.FIN yam cook.FIN

      'You quickly bought yam and cooked it'   'You are quickly buying yam and cooking it (habitually)'

      […**gìẹ́gíẹ dẹ́**…**lé** LH!H H H]   […**gìẹgíẹ dẹ**…**le** LL L L]

(30) [**x** 'happen short-ly']   **LF⇐**   [**x** [**A** -gíẹ 'short'] ∅] ⇒**PF**   [[-gíẹ] -gíẹ]   **accent** ⇒   [[s w] s (w)] = [**H!H**]

An [H!H] contour also occurs on non-reduplicated bimoraic CV(C)V roots in two contexts: (i) after an accented adverbial aux (31b, 32b) or (ii) under argument 'crossover' (33a).[22] These frames are mutually exclusive and (ii) supercedes, blocking the aux so that an adverbial needs a nominal prefix and inherent case (33b).[23] For (i), the complex accent propagates to bimoraic roots, but the right-branching cascade can't find the high-attachment (subject-) depictive -kpàá (31b). For (ii), a non-reduplicated bisyllabic root is accented *twice*: the 'extra' accent falls on the initial syllable, assigned not *by* TP as in (24) but *to* a TP that has become a cyclic island. 'Crossover' accent also occurs in Ìgbo, anchored on the *right* edge of a crossed lexical *subject* (Swift & al. 1962, 247f., 303ff.; Green & Ígwè 1963, 88; Welmers & Welmers 1968, 152; Nwáchukwu 1976a, 102ff., Manfredi 2017) and recursively (Tada 1992), like Romance 'stylistic inversion' in embedded Comps (Kayne & Pollock 1978, Goldsmith 1981b, Torrego 1984, Zubizarreta 2001). Without pitch accent, such phenomena are at best described by sprinkling around "tonal morphemes" (Welmers 1959) that aren't conceivably glossable and whose mysterious homophony—what's the *signifié* shared by the H 'tones' of contexts (i) and (ii)?—demands high tolerance for "tolerable" coincidence (Williams 1971, 481).[24]

Ẹ̀dó (BK1, Stewart 1998, 90, 220f., Ògie 2009, 260, 312)

(31)a. Ù rhulẹ́-(r)è kpaá.   b. Ù gié-gíẹ   rhúlẹ́   kpàá.

      2S run.FIN   away.FIN   2S short-short.FIN run.FIN away.FIN

      'You ran away'   'You quickly ran away'

      […rhùlẹ́rè… LHL]   […gìẹ́gíẹ rhúlẹ́… LH!H H!H]

(32)a. Ù kokó   ìyán dùnmwún.   b. Ù gié-gíẹ   kókó   ìyán dúnmwún

      2S gather.FIN yam pound.FIN   2S short-short.FIN gather.FIN pound.FIN

      'You gathered yams and pounded them'   'You quickly gathered yams and pounded them'

      […**kòkó**…**dùnmwún**… LH LH]   […**gìẹ́ gíẹ kókó**…**dúnmwún**… LH!H H!H H!H]

(33)a. Ìyán ọ̀ré ù kókó   dúnmwún.   b. Ìyán ọ̀ré ù (*gié-gíẹ) kókó   (è-gíẹ́gíẹ)

      yam it.is 2S gather.FIN pound.FIN   yam it.is 2S   gather.FIN speed

      'It's yams you gathered and pounded'   'It's yams you gathered (in a hurry)'

      […**kókó**…**dúnmwún**… H!H H!H]   […**kókó**… H!H]

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21. For (27a), Déchaine's syntax for multi-events with shared direct object (1993a, 808) would adjoin the second predicate lé… 'cooked…' to the first one dẹ́ ìyán 'bought yam', but this arrangement is theory-internal, resting on analogy with overt coordination, and may be moot, because representations of phrasal adjunction don't necessarily count either for or against the right-branching accentual cascade specified in (24).

