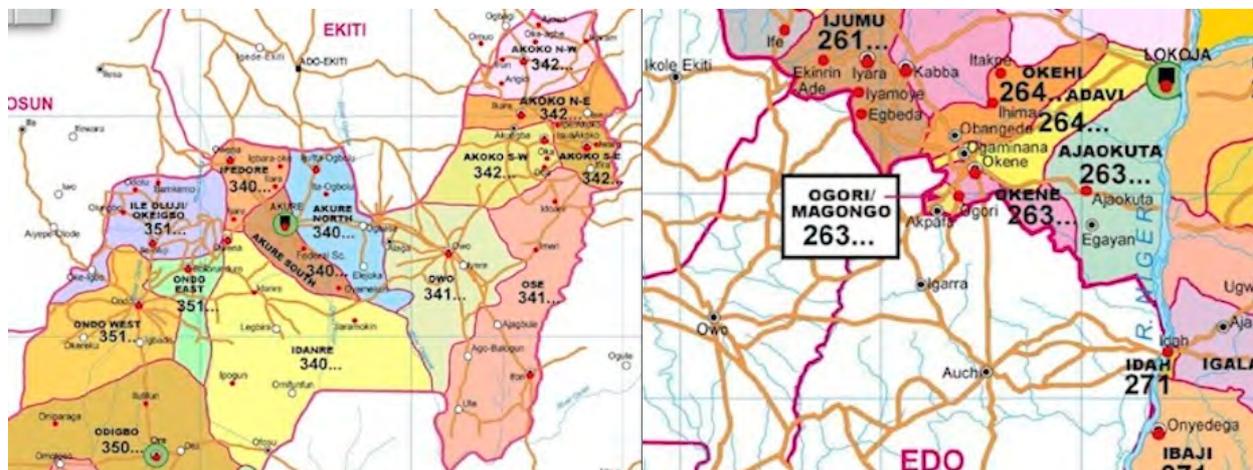


## Parameters versus cartography in Benue-Kwa (Niger-Congo)\*

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## 1. Introduction

Like “Italia dialettale” (Ascoli 1882, cf. Manzini & Savoia 2005), the fragmentation zone of the Niger-Benue confluence (Ọbáyẹmí 1980) affords a natural experiment on syntactic variability in time and cognitive space. Consider *òwòn Ọgè* ‘the Ọgè language’ of the Arigidì group (Olúmúyiwá & Oşòdì 2012, 6; Fádọrò 2014, 2) spoken in Àkókó NW local government of present Ọ̀ndó State, Nigeria, sandwiched between *Defoid*, the Yorùbá macro-aggregate to the west (Capo 1989), and *Eđoid* to the east (Elugbe 1989).



Postal maps of northern Ọ̀ndó and western Kògì [source: [nipost.gov.ng/PostCode.aspx](http://nipost.gov.ng/PostCode.aspx)]

The structural similarities of Ọ̀gè and Yorùbá (Adénúgà 2014) can be expressed in several styles: (i) as shared formal features mapped onto a uniform clausal template or “cartography” (Rizzi 2004), (ii) as proximity on parameter decision-trees with “underspecification of formal features” (Biberauer & al. 2014, cf. Zeijlstra 2008) and (iii) as inertially neighboring outcomes of “bare grammar” (Keenan & Stabler 2003, cf. Newmeyer 2005). Theory (i) builds a *homunculus* prefiguring possible surface structures of all human languages at the cost of descriptive generality in one language (§2). (iii) expects effability gaps and other nonisomorphisms, determined not internally and locally—by derivational histories of particular features—but externally and globally—by consequences of spellout e.g. in prosody (Richards 2010), (§3). (ii) is the null hypothesis (Roberts 2015).

## 2. The clausal edge is nontemplatic

In both Yorùbá and Ọ̀gè, *wh*-words and other narrowly focused items linearize at the left sentential margin.

- {1}a. Kí-ní Bòsẹ-ẹ rà l’ọ̀jà ọ̀ba? Yorùbá  
WH.thing-be B-SUFF buy at-market king  
‘What is it that Bòsẹ bought in King’s Market?’
- b. Bàtà pupa ni Bòsẹ-ẹ rà l’ọ̀jà ọ̀ba.  
shoe red be B-SUFF buy at-market king  
‘What Bòsẹ bought in King’s Market is red shoes’
- {2}a. Mii Bòsẹ dà úrùn àájá ọ̀ba? Ọ̀gè  
WH.thing B buy at market king  
‘What is it that Bòsẹ bought in King’s Market?’
- b. Íchọchọ bàtà ú-wòn Bòsẹ dà úrùn àájá ọ̀ba.  
red shoe it-is B buy at market king  
‘What Bòsẹ bought in King’s Market is red shoes’

In REST frameworks like cartography, any cyclic displacement that respects subadjacency (Chomsky 1977, 86) is represented as a chain of positions terminating in the domain of  $\bar{S}$  (S-bar) or Comp. Thus both constructions in (1) “are formed by obligatory use of the same format” with “the focus particle *ni...* following the first element in a sentence” (Carstens 1986, 2) and a *wh*-index reconstructing this element to an argument position. But Carstens’ templates are isomorphic neither as to indexing (3a vs. 3b) nor to landing site (3 vs. 4). Other puzzles also appear.

