BK1 alias 'Proto-Potou-Akanic-Bantu'— a study of diachronic syntax*

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Guarda le cose anche con gli occhi di quelli chi non le vedono più!
[Try to look at things through the eyes of those who don't see them anymore!]
Pirandello, *Colloquii coi personaggi* (1915)

1. From diachrony to synchrony

John Stewart followed up his SOAS doctoral "thesis on the Akan (Fante) verb" with studies on "phonological topics in Kwa languages" and "the reconstruction of Kwa and beyond and related topics in related languages" (Mous 2008, 71). So far so good—setting aside tendentious use of the term *Kwa* in a sense that Stewart rejected—for the Leiden obituary, which gives top scientific billing to the 1967 discovery of cross-height vowel harmony, out of a list of three dozen publications plus a famous preprint. But the writeup's conclusion can't resist belittling Stewart's radical streak with faint and false praise:

> In many of his articles and conference contributions he would posit an original and challenging hypothesis and work it out with utmost rigour, not hesitating to reject some of his own earlier proposals. He enjoyed the academic debate, appreciated challenges to his proposals while he felt frustrated when there were no reactions. Particularly in the field that was very dear and important to him, the reconstruction of Volta-Congo and ultimately Niger-Congo, he regretted the fact that so few people joined him in the strict application of the comparative method to the reconstruction of West African languages. In the later years of his academic life he concentrated on this immense task and continued to publish on it until his body gave up. His fascination with this topic dates back to his SOAS years and can be seen as an extension of the work by Guthrie but at a higher level and with superior methodology.
> (Mous 2008, 72)

It would be wrong to accept this condescending caricature of an obsessed and quirky toiler whose self-assigned Herculean labors surpassed his physical stamina. (It probably applies better to me.) Three of Stewart's most appreciable contributions, briefly revisited in this section, make a serviceable tripod supporting a compelling alternative to conventional Africanist wisdom. As sketched in §2, they coincide in a model of Benue-Kwa history and synchrony consistent with the so-called epigenetic theory of grammatical self-organization—an attempt to reconcile the logical necessity of universal grammar with the empirical existence of a large, nonisomorphic parameter space of natural languages (Gianollo *&* *al.* 2008, cf. Niyogi *&* Berwick 1996; Keenan *&* Stabler 2003). Finally §3 samples a few testable consequences for individual Benue-Kwa clusters and §4 accounts for the parameter.

1.1 Rejection of "New Kwa"

If "so few people joined [Stewart] in the strict application of the comparative method to the reconstruction of West African languages", a good guess as to why is that his research contradicted Williamson (1989). Under the labels "New Kwa" versus "New Benue-Congo"—from both of which the disambiguating "New" was dropped by early adopters—Williamson demarcated an exclusive subgroup comprising Àkan and Gbè. This nonstarter revision of the Niger-Congo family tree relied on wordlist counts based on Swadeshian cognation, some of which even fall below the invalid method's own margin of error (Bennett 1979; Armstrong 1983, 146*f.*; Campbell 1998, 186). So, "Wha daur bell the cat?" (Hislop 1868, 314). Stewart's original discovery of massive Neogrammarian sound change—the gold standard of historical linguistics—proved that 'Bantu' is much closer to Àkan than to Gbè: "[I]t has proved extremely difficult to find regular sound correspondences across Èʊè and Àkan… It has in fact proved much less difficult to find regular sound correspondences across Àkan and Proto-Bantu…" (1994, 176, cf. Capo 1985).[1]

Williamson also described herself as a Neogrammarian and eventually conceded the point, dissolving "New Kwa" back into "Benue-Kwa", the union of Greenberg's Kwa and Benue-Congo treated once again as a "dialect continuum" (Williamson *&* Blench 2000, 17*f.*).[2] This was in fact the default position of the field as late as April 1982 at the 15th West African Languages Congress at the University of Port Harcourt, when the Benue-Kwa Working Group chaired by Prof. Gerhardt agreed that no revision of *Benue-Kwa* be made unilaterally or without strong evidence. But Williamson's muted backtrack from "New Kwa" eleven years after its launch was less effective than the withdrawal of "New Coke" and splashy relaunch of the "Classic" version. Some of the current confusion can also be blamed on the entrenched prior commitments of others, for example Professor Schadeberg who managed to 'disappear' (in the Latinamerican, causative sense of this word) Williamson's recantation from the current Bantuist handbook, drawing a Niger-Congo stemma which repeats the New Kwa/New Benue-Congo division of Williamson (1989) in a graph slyly labeled as "Adapted from Williamson *&* Blench (2000)" (2003b, 155).[3] Such covert resistance is predictable, and it's sneaky for Mous to insinuate that Stewart's "strict" results had scant impact, when Williamson herself was ultimately convinced.