22. A-bar dependencies show diverse combinations of *in-situ* antecedent binding and overt phrasal movement (Adésọlá 2005, Manfredi & Adénùgà 2015) even in a single language as with Ìgbo *wh*-questions (Goldsmith 1981a). This mix could be responsible for an apparent prosodic difference between the stranded unacented finite root with *ex-situ* argument focus (ii) from Òmóruyì (1991, 4) versus argument relativization (22b *supra*) and (i) from Òmóruyì (1988, 25), unless (i) has mistranscribed a final downstep like that in (iii) from Melzian (1942, 21) but in fact the three cases are inflectionally identical.

(i) Òwa (ẹ ré) Òsagié **bọ̀**.   […H**"L"**]   (ii) Dè emwí nè íràn **rú**?   […LH]   (iii) Èwá (ẹ ré) í **khiẹ́n**.   […H!H]

     house it.is O. build.FIN   WH thing DEF 3P do.FIN   mat it.is 1S sell.FIN

     'It's a house O. is building/habitually builds'   'What are they doing?'   'It's mats that I sell/am selling'

23. "All Ẹ̀dó nouns commence with vowels" (Òmóruyì 1986, 292) but the vowel prefix of è-gíẹ́gíẹ is absent in the reduplicated adverbial nouns of nearby languages: Yorùbá kíákíá 'speed(ily)' < kí ó yá 'Let it be quick' (Abraham 1958, 371, 674), Ìgbo ọ́sị́sọ̀ 'speed(ily)' < ọ́sọ̀ 'escape' (Williamson 1972, 430).

**24.** Trubetzkoy showed less tolerance when, reviewing Ward's (1936) Ìgbo grammar, he insisted that

all the tone-change rules enumerated by the author… can be brought essentially into one single general formula… proposed by us that, with very few exceptions, in a phrasal sequence of the type *governed* [*Determinatum/Rektum*] plus *governing* [*Determinator/Regens*], both the last syllable of the governed word and the first syllable of the governing word undergo tone raising. This rule is so crucial both theoretically and practically, it's regrettable that it never dawned upon the author.   (1936, 979 and n 2, my translation)

Trubetzkoy went on to unify Russian and Ìgbo "prosodemes" by factoring out syllable type so that "[f]rom the phonological perpective there's nothing fundamental… apart from phonetic implementation, …[separating] what is customarily called 'tone' or accent' (1939, 180 via Morris Halle p.c. 2004).

Metrical factors also clarify Melzian's meticulous pitch-marking of *Perfekt* (accented) versus *Imperfekt* (unaccented) finite clauses. For intransitive, phrase-final CV roots (34) - (36), H occurs in both paradigms but with a wrinkle: in the *Perfekt* the final syllable is transcribed with a leading L—*tùú, kùá, (r)ùá*—and pronounced on 'total' downstep, something unexpected unless it's a lagging effect of a hypothetical preceding [*s w*] foot.[25] By contrast, no lagging contour is marked by Melzian in the respective *Imperfekt* forms and no downstep is observed nor is any expected if, per (24), the tokens of phrase-final H in the *Imperfekt* are stray/unfooted/extrametrical and not accentual in origin.
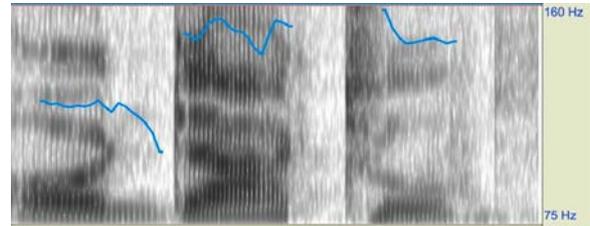
Èdó (BK1, Melzian 1942, 45, 67*ff.*, pitch tracks courtesy Alhaji Òsarúyì M. Ìghílè̩, 16 Sept. 2022)