- (3)a. [ $\bar{S}$  Kí-ní<sub>i</sub> [ $\bar{S}$  Bòsẹ-ẹ rà  $\bar{S}$   $\bar{S}$ ...]] ‘What did B. buy?’  $\bar{S}$ =CP, S=TP
- b. [ $\bar{S}$  Bàtà<sub>i</sub> ni<sub>FOC</sub> [ $\bar{S}$  Bòsẹ-ẹ rà  $\bar{S}$   $\bar{S}$ ...]] ‘What B. bought is shoes’
- (4) bàtà<sub>i</sub> [ $\bar{S}$  ... tí<sub>REL</sub> [ $\bar{S}$  Bòsẹ-ẹ rà  $\bar{S}$   $\bar{S}$ ...]] ‘the shoes that B. bought’

\* In memoriam Koldo-Luis Sainz Almuğera (1961-2015) *eruditi atque philologi*. Thanks to ʃ. Adésolá, Ọ. Ajíbòyè, ʃ. Awóyalé, T. Biberauer, P. Branigan, M. Cennamo, R.-M. Déchaine, Ọ. Íhìọ̀nì, M. Kropp-Dakubu, G. Longobardi, Ọ. Oyèláràn, M. Porcini, G. Postma, C. Úchèchúkwu. Last modified 4 September 2015. Audio of data {in curly brackets} is posted at [people.bu.edu/manfredi/AwosiraOge.html](http://people.bu.edu/manfredi/AwosiraOge.html).

## 2.1 *Ni* is not V2

*Ni* need not linearise in the left periphery i.e. before the sentential subject. Under echoic contrast, a *ni*-final question word can occur *in situ* as an internal argument (5).<sup>1</sup> Non-echoic *ni*-final words (6) are arguably surface subjects because they bear the word-final, nominative pitch accent of finite predication—the same obligatory item that’s audible as the *-é* suffix of *Bòsè-é* in (1) above. (The inaudibility of this accent in (6b) is predicted.)<sup>2</sup>

- (5)a. Fún kí-ni? Yorùbá  
 give WH.thing-be  
 ‘Why/what for/to what end?!’
- b. Bòsè-é ra kí-ni l’òjà ọba?  
 B.-SUFF buy WH.thing-be at-market king  
 ‘B. bought what in King’s Market?!’
- (6)a. Ta-ní lọ?  
 WH.person-be.SUFF go  
 ‘Who went?’
- b. Kí-ni dé?  
 WH.thing-be.SUFF arrive  
 ‘What happened?’

Focus *ni* (i.e. *ni* without a question word) can be absolutely sentence-final (7), conveying polarity (yes/no) interrogation as an implicature of verum/wide scope (Abraham 1958, 438; Awóyalé 1987; Adéşólá 1997).

- (7) Bòsè-é ra bàtà pupa l’òjà ọba ni. Yorùbá  
 B-SUFF buy shoe red at-market king be  
 ‘Did Bòsè really buy red shoes in King’s Market?’

At the limit, these data can be accommodated by making the polarity feature of *ni* optionally abstract, i.e. reaching V2 at LF, otherwise it overtly pied-pipes the roots *ta* ‘WH.person’ and *kí* ‘WH.thing’ (cf. *kiní* ‘something’).

## 2.2 Resumptive *ó* is not pronominal

To regulate the appearance of overt material at the foot of a presumed *wh*-chain was the work that the ECP was intended for (Chomsky 1981, 250). In Yorùbá, the seeming *wh*-resumptive is pronounced *ó* (6’).

- (6’)a. Ta-ni [ó lọ]? → [talólọ]  
 WH.person-be 3S.NOM go
- b. Kí-ni [ó dé]? → [kílódé]  
 WH.thing-be 3S.NOM arrive

Carstens analyzed *ó* as a pronominal clitic in Infl, governing an otherwise ungoverned subject trace (1986, 25, cf. Borer 1984, Pulleyblank 1986). Koopman took a similar tack for *prima facie* similar facts in Vata (Kru).<sup>3</sup> Both languages however have a hitch: resumptive *ó* is *optional*. For (6), where *ó* is lacking, Carstens invoked optional string-vacuous movement (1986, 24). For the Vata counterpart—subject spellout is misleadingly called obligatory, every other time it’s mentioned (Koopman & Sportiche 1982, 142; 1986, 360, 371; Koopman 1984, 37, 145)—Koopman posited “optional deletion of the segmental form of the resumptive pronoun” (1983a, 388 *fn* 4). In both languages, the PF solution misses the fact that the overt item decomposes compositionally, into a default segment plus a marked pitch.<sup>4</sup> On the LF side, Yorùbá gives a second reason not to treat *ó* as a 3S pronoun: it allows a plural antecedent (Stahlke 1973, 198; Adéşólá 2010). If *ó* is expletive, both patterns are expected.<sup>5</sup>