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Transcription is orthographic (an old generative tradition) and colonial spellings are normalized if possible; some imprecise forms appear in double quotes. Tonemarks are [ˊ] = high, [ˋ] = low, but marking conventions differ by Benue-Kwa (BK) subgroup correlated to prosodic type as discussed in §2. In BK2 (Gbè, Yorùbá, Nupe, Ìdọmà) with 3 lexical tones, no mark = mid, but in BK1 (Àkan, Ẹ̀dó, Ìgbo, Tiv, "Bantu" *&*c.) with only 2 lexical tones, no mark = same as preceding and a sequence of two high marks = downstep starting on the second (Christaller 1875), e.g. Ẹ̀dó *Ólokún*. If necessary to distinguish the two conventions when juxtaposing BK1 and BK2 forms, the pitch labels H, M, L and **!** (downstep juncture) are added. Following Bámgbóṣé (1966) and Ámayo (1976), downstep preceding nonhigh is marked by a word-internal period, e.g. Yorùbá *Oló.kun* 'possessor of *òkun* [the ocean]' and the same convention generalizes to a non-spreading juncture between high and a following low, e.g. Yorùbá *oló.dù* 'possessor of an *òdù* [clay cauldron]' vs. *olódù* 'possessor of an *odù* [oracle sign]', Ẹ̀dó *nó.dẹ̀* 'yesterday'.

1. Scare quotes around *Bantu* are justified even by the current Bantuist handbook, which frankly admits that it's "impossible to draw a clear line between Bantu, however defined, and non-Bantu Niger-Congo" (Nurse *&* Philippson 2003a, 5, cf. Bennett 1983; Marten 2006).
2. Williamson *&* Blench added a second label "East Volta-Congo" for this protolanguage, as a muted shout-out to Stewart (1976).
3. But maybe the deception was unconscious and Schadeberg did not intentionally betray the previous occupant of his own Leiden chair.

1.2 Discovery of tonal feet

Equally radical, and equally diverted from the mainstream in the interest of maintaining Kuhnian "normal science", was Stewart's "unified approach to (intonational) downdrift or automatic downstep and (phonologized) downstep" (Mous 2007, 72).[4] As revealed by Schachter's and Welmers' uncomfortable individual comments appended to the tone manuscript, an analysis positing a syntagmatic "relation between two successive highs" (Stewart 1965, 66) independent of any intervening low goes beyond the class of entities expressible under a taxonomic approach (Pike 1948). Nothing changed in this respect when the paradigmatic toneme was reclothed in generative robes (Goldsmith 1976), because autosegmental melodies don't dispense with pitch-change diacritics and can't predict their distribution (Clark 1978). Stewart's syntagmatic approach inspired a dissident literature anchoring tones to metrical structure in various ways (Huang 1980; Odden 1985; Sietsema 1989; Bamba 1991; Ladd 1993; Manfredi 1993; Idsardi & Purnell 1997; Akinlabí & Liberman 2001; Dilley 2005), but most tonologists avoided this implication by demoting tonal feet to a post-grammatical, phonetic scaling effect of "intonation" or "tonal register" rather than as evidence for underlying representations (Clements 1979, 1981; Connell & Ladd 1990; Láníran 1992; Bird & Stegen 1993; Ladd 1993; Liberman & *al.* 1993; Leben 2001).

Stewart's invocation of typology for comparisons of this kind constructively entails a theory of possible tone system—something alien to modern phonology which prides itself on being "different" (Bromberger & Halle 1989)—and Benue-Kwa evolution as discussed in §2 confirms the that tone patterns respect general cognitive constraints on concatenation of lexical items, e.g. as argued for vowels by KLV (1985).[5] As with Stewart's historical reconstructions, so too his postulation of abstract structural similarities between prosodic systems is not as eccentric as Mous wants to think. Although the comparison of Àkan and Hausa downstep was explicitly rejected by Schachter (Stewart & *al.* 1965, 38-40) it soon became uncontroversial (Fromkin 1972; Inkelas & Leben 1990), and the suggestion that Yorùbá also be considered as a "terraced level language" (1965, 65) was strongly adopted by one of Welmers' own students (Courtenay 1968) following the independent arguments of Bámgbóṣé (1966b; cf. also Armstrong 1968).