(34)a. Ò̩ dá   tù̩ú.   [L H **L**H]
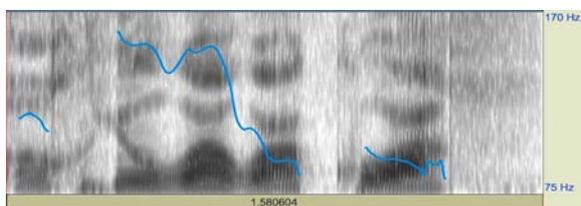   3S harsh.FIN cry.FIN
       'S/he screamed'

b. Ò̩ dá   tú.   [L H H]
   3S harsh.FIN cry.FIN
   'S/he is screaming/habitually screams'
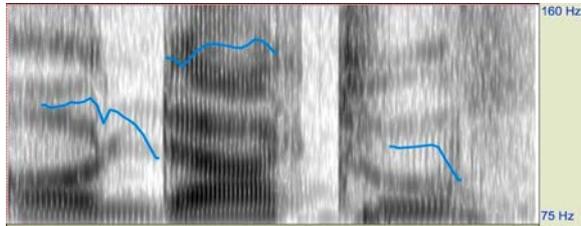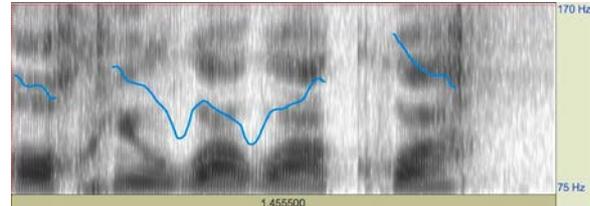

people.bu.edu/manfredi/34a.mov

people.bu.edu/manfredi/34b.mov

(35)a. Ò̩ khiẹ́n   ùwawa kuá.   [L H LLL **L**H]
       3S sell.FIN pot   away.FIN
       'S/he sold out of pots'

b. Ò̩ khiẹn   uwaw**á** kua.   [L L LL**H** H]
   3S sell.FIN pot   away.FIN
   'S/he is selling/habitually sells out of pots'

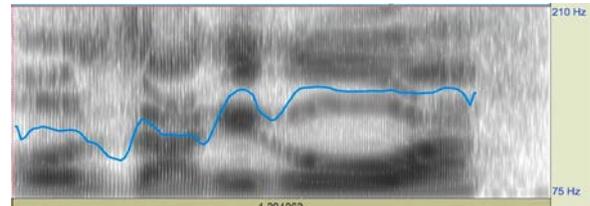**people.bu.edu/manfredi/35a.mov**

people.bu.edu/manfredi/35b.mov

(36)a. Ò̩ zaghá   igho (r)ù̩á.   [L LH HH **L**H]
       3S scatter.FIN money totally.FIN
       'S/he squandered all the money'
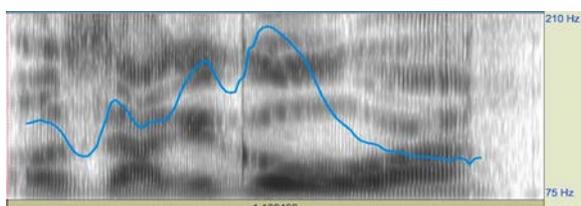
b. Ò̩ zagha   ígho (r)ua.   [L LL HH H]
   3S scatter.FIN money totally.FIN
   'S/he is squandering/habitually squanders all the money'