- Kini* is non-initial in the second version of this proverb, having apparently been pied-piped by the psych-noun *orí* ‘head’:
  - Kí-ni ó yá àpón l’órí, tí ó fi ọsu sí iná, tí ó n sùfécé...? (Owómoyèlá 2005, 74)  
 WH.thing-be 3S eager bachelor at-head REL 3S use yam to fire REL 3S DUR whistle  
 ‘What’s got into the bachelor who subsists on a meagre diet of dry-roasted yams and yet goes about whistling...?’
  - Orí-i kí-ni n yá àpón, tí...? (Awóyalé 2008)  
 head-SUFF WH.thing-be.SUFF DUR eager bachelor REL
- In Standard Yorùbá, nominative pitch accent is unparsed on any argument-type bearing the lexical [...HM] pattern, e.g.:
  - Òbúkọ bọ. [\*...òbúkọ...]  
 billygoat.SUFF burble  
 ‘The billygoat burred’ (Abraham 1958, xix, 109)
- Kru languages (Marchese 1978) are spoken near the western edge of Benue-Kwa (BK), cf. §3 below. Koopman treated the Vata counterpart of *ó* as a “phonological” not syntactic clitic (1984, 76), but still as a *wh*-trace i.e. a logical variable (1983a, 367; 1984, 170).
- In Vata “the resumptive pronoun differs from regular 3rd person subject pronouns in that it bears a low tone... instead of a mid-high tone” as well as that it “behaves as a variable” because it has antilogophoric effects (Koopman & Sportiche 1982, 142*f*). Yorùbá *ó* is an antilogophor, too (Manfredi 1987). In Yorùbá, Carstens rightly rejects as “very stipulative” (1986, 24) a PF deletion rule reducing *ó* to a floating H (Awóbùlúyí 1975) but her alternative misses the fact that *ó* is a morphosyntactic amalgam (cf. Sónàiyà 1989, 113). In Standard Yorùbá, a sentence is *pro* drop iff T contains a modal (cf. Roberts 1985), otherwise an empty T sprouts a pitch accent (H) that docks to a local host if possible, or is supported by vowel length (Awóbùlúyí 1970, Bámgbòşé 1971, Awóyalé 1983) or as a last resort (in an ‘ungoverned’ slot) demands epenthesis (Stahlke 1973, 195; Oyèlárán 1982; Déchaine 1993; Manfredi 2003, 2010). This pitch accent is popularly called the “High Tone Syllable” (Awóbùlúyí 1975) because it’s indeed syllabic in some of its appearances. Its distribution is apparently similar in natural dialects of the Central zone (Olúmúyiwá 2009). Epenthetic 3S *ó* is also attested at the other side of Benue-Kwa (e.g. Swahili, Keach 1985) so its conservation in Yorùbá is no surprise. On 3S *signe zéro*, cf. Benveniste (1946).
- Koopman also parametrizes the ECP, *that*-trace violations being widespread in Germanic (1983b, 349; Chomsky & Lasnik 1977, 451, Maling & Zaenen 1978, Bayer 1983), and also subjacency, following Rizzi (1978), and still has to disavow the “hazy” distribution of subject resumptives in Dutch (1983a, 381). All these hedges, on top of the Vata equivocation noted above, insulate “Comp indexing” from empirical consequences. In sum, “licensing processes are invoked only when necessary” (Koopman & Sportiche 1986, 366).

### 2.3 Equivocal movement diagnostics

Focus and other *ex situ* dependencies disaggregate in several ways, belying the extent of symmetry alleged in (3). Focus constructions have the external distribution of NPs, not of clauses (8). Focus escapes nominal islands across a bridge verb, but a relative clause does not (9). Conversely in a non-bridged island, focus is less not more felicitous than a question; the relative clause is consistently worse than focus, with or without resumption (10).<sup>6</sup>

- (8)a. Kí ɕe [ìwé ní mò rà \_\_\_]. (Awóbùlúyì 1978, 1992)  
 NEG do book FOC 1S.NOM buy  
 ‘A book/books isn’t/wasn’t what I bought’
- b. Kí ɕe ìwé.  
 NEG do book  
 ‘It isn’t/wasn’t a book/books’
- c. \*Kí ɕe [mò rà ìwé].  
 NEG do 1S buy book  
 [intended: ‘It’s not the case that I bought a book/books’]
- (9)a. Owó ní Bòsẹ̀-ẹ̀ gba [àlàyé-e pé Adé san \_\_\_]. (Awóyalé 1985, 80)  
 money be B.-SUFF take explanation-SUFF COMP A. repay  
 ‘It is money that O. accepted the explanation that A. refunded’
- b. \*òkùnrin tí mò gbọ́ [ìròhìn... pé àwọn ọ́lọ́páá mú \_\_\_] (Stahlke 1973, 221, simplified)  
 man REL 1S.NOM hear news COMP 3P police.SUFF grab  
 [intended: ‘the man who I heard the news... that the police arrested’]
- (10)a. \*Bàtà ní o mọ́ [ɛ̀ni tí ó jí (wọ̀n)]. (Manfredi & Oyèláràn 2000)  
 shoe be 2S know person REL 2S steal 3P  
 [intended: ‘It is shoes that you know who stole (them)’]
- b. \*bàtà tí o mọ́ [ɛ̀ni tí ó jí (wọ̀n)].  
 shoe REL 2S know person REL 2S steal 3P  
 [intended: ‘the shoes that you know who stole (them)’]
- c. Kí-ni o mọ́ [ɛ̀ni tí ó jí (wọ̀n)]?  
 WH.thing-be 2S know person REL 2S steal 3P  
 ‘What do you know who stole (them)?’

### 2.4 No indirect questions

It’s generally accepted that “there are no embedded questions in Yorùbá” (Carstens 1986, 10), but this deficiency is exotic in a cartographic world. A logically impeccable attempt to fill this hole-in-the-paradigm (11a) is probably paratactic, and is certainly less fluent than a relative clause headed by a ‘light’ or expletive noun (11b).