1.3 (Re)discovery of serial object sharing

If the generative framework of Stewart's tone paper could be missed by casual readers, the same can't be said of his paper on serial verbs, which despite the lack of explicit formalism deploys trademark terminology like subject and object deletion, "semantically empty derivation" and "zero object pronoun" (1963, 147, 149). Again it's not hard to fathom why the antigenerative Mous makes no mention of Stewart's leading role in introducing Chomskyan theory to African universities, opening the way for indigenous generative papers on Benue-Kwa syntax starting with Boadi (1968) and Awóbùlúyì (1969). As often happens with early work in a fresh paradigm, the ratio of ideas to words was high in Stewart's note of scarcely five pages, observing a long list of object-sharing effects which had escaped collective scholarship since Christaller (1875). These remain problematic for core assumptions like the uniform base hypothesis, even after decades of notational inventiveness (e.g. Baker 1989; Collins 1997; Larson 2005; Ògie 2009).

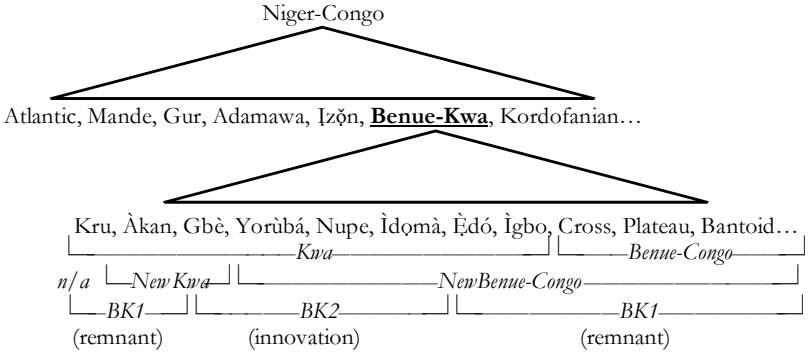
2. Another crossroads: the speciation of grammar

Expanding the metaphor from geometry to geography, Stewart's three aforementioned discoveries were encountered on three eccentric paths. Pursued just a little further according to their own internal logic, these ways converge in a proposal which I made in a 2005 handbook chapter, or more precisely a draft which—coincidentally or not—also remains a "preprint" today. I suggest that Stewart's three lines intersect at a scenic viewpoint on Benue-Kwa languages in which historical relationship, prosodic type and format of VP concatenation are not independent or modular properties of grammar as standardly assumed. Instead they can be treated as causally related correlates of a more elementary cognitive mechanism: the human computational system hypothetically includes phased cyclic spellout (Chomsky & Halle 1968; Chomsky 2001; Scheer 2008b), which acquires primary language data from an initial state (protolanguage) whose specific structural properties are filtered for the learner by a range of grammar-external forces including the widespread process of inflectional erosion (Kiparsky 1971; Keenan 2002). Unless the correlations cited here are only accidentally repeated across a vast area and population at the core of the world's most diverse language family, their learnabilty poses a theoretical problem for which the crossroads of Stewart's triple roads affords a plausible perspective.

2.1 BK bifurcation revisited

Since Westermann it's been an open question how to reconcile the strong morphosyntactic diversity of the linguistic area eventually covered by the labels *Kwa* and *Benue-Congo* (Greenberg 1963; Williamson 1989), collectively *Benue-Kwa* (Givón 1975; Elugbe & Williamson 1977) and hereafter BK, with the weak traces of quantal discontinuity detectable by standardized, translation-based tests of superficial lexical resemblance (e.g. Bennett & Sterk 1977). Westermann's *Kwa* was initially based not on shared lexicon but on the typological property of isolation, i.e. prevalence of bare roots taking the role of a minimal free forms (1927, 20). The dichotomy "Sudanic = isolating, Bantu = agglutinative became fundamental for African linguistics" when it was observed that the western side of the BK zone shows "an advanced state of decay and the extensive loss of affixes" (Greenberg 1963a, 37). Three proposals to accomodate these facts are contrasted in (1), in which individual language names abbreviate cacophonous cluster labels in "-oid".