people.bu.edu/manfredi/36a.mov

people.bu.edu/manfredi/36b.mov

Ìgbo *-rV* resembles Èdó *-(r)e* in both PF and LF sensitivity to *Aktionsart*. Pioneering studies posited multiple homophonous items distinguished by English translation—Green & Ígwè (1963) and Welmers (1970) set up two *-rV* suffixes, Winston (1973) four and Nwáchukwu (1976b) three—but in semi-complementary distribution and with compositionality effects more or less apparent depending on (i) the observer's assumptions about the architecture of phonology, lexicon and syntax and (ii) available data sampled across the Ìgbo cluster, whose morphological subtypes span several steps along the isolating ⟺ agglutinating scale (Éménanjo̩ 1981) though all still within BK1 with respect to (13a) and its correlates. Now in view of the hypothesis in (24) the overt exponents of Èdó *-(r)e* are epenthetic in the service of prosodic inflection, analogous treatment of Ìgbo *-rV* would demand that its superficially different semantic flavors must be context-dependent, not hard-wired into separately listed inflectional signs. Such a minimal(ist) conclusion would redound to the credit of Green & Ígwè, who outright denied from the outset that any Ìgbo suffix is a "constitutive part of speech" (1963, 53 cf. Ígwè 1973).[26]

Absent covert VP-conjunction and its unavoidable SVC parameter, the null hypothesis is that crosslinguistic differences in the form and meaning of complex predicates are side-effects of SpellOut timing on items categorially more diverse than traditional Africanist "verbs". In "l[exical]-syntax" for example, predicate adjectives are featurally A/N, an archi-category that's externally predicative (subject-taking) but not complement-taking, while V has the opposite traits (complement-taking but non-predicative) and P is positive for both specifications (Hale & *al.* 1995, Hale 1996a,b, Hale & Keyser 2005). These atoms restrictively merge in phrases and "conflate" in PF words, whose LFs are compositional outcomes and not templatic inputs of *theta*-roles, case-frames or event mereologies (e.g. Reichenbach 1947, Vendler 1957, Fillmore 1968, Lord 1979, Davidson 1967, Comrie 1985, Kratzer 1989, Hornstein 1990, Parsons 1994, Giorgi & Pianesi 1997, Pustejovsky 1998, Williams 2005). Inducing grammatical structure philosophically from semantic-pragmatic context is susceptible to "'reading-itis', the wish to assign as many readings as possible to a sentence without taking into account that a sentence might simply be used to underinform" (Verkuyl 1993, xii*f.*).[27] On the contrary, lexical entries evidently partition encyclopedic knowledge of real-world situations and cultural values from spare structural constraints like the ban on causative unergatives—a thinkable ontological type that's nevertheless unattested in adult natural languages (*sleep the child*) and that even more remarkably, *spontaneously* "abates" from child L1 production corpora between ages 4-6 (Bowerman 1982, 51*n* 46, Hale 1986, 1996b).

At first approximation, Ìgbo "verbs" sort into three minimally distinct paradigms of finite *-rV* inflection (37), apparently aligned with the hypothetical simplex categories of l-syntax (38) and suggesting an analysis (39) that noticeably overlaps its Èdó counterpart (24).

25. Aghẹyisi's reprint of Melzian (1937) has *-kua* and *-(r)ua* as CVV but these may be 'tone' typos because Aghẹyisi preserves Melzian's *-tu* as plain CV (1986, 84, 128, 145). Any citation 'tone' of an Èdó predicative root quotes an inflected form, creating inconsistency in citing bound items such as these.

26. Welmers' sceptical take on Bantuist and Westafricanist taxonomic "verbal constructions" (1973, 343) could not have been unrelated to the fact that his dissertation (1946) was directed by Zellig Harris, a prominent ancestor of non-taxonomic (i.e. generative) grammar.

27. Bar-Hillel presciently denounced the "syntactico-semantic straitjacket" of " 'readings' " (1971, 401*f.*, original scare quotes).