- (11)a. Mo bèèrè pé [kí-ni [Bòsẹ̀-ẹ̀ rà \_\_\_i]]. (Bòdẹ̀ (2004, 46)  
 1S make.inquiry COMP WH.thing-be B.-SUFF buy  
 ‘I asked, quote, what did B. buy?’
- b. Mo bèèrè [ohun tí [Bòsẹ̀-ẹ̀ rà \_\_\_i]].  
 1S make.inquiry thing REL B.-SUFF buy  
 ‘I asked about what B. bought’

For (11a) to qualify as an indirect question, the material after *pé* should be selected by a [+interrogative] context, but on the contrary, the same material occurs in (12a) even though matrix *sọ* ‘say’ is patently declarative.<sup>7</sup>

- (12)a. Mo sọ pé [kí-ni [Bòsẹ̀-ẹ̀ rà \_\_\_i]]. Yorùbá  
 1S say COMP WH.thing-be B.-SUFF buy  
 ‘I reported/responded as to what B. bought’
- b. Mo sọ pé [bàtà ní [Bòsẹ̀-ẹ̀ rà \_\_\_i]].  
 1S say COMP thing be B.-SUFF buy  
 ‘I reported/responded, quote, what B. bought was shoes’

The paratactic status of (11a) is plausible for a second reason: the predicate spelled *bèèrè* is intransitive (unergative), compounded of *bí* ‘ask’ plus *èrè* ‘reason/motive’ and marking its surface complement as genitive not accusative (Elimelech 1982, Déchaine 2001, 101).<sup>8</sup> And if Yorùbá veritably lacks embedded *wh*, the task is to naturalize this state of affairs by treating *ex-situ wh* as an intrinsically root phenomenon. Something of the sort was proposed for a subset of Igbo long ago (Goldsmith 1981), and Yorùbá syntax literature more recently took the same tack.

6. “The evidence regarding subadjacency... comes exclusively from Complex Noun Phrases. ...In the case of objects, subjects and possessors, the severity of the judgements varies considerably by speaker” (Carstens 1986, 10).

7. (12) is kindly due to ‘S. Adéşọlá (email, 2005). Commenting at the Leiden Africanist conference of 1993, Thilo Schadeberg noted that a facultative pause next to *pé* must follow it, not precede it, whereas Bòdẹ̀ (2004, 46) hypothesizes the principal boundary to *pé*’s left.

8. Thus ‘I asked about you’ is *Mo bèèrè rẹ̀GEN* not \**Mo bèèrè ọ̀ACC*. (For some speakers, the root is *bèèrè*.) If used transitively, the compound splits: *Mo bí ọ̀ ní (orí) èrè* ‘I asked you a question’ (Abraham 1958, 99; Awóyalé 2008). Similarly, parataxis of a notional complement dissolves two counterexamples to antilogophoric disjoint reference, originally observed by Adéşọlá (2005, 190f) and then enlisted by Anand for the neo-Fregean project of “overwriting semantic parameters” (2006, 64), cf. the online cover sheet for Manfredi (1995b).

## 2.5 Inverse predication and the revenge of leftness

Citing forms like (13) that respectively violate the *Weak Crossover* and *Superiority* constraints (Wasow 1972, 137; Kuno & Robinson 1972, 474), Adéşolá (2005) argues that Yorùbá *ex-situ wh* merges externally to Comp.<sup>9</sup>

- {13}a. Ta-ni iyá rẹ̀-ẹ̀ fẹ̀.ràn? Yorùbá  
 WH.person-be mother 3S.GEN-SUFF like  
 ‘Who<sub>i</sub> does {her/his}<sub>j</sub> mother love?’ [\* in English if  $i=j$ ]
- b. Kí-ní ta-ní rà P’òjà ọ̀ba?  
 WH.thing-be WH.person-be.SUFF buy at-market king  
 ‘What is it that who bought in King’s Market?’ [with pair-list interpretation]

Both examples should be ungrammatical with the meanings given, if the respective, overt *ex-situ* question word formed part of a *wh*-chain as in (3a), therefore if they’re well formed, that assumption is wrong. To be sure, structural diagnostics that depend on semantic/pragmatic intuitions are Rorschach tests, certainly crystallizing the beholder’s predispositions and perhaps even creating them by auto-suggestion. One such predisposition is the relevance or otherwise to examples like (13) of linear precedence—the “leftness” of Chomsky (1976, 342).

In earlier theories, the weak crossover (WCO) phenomenon was described in terms of precedence: a pronoun cannot precede a variable on which it is dependent. Koopman & Sportiche (198[2]) reconstructed the principle in terms of pure hierarchical dominance, furthering the program... of logicizing the principles of grammar. (Williams 1994, 197, date corrected)

Not only WCO but also Superiority invokes leftness, even in languages that front multiple *wh* words (Rudin 1988, Bošković 1997). Rorschachs aside, Adéşolá’s analysis saves Yorùbá from both constraints, by virtue of locating question words outside—and to the *left* of—the operator-variable chains responsible for argument gaps. Instead of a cartographic format, with the *wh* item as the operator of the argument trace (14), the relationship is indirect in the simple subject question (15a) no less than in it is the closely synonymous question containing an explicit relative clause (15b). By parallel reasoning, the genitive pronoun in (15c) does not depend referentially on the operator-variable chain; instead, it takes “an external antecedent” (Adéşolá 2005, 16) whose accidental reference is left open outside of the pronoun’s cyclic (condition B) domain (Chomsky 1981, 188).<sup>10</sup>

- (14) [<sub>CP</sub> Ta-ni<sub>i</sub> [<sub>S</sub> ó<sub>j</sub> ra bàtà] ]  
 WH.person-be 3S buy shoe  
 ‘Who bought (some/the) shoes?’
- (15)a. [<sub>PreDP</sub> Ta<sub>i</sub> ni [<sub>CP</sub> OP<sub>k</sub> Ø<sub>C</sub> [<sub>TP</sub> ó<sub>k</sub> ra bàtà] ] (cf. Adéşolá 2005, 48f)
- b. [<sub>PreDP</sub> Ta<sub>i</sub> ni ẹ̀ni<sub>k</sub> [<sub>CP</sub> OP<sub>k</sub> tí<sub>C</sub> [<sub>TP</sub> ó<sub>k</sub> ra bàtà] ]  
 WH.person be person REL 3S buy shoe  
 ‘Who is the person that bought (some/the) shoes?’
- c. [<sub>PreDP</sub> Ta<sub>i</sub> ni [<sub>CP</sub> OP<sub>k</sub> [<sub>TP</sub> iyá rẹ̀-ẹ̀ {<sub>i,j</sub>} fẹ̀.ràn —<sub>k</sub>] ] (Adéşolá 2005, 16)  
 WH.person be mother 3S.GEN-SUFF like