(1)



4. As before let's ignore a tendentious morsel of conventional wisdom from Mous, in this case that all downsteps are phonetic in origin.

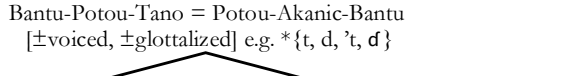
5. Cf. Troubetskoy's conjecture to the effect that "Avec une même structure grammaticale ne peuvent se combiner qu'un nombre limité des systèmes phonologiques" (1939, *xxviii*). [Only a subset of possible phonological systems are compatible with a given grammatical structure.]

Large scale dialect continua presumably exist, hopefully arising under replicable demographic conditions, and as mentioned above Williamson's ultimate hypothesis jointly with Blench (2000, 17*f.*) treated the entire BK agglomeration in that way, notably retreating from Williamson's "New" (1989) lexicostatistic split. But a continuum is less plausible in view of nonlexical data. For example, longstanding observations of a roughly west-to-east cline within this enormous zone, between the aggultinating and isolating extremes of word formation, suggest that systematic restructuring must have occurred at some point, even under the extreme view that this change could be limited to the enriched PF component of Halle & Marantz (1993). The empirical question is where and when the innovation(s) occurred, and the theoretical question is what brought it about (cf. Williamson 1985; Hyman 2004).[6] A second reason to doubt the continuum comes from historical phonology, that "strict" topic of Stewart's "immense… fascination" (Mous 2008, 72).

2.2 Restructured roots

An important distinction in (1) is that both of the earlier classifications assume a simple linear segmentation of BK, but this is not the only possibility, and it turns out that Stewart's phonological evidence demands a different kind of explanation. Lexicostatistics is easy but can't tell an archaism from an innovation even on good day, whereas reconstruction is hard but when rigorously carried out can reliably say whether, e.g., the higher level of cognation observed between Àkan and 'Bantu' than between Àkan and Gbè is due to shared retention or to mutations shared by Àkan and 'Bantu' of which Gbè knew not (or potentially to a combination of both). Standard drift theory already requires the former state of affairs, because a noncontiguous common innovation is statistically nigh impossible, and this inference is independently confirmed by the phonetic patterns of Stewart's "Potou-Akanic-Bantu" (PAB).

Taking just one of the simplest correspondence sets from Stewart's big database (1993, 2002), and supplementing it with outcomes in a few other major BK clusters which he did not reconstruct to PAB, (2) shows for coronals that PAB's reconstructed 4-way stop contrast was reduced by half in BK2: both Gbè (BK2) and Yorùbá (BK2) preserve only a 2-way split in the root onset.[7] But Ìgbo (BK1) preserves the historic distinction between four consonants in this position.[8]



(2)		Akuapem	Nkonya	Gbè	Yorùbá	[…]	Ìgbo	[…]	
	'ear'	-sʊ̃́	-sʊ́	-tó	-tí		-tʰì		*-tʊ́
	'stop up/close'	-sìw	-tɪ̃̀	-tú	-tì		-cʰí		*-dɪ̀b/-tɪ̀b
	'roast/burn'	-tʊ̃̄	-tɔ̀	-tɔ̀	-jó		-rʊ́		*-tʊ̀mb
	'eat'	-dì	-jì	-ɖù	-jɛ́		-lí		*-dí

The least that can be concluded from this distribution is that Àkan and Gbè share no common history after dissolution of the BK protolanguage, whose archaic members can be conveniently referred to as the remnant BK1. Note that the bare facts in (2) don't suffice to explain phonetic evolution in the respectively innovative group BK2, but the subjective picture is clear of massive BK2 restructuring of inherited roots in the simplifying direction where segmental shape is concerned. This much already reaffirms the doubts expressed by Capo (1985) and endorsed by Stewart (1994) about the utility of Williamson's (1984) vowel merger theory for Yorùbá, since it's not surprising for 'catastrophic' phonetic change in roots to erase vestiges of ancient vowel harmony sets, and Capo seems right to insist that high unexpanded root vowels may be an archaic in some BK clusters, but that this is not the case in Yorùbá where the phenomenon has a secondary and more recent origin.[9] Sound shifts crosscutting BK1/2 have not been found.