Ìgbo (BK1, Welmers & Welmers 1968a: 162*f.*; Winston 1973, 151*f.*; Nwáchukwu 1976b, 135; 1984, 84*ff.*; Williamson 1983)

(37)
*Ó tè áka.	*Ó vù ívu.	Ó tì tráwụzà.
[west dialects: OK as nonpast]	[west dialects: OK as past]	'S/he has trousers on'
Ó tè-re áka.	Ó vù-ru ívu.	Ó tì-ri tráwụzà.
'It's far away'	'S/he carried a burden [on the head]'	'S/he had trousers on'
Ó tè-e-re áka.	Ó vù-u-ru ívu.	Ó tì-i-ri tráwụzà.
'It was far away'	'S/he once carried a burden/carried for self'	'S/he got into/once wore trousers'

(38)
*[A/N CV]-∅	*[V CV]-∅	[P CV]-∅ ⟹ nonpast
[A/N CV]-rV ⟹ nonpast	[V CV]-rV ⟹ past	[P CV]-rV ⟹ past
[A/N CV]-V-rV ⟹ past	[V CV]-V-rV ⟹ pluperfect/past applied	[P CV]-V-rV ⟹ pluperfect/past applied

(39) **PF** Finite inflection is a trochaic, right-branching [*s w*] accent. [*w*] deaccents the root.[28] An epenthetic syllable -(ŕ)*V* is required unless the root inherently branches to both subject and predicate—by hypothesis, for roots of type P. Inflectional accent cascades to subsequent roots (6b, 7b *supra*) where it's realised—with a handful or a dozen exceptions (Déchaine 1993b)—on an epenthetic nucleus (Clark 1989, 29) that's known to formalists as the Open Vowel Suffix (Green & Ígwè 1963, 58*f.*) and to functionalists as a "consecutive" marker (Hyman 1971, 32) despite the inconvenient fact that it also occurs in simplex subjunctives and conditionals.

    LF (i) With a complement-taking category (V or P), *-rV* is interpreted as past.
        (ii) With a subject-taking category (A or P), *-rV* is interpreted as nondynamic ('stative').
        (iii) A doubled root vowel is an object clitic parsed as a lexical complement. Then:

            a. *nonpast* + clitic ⟹ *past*, by rule (i)
            b. *past* + clitic ⟹ *pluperfect*, by recursion of rule (i) or
            c. *past* + clitic ⟹ *past applied*, interpreting the clitic as an event participant (absent a closer antecedent, as 'self')[29]

4. Affreschi seriali—"a theological explanation" (Baker 1995, 512)

Panorama interno nella Reale cappella del Tesoro di san Gennaro nel Duomo di Napoli (1607 - 1646)
it.wikipedia.org/wiki/File:Napoli_Dom_06.jpg

Il termine *barocco*, originariamente dispregiativo, indicava la mancanza di regolarità e di ordine, che i fautori del neoclassicismo, influenzati dal razionalismo illuminista, consideravano indice di cattivo gusto. Infatti, caratteristiche fondamentali dell'architettura barocca sono le forme plastiche, con la predilezione delle linee curve, dagli andamenti sinuosi, come ellissi, spirali o curve a costruzione policentrica, talvolta con motivi che si intrecciano tra di loro, tanto da risultare quasi indecifrabili. Tutto doveva destare meraviglia e il forte senso della teatralità spinse l'architetto alla ricerca di un'opera d'arte unitaria, fondendo insieme pittura, scultura e stucco nella composizione spaziale, e sottolineando il tutto mediante suggestivi giochi di luce ed ombre.
it.wikipedia.org/wiki/Architettura_barocca

[The term *Baroque*, initially used in a pejorative sense, referred to the irregularity and disorder that fans of neoclassicism and Enlightenment rationality regarded as symptoms of poor taste. Defining features of Baroque architecture include curved and sinuous sculpted forms like ellipses, spirals or multicentric curves with intertwined, obscure motifs. Everything was intended to astonish; theatrical aesthetics inspired archtects to strive for unitary composition combining painting, sculpture and plaster decoration in a totalising space integrated organized by *chiaroscuro* effects.]

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28. This is the effect of Welmers' "low tone replacive" process morpheme (1970, 51) which became Goldsmith's listed autosegmental melody (1976, 122).
29. If so, the homophony of *-rV* between aspectual and applicative parses reduces to stratal ambiguity between l-syntax (iii-b) and SpellOut (iii-c).

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