In a non-cartographic analysis like (15), coreferential construal ( $i=k$ ) between the question word ( $i$ ) and the null operator ( $k$ ) exploits identification via the *ni* item, which independently happens to be the inverse copula of the language (Yusuf 1990, cf. Ruwet 1974, Moro 1997). For this reason, *ni* is a categorial hybrid, describable as a “compula” (Manfredi 1987, 110). Its twin identities are secure because, no less than *wh*/focus *ni* (15), copular *ni* (16) displays a property that’s virtually unique among all Yorùbá predicators: it lacks the H pitch accent inflection which is obligatory in any affirmative (nomodal) finite sentence (17).<sup>11</sup>

- (16)a. Ta (\*-á) ní tísà. Yorùbá  
 WH.person -SUFF be teacher  
 ‘Who is the teacher (of this class)?’
- b. Bọ̀sẹ̀ (\*-ẹ̀) ní tísà.  
 B. -SUFF be teacher  
 ‘B. is the teacher’
- (17) Bọ̀sẹ̀ \*(-ẹ̀) pẹ̀ tísà.  
 B. -SUFF call teacher  
 ‘B. called the teacher’

9. D(iscourse)-linking (Pesetsky 1987) may well be involved in (13b), but it doesn’t suffice to determine linear order. For example, *èwo* ‘which (of a given set of things)’ is intrinsically d-linked, but it occurs freely either *in-situ* or *ex-situ* (Awóyalé 1996, class of 7 March).

- (i)a. Ta-ni ó ẹ̀ ẹ̀wo?  
 WH.person-be 3S do which  
 ‘Who did which (thing)?’
- b. Ẹ̀wo ní ta-ni ó ẹ̀?  
 which be WH.person-be 3S do  
 ‘Which (thing) did who do?’

10. Adéşolá’s referential indices have been edited here to distinguish accidental antecedence/coreference ( $i$ ) from variable binding ( $k$ ). Thanks to this distinction, (13a) above does not violate leftness, *contra* Adéşolá’s assertion (2006, 312) about his own example (23).

11. Cf. fn 4 above. Apart from the *ni* of *Bọ̀sẹ̀ (\*-ẹ̀) ní...* ‘It’s B. ...’ the only other instance of finite assertion-deficiency in the language is the *dà* of *Bọ̀sẹ̀ dà?* ‘Where is B.?’ an *interrogatio tantum* (Abraham 1958, 121). *Bọ̀sẹ̀-ẹ̀ dà* exists, but with an unrelated meaning (‘B. vomited’).

The inflectional deficiency of the Yorùbá compula is why Adéṣọlá's *PredP* in (15) does not amount to a full second clause, but at most “a clause and a half” (Manfredi 2004b), and why (16b) is like an English pseudocleft *Who the teacher is is Bósè*. The extra half clause is enough to rescue (13). In recent terminology, *ni* spells out a re-Merger of clausal affirmation (positive assertion), which is normally pronounced in Yorùbá as a H pitch accent (the traditional “HTS”). That H, standing in strict complementary distribution with *ni*, can—or indeed must, under Pāñinean morphophonemics—be identified with it. In derivational terms, *ni* arrives like a *deus ex machina* or a “proxy category” (Nash & Rouveret 1997, 2002). In case the main predicate was a semantically light predicate root *jé* ‘equivalent to’ or *ṣe* ‘do, amount to’, the whole clause can be—and usually is—fully elided under recoverability (18). Equivalently the derivation can run backwards, treating *jé* or *ṣe* as expletive predicates supporting the assertion below *ni*.<sup>12</sup>

- (18) Bósè ni (tísà-á jé/ṣe).  
 B. be teacher-SUFF equal/do  
 ‘It’s B. (who the teacher is)’

A consequence of the (amended) indexing in (15) is that Yorùbá allows multiple *wh* only if the rightward question word (*ni*-word) sits *in situ*, where its own *ni* is parasitic on the leftward *ni*.<sup>13</sup> Since the two questions are answered together as a list of pairs, the rightward *ni* is both semantically absorbed and phonetically omissible (19a), whereas omission is impossible in a single-*ni in situ* echo question (19b).<sup>14</sup>

- (19)a. Ta-ni ó rà kí(-ni)? (Manfredi & Oyèláràn 2000)  
 WH.person-be 3S buy WH.person-be  
 ‘Who bought what?’  
 b. Bósè-é rà kí\*(-ni)?  
 B.-SUFF buy WH.person-be  
 ‘B. bought what?’

In sum, we endorse Adéṣọlá’s conclusion that “Yorùbá does not have a +*wh* feature. It has only a +*focus* feature” (2005, 67).<sup>15</sup> This comes with two caveats, however, motivating a further set of proposals, to be illustrated in §3 with more comparanda in the Benue-Kwa branch of Niger-Congo, leading to a diachronic speculation.

*endorsement* Treating Yorùbá as a *wh in-situ* language is consistent with the fact that many if not all such languages including Mawukakan (a.k.a. “Mahou”, in Niger-Congo’s Manding branch) and Mandarin “interpret their *wh*-questions by a process similar to Focus interpretation” (Koopman 1983a, 387).

*caveat* (i) Synchronically, the syntax of (15) is not expressible in a REST framework like Comp-indexing or cartography, but only in a phased derivation where displaced *wh* represents two distinct chains (Takahashi 2002, cited but dismissed by Adéṣọlá 2005 60 *fn* 38).

*caveat* (ii) Yorùbá differs from *wh in-situ* languages like Mandarin and Mawukakan, both of which respect WCO (Aoun & Li 1993, 201; Bamba & Liberman 1999) but not Superiority (Koopman 1983a, 386).

*proposals* A nonparametric alternative decomposes not only *wh* words but also clause structure. If focus, *yes/no* questions and *wh* constructions share an operator of sentence polarity/veridicality (Gleitman 1969, Schachter 1973, Laka 1990, Cheng & Rooryck 2000, Hartmann 2013), Yorùbá blocks this operator from scoping narrowly on arguments by an independent effect: the ‘early’ spellout of VP (§3 below). Polarity being unable to attract a subconstituent of the (*ex hypothesi* impenetrable) VP phase, non-echoic narrow foci must merge above VP and so descriptively “go left” (Aboh 2007). Unless cartography is prepared to encode two kinds of FocP (É. Kiss 1998), it can’t express the fact that Yorùbá argument focus in the left sentence margin lacks a pragmatic entailment of exhaustive identification (Manfredi 2004, Jones 2006). Yorùbá dodges Superiority by incorporating veridical *ni* into the question word, yielding equidistance. In the nearby language of Ògè, *ex situ* question words lack *yè*(*é*), the counterpart of *ni*, so multiple *wh* fails and Superiority is moot, but Ògè still escapes WCO just as in Yorùbá: cyclic spellout forces its question words to “go left” and be interpreted in a secondary assertion external to the main clause as in (15).

12. This analysis has been assumed for half a century (Abraham 1958, 435; Bámgbóṣé 1967, 40; Davison 1986, 108f.; Manfredi 1995a).

13. Like the dependency of B and A accents in English contrastive topics/partial answers (Bolinger 1958, Jackendoff 1972, Büring 1997).

14. In eastern Yorùbá varieties, the second dose of assertion is sentence-final:

- (i)a. %Ta ó lọ ni? (Awóyalé 1996, class of 7 March)  
 WH.person 3S go be  
 ‘Who went?’  
 b. %Bósè ó lọ ni.  
 B. 3S go be  
 ‘B. is the one who went’ (n.b. without pause)

Èkítì (i.e. eastern) Yorùbá lacks multiple *wh* (Carstens 1986, 56 *fn* 8), but it’s unknown if the second *ni* can drop in contrastive focus questions like the following:

- (ii)a. Ibí ni ta-ni-ín n gbé? (Manfredi & Oyèláràn 2000)  
 here be WH.person-be-SUFF DUR hold  
 ‘Who lives here?’  
 b. Ibí ni Bósè-é rà kíni?  
 here be B.-SUFF buy WH.thing-be  
 ‘What did B. buy here?’

15. Citing Chierchia (1991), Hornstein (2001) and Safir (2004), cf. also Bošković (1997), Cable (2003) for a version of this parameter as the direct LF-insertion of question words.



- (29) Ònyé kà ñne yá hù-rù n'ányà?  
 WH.person.Q COMP mother 3S.GEN see-SUFF at-eye  
 ‘Who<sub>i</sub> does {her/his}<sub>j</sub> mother love?’ [\* in English if  $i=j$ ]

The resulting typological sketch is followed by comments about each line.

		Yorùbá	Ògè	Ìgbo
(30) a.	WCO	no	no	no
b.	<i>wh</i> operator	veridical focus	in-situ polar Q	left edge polar Q
c.	multiple <i>wh</i>	yes	no	yes
d.	Superiority	no	(n.a.)	yes
e.	non-echoic <i>wh in situ</i>	no	yes	yes iff under operator
f.	spellout phases	VP, CP	VP, CP	CP

(30a) The hypothesis endorsed above for Yorùbá—that WCO fails because the left-marginal *wh* word is not a phase-mate of the *wh* operator to its right—would be falsified if the two Igbo *wh*s in (29) were phasemates, but the indisputable location of the leftward *wh* in a separate phase is proved by the requirement noted above, that *in situ* non-echoic *wh* has to be in the scope of a higher copular Q.

(30b) The choice of *wh* operator in each language is plausibly an accident, reflecting inherited options of sentence inflection: which veridicality features are pronounced, where and how. Grammaticalization paths and especially the paths of de-grammaticalization (erosion and overwriting) are crucial, although in e-language.

(30c) Ògè’s *wh in situ* is overtly marked for Q, therefore a multiple *wh* question entails the existence of a lower Q which would then have to be interpreted separately—incoherently—from the question of the higher *wh*, which is evidently marked in a different way (22).

(30d) Conversely to Ògè, Ìgbo questions whether single or multiple rely on a single operator on the left edge, and any violation of Superiority would not simply have to cross the other *wh*, but also that operator.

(30e) The failure of *in situ* non-echoic *wh* is determined by the strength of the small (VP) phase, see below.

(30f) is not a standard parameter coding a single feature, it’s a global interface property causing a catastrophic change of the spellout interface, with multiple exponents triggered by one extrinsic (e-language) mutation.<sup>18</sup>

The foregoing depends on the possibility to induce the variable size of the spellout phase from primary language data that in turn vary across members of the language group in question. Demonstrating this point depends on morphosyntactic reconstruction. The relevant nodes of Niger-Congo are Benue-Kwa (BK) and its immediate daughter which can be called BK2. The requisite observations and inferences are much contested by Africanists.

Following Greenberg’s hint (1963, 39 *fn.* 13), Niger-Congo comparativists posited a *Benue-Kwa* (BK) node, merging Greenberg’s *Benue-Congo* with Westermann’s *Kwa* (Stewart 1971, 206; Williamson 1971, 252; DeWolf 1971, 180; Elugbe & Williamson 1976, 351; Mukarovsky 1977, 240; Bennett & Sterk 1977a). The claim is nontrivial: BK spans the vast area from Abidjan to Mombasa and Cape Town, including ten big clusters and with no consensus about intermediate nodes—recalling the Indo-European situation (Garrett 1999). Citing equivocal lexicostatistics plus three or four lexical “isoglosses”, Bennett & Sterk (1977b) hived off a “Western” subclade of SCNC (their preferred name for BK) comprising Àkan plus Gbè, leaving a lopsided “Eastern SCNC” remnant with “no certain innovation common to the group” (1977b, 233, 255). Schadeberg endorsed these segments but renamed them in his own way as “(New) Kwa” and “(New) Benue-Congo” (1986, 73, cf. Williamson 1989, 17). When the confusing “(New)” prefixes fell into predictable disuse, Schadeberg’s labels confounded themselves with Westermann-Greenberg’s, confounding the general linguistic community still further (Kropp-Dakubu 2010). Williamson & Blench eventually dismissed Bennett & Sterk and therefore also Schadeberg, returning BK to its Greenberg footnote status of “dialect continuum” (2000, 17*f.*), but Schadeberg did not miss the opportunity to push back in the Routledge Bantuist handbook: his Niger-Congo tree, although ostensibly “adapted from Williamson & Blench (2000)” (2003, 155), has been silently doctored to rescue the “(New) Benue-Congo” node. Such indeterminacy is unsurprising so long as Africanists continue to rely on ahistorical wordcounts as opposed to structural innovations—be these neogrammarian soundshifts or morphosyntactic polymorphisms *alla* Longobardi (Stewart 1993; Manfredi 2009), or preferably both.<sup>19</sup> Here, the latter criteria can be briefly reviewed.

As Greenberg noted, the dichotomy “Sudanic = isolating, Bantu = agglutinative became fundamental for African linguistics” once it was observed that the more western part of BK shows “an advanced state of decay and the extensive loss of affixes” (1963, 37, cf. Westermann 1927).<sup>20</sup> How to make this idea precise enough to test its historical—as opposed to areal/typological—relevance? Traditional, grammar-external comparisons convey a rough impression of statistical cline in e-language, morphology and word order types (Welmers 1963, 1973a; Givón 1975; Heine 1976; Lord 1977; Williamson 1985; Hyman 2004), but a more quantal split appears as soon as these are tied to i-language properties. Four such rules, given below, independently converge on a geographically contiguous area—call it BK2—containing four of BK’s big clusters: Gbè, Yorùbá, Nupe and Idòmà (Manfredi 2003). The same four rules fail in the remaining six major BK clusters, which thus qualify as a

18. But Branigan (2015) considers how a macroparametric change can result from a microchange.

19. At great timedepth, the classical comparative method obtains diminishing returns from lexical material as a matter of ordinary mathematics, whereas morphosyntactic characters may be more resilient (Longobardi 2003, 130). In BK, the two cladistic measures don’t conflict, and may even provide convergent evidence (Manfredi 2009).

20. The term *Sudanic* in this context refers to tropical West Africa and not to the former British colony of the upper Nile.

noncontiguous, archaic remnant, BK1: Àkan, Èdó, Ìgbo, Cross, Plateau and Bantoid.<sup>21</sup> The outcomes of the four diagnostics span both PF and LF, thus are presumptively determined by the syntactic derivation in a global sense. All four tests are decidable in matrix clauses, thus are “degree-zero” learnable in the sense of Lightfoot (1989). All four are more abstract than is customary in mainstream Africanist literature, which would be a matter of concern only if all African children were also mainstream Africanists—contrary to fact. Nonetheless, some defensive remarks are in order, before illustrating the four rules in Ògè immediately below.

- rule (i)* In BK2, minimal finite inflection is an aux/proclitic particle, but in BK1 it's a suffix or root-borne prosody. The presumed BK2 innovation is due to erosion of the right edge of the inflected predicate, a process that can still be minutely observed in various incomplete stages throughout BK1. Once the tipping point is reached, the child no longer is forced to parse the predicate root (the “main verb” in traditional terminology) together with Tense, therefore the minimal spellout domain shrinks from TP>VP. Economy then entails that in BK2 languages, spellout of TP and VP necessarily occurs in separate phases with phase impenetrability effects (Chomsky 2001) which arguably include rules (iii) and (iv) below. This change is difficult (for me!) to state as a single parameter, but easier to treat as an adaptive evolution of bare grammar in the absence of primary language data requiring a ‘big phase’ (TP and VP spelled out together).
- rule (ii)* BK2 allows a ternary pitch contrast among lexical roots of the same category, never found in BK1. This observation has been wrongly paraphrased as a claim that the BK2 languages “each have 3 tones but all the languages to the west [i.e. the Àkan cluster] of Gbè have only 2” (Kropp-Dakubu 2012, 8 *fn* 12). However, inventories of tonemes are notoriously unreliable, which is no surprise since the concept of phonological ‘tone’, taxonomic *ex originibus* (Jones 1928, Chao 1930, Pike 1948), was taken over intact by autosegmentalists (Goldsmith 1976). As morphosyntactic underanalysis declines, so too the number of ‘tones’ proposed for any given language decreases, so the last defense of tonemes is the dogma that “phonology is different” (Bromberger & Halle 1989, cf. Nespor & Vogel 1986, Scheer 2012). Kaye (2003) suggests that prosodic contrasts on inflected predicates are limited for parsing reasons, motivating rule (ii). In BK2, finite inflection not being aligned with the predicate root per rule (i), spontaneous ‘tonogenesis’ (e.g. phonation effects) is encodable on the root, versus BK1 where the inflected root is prosodically impoverished *ex hypothesi*. Formulated in these terms (Manfredi 2003, 2; 2009, 331) the generalization stands. As a counterexample, Kropp-Dakubu (p.c.) cited Buem alias Lelemi, which has been described with three taxonomic tonemes (Höftmann 1971) but which as one of the Togo Restsprachen is plausibly assumed to adhere to BK1. Interestingly however, a ternary root contrast is explicitly denied to exist in Buem (Allan 1975, 994). More challenging is the status of Gbè, but Stahlke (1971) showed across several Gbè varieties that reduction of roots to a binary pitch contrast depends on positing an abstract prefix syllable, which amounts to a ternary contrast in formal terms (Manfredi 2004a). Despite the impression of Sinitic literature, ternary pitch seems to be the richest contrast allowed by UG on a single syllable (Manfredi 2008). The formal dependency of rule (ii) on rule (i) is consistent with the empirical status of rule (ii) as a lagging indicator.
- rule (iii)* In BK2, aspectually unrelated events are excluded from a single clause (“serial verb construction”). First noted for Yorùbá (Bámgbòsé 1974, 28, cf. Abraham 1958, 589), the restriction holds as well in the other three BK2 clusters, but not in BK1, inspiring functionalists to apply the taxonomic label “consecutive construction” (Givón 1975, Lord 1977, 1989) to all BK1 serial examples excluded in BK2. This move was endorsed in order to save the P&P style “SVC parameter” (Stewart 1998, Baker & Stewart 1999, cf. Collins 1997, 2002, all reversing Baker 1989, 549 *fn* 27) despite being descriptively circular and observationally false, e.g. in Èdó (Manfredi 2003, Ògè 2009, cf. Melzian 1942, Aikhiṅbare 1988, Òmórúyì 1991).
- rule (iv)* In BK2 but not BK1, a finite eventive predicate with minimal inflection allows a present perfect reading in addition to a past one. Like ‘tones’, so ‘tenses’ have been exotically underanalyzed in Niger-Congo (with honorable exceptions like Welmers 1973b), nevertheless it turns out that the rule in question holds in BK2 whereas throughout BK, past and present perfect readings systematically show different paradigms. Tense interpretation being relatively comparable across language families, it's interesting that a similar typological split is observed among “*varietà neolatine*” (Zamboni 2000; Ledgeway 2009, 439-41; 2012), with much of southern Romance allowing BK2-style ambiguity for a nonauxiliated past inflectional type, spanning readings associated with *passato remoto* and *passato prossimo*, e.g. *Llegó la banda!* ‘Here's the band!’ (Spanish), *Perché venisti qua?* [...] *Venne* [‘sono venuto’] *pensando comparare alcuna cosa galante* ‘What are you doing here? I've come to experience another romantic adventure’ (Napuletano). Such a parallel further supports variation theories of type (iii), to the extent that a type (ii) theory fails to apply the same feature hierarchy for both BK and Romance in all their manifest morphosyntactic diversity.

Ògè instantiates all four BK2 properties. Rules (i) and (ii) are true by inspection in PF. As to rule (ii), a ternary pitch contrast on lexical predicate roots is borne out provisionally by *hún* ‘lift’ (31a), *dà* ‘buy’ (32a) and *su* ‘have’ (33a).<sup>22</sup> As for the LF rules, (iii) is illustrated in (32b), and (iv) in (31) and (33).

21. Bantoid is the most studied but least well-defined BK subgroup, probably because it's a mere remnant area sharing only archaisms, with scant collective demography despite the romantic belief in a “Bantu expansion” (cf. Manfredi 2015). The Kru group (Marchese 1978), originally included in Kwa based simply on the occurrence of bare monosyllabic roots as free forms (Westerman 1927, 20), is nowadays excluded from Benue-Kwa even if the motivation for this view is impressionistic (e.g. Williamson & Blench 2000).

22. More minimal contrasts should still be found. Our Ògè transcription follows the Yorùbá convention that ‘mid tone’ (nonhigh, nonlow pitch) is unmarked. Also note that example (8a) was recorded without *ɛ*, but is also grammatical with it, and conversely that example (8b) was recorded with *ɛ*, but is also grammatical without it. Orthographic *í à* → [yáà].

- {31}a. Í hún ígha. Ògè  
 1S lift basket  
 'I(?ve) picked up [the/a] basket'
- b. Í sẹ́ hún ígha.  
 1S AUX lift basket  
 'I DID pick up/HAVE picked up [the/a] basket'
- {32}a. Í dà isi vá.  
 1S buy yam come  
 'I bought [some/the] yam and [then] came here [with it]'
- b. Í chà isi \*(á) vá.  
 1S sell yam *pro* come  
 'I sold [some/the] yam and [then] came here [without it]'
- {33}a. Í (sẹ́) hún íghẹ́ ígha nẹ̀gẹ̀ gan úrà, àmọ́ erí í à su agbára ke hún ùn.  
 1S AUX carry this basket heavy correct yesterday but today 1S NEG have strength to carry 3S  
 'I (indeed) picked up this basket very well yesterday, but today I don't have the strength to do it'
- b. Í (sẹ́) hún íghẹ́ ígha nẹ̀gẹ̀ í à hún sí esin.  
 1S AUX lift this basket heavy 1S NEG carry to ground  
 'I have picked up this heavy basket without yet putting it down'

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