Additional direct evidence disproving "New Kwa" includes a velar-to-labial shift uniquely shared by Gbè and Yorùbá.[10]

		BK2				BK1			
		Gbè	Yorùbá	Nupe	Ìdọmà	Àkan	Ìgbo	Ẹ̀dó	"Proto-Bantu"
(3)	'hunger (v.)'	-wù		-gùn	-ŋmú		-g(ḥ)ú		*-guid 'seize'
	'hunger (n.)'		ebi			ọ̀kọ́m	ág(ḥ)ụ́/ó		
	'journey'		ebi	ezì	ɛ̀yɛ̀		íj(ḥ)è		*-gend
	'bend/bent'	-bɔ̀	-wɔ́			kòtów	-gɔ́	-gɔ	*-gòb
	'needle/thorn'	àbí	àbébé	èkin	ìgyé		àg(h)ịg(h)á		
	'pierce/split/sew'		-bé		-gá	-chwá	-g(ḥ)á	-gia	

Not illustrated above, along with consonant simplification BK2 underwent corresponding enrichment in the prosodic contrasts on a single root syllable, for example in the number of "tonemes" counted in the most conservative way possible. The various members of the Gbè cluster chose a highly varied set of compromises between 'full tonification' and other lexical prelinkings of

6. At a presentation of a draft of Manfredi (2010) on 1 November 2008, Professor Mous objected to my inclusion of Kru in BK1 as in (1), but failed to cite falsifying data or to respond to later email requests for same, in the absence of which I conservatively follow Greenberg (1963a).

7. The expectation, which I must still confirm, is that a similar situation obtains in both Nupe and Ìdọmà, the other BK2 clusters.

8. Ìgbo falls outside the western penumbra of 'Bantu' by the traditional definition of that fuzzy set, even though it has the supposedly Bantu feature of a present perfect in *-ile* (Nurse & Philippson 2003b, 176*f.*). The question stays moot until unique 'Bantu' innovations are identified.

9. Reconstruction of pharyngeal (also known as "ATR") harmony to PAB was first argued by Stewart & v. Leynseele (1979).

10. Here dotted *-gḥ-* denotes aspirated [gʰ], whereas dotless *-gh-* is fricative [ɣ], and the nonroman vowel symbols of Gbè and Àkan orthographies have been Nigerianized with subdots. All Gbè data in (5) are Ɛ̀vɛ̀. The Àkan devoicing is regular (Stewart 1993, 34; 2002, 219), as is the palatalization in the Nupe and Ìgbo forms of 'journey' and the Ìdọmà form of 'thorn'.

root-initial laryngeal features (Ansre 1961; Stahlke 1971; Gbéto 1995; Manfredi 2004), and the mere counting of tonemes obscures the 'chaotically' unique solutions to onset restructuring undertaken by all the members of BK2, exploiting a range of prelinking options (Manfredi 2010a, §2, cf. Halle & Stevens 1971; Nissenbaum & *al.* 2002). In this way, BK2 onset restructuring is a rich laboratory of actual evolutions, whose comparison and individual analysis bear on the phonological representation of syllables (Lowenstamm 1996; Scheer 2004) and on the lexical representation of roots (Lowenstamm 2007; Scheer 2008a, 2010).

2.3 Restructured grammars[11]

The phonetic restructuring hinted in (2) and partly illustrated in (3) accompanied a fourfold mutation of grammar, comprising two inaudible interpretive traits (4a-b), one piece of audible morphology (4c) and something traditionally seen as narrow phonology (4d) but which looks more like prosodic linking as stated in the immediately preceding paragraph. I've claimed (2003b, 2005, 2009) that the trigger for the lot, and thus for bifurcation of PAB=BK(1) into BK1≠2, was suffix erosion, a language-external process interfering with the learnability of (4c).

(4)a. A finite eventive predicate with minimal inflection is either present-perfect or past.
b. Aspectually unrelated events are excluded from a single clause.
c. Minimal finite inflection is an aux/proclitic particle, not a suffix or root-borne tone pattern.
d. At least three surface tones contrast on roots of the same category.

4 minus settings: {[Kru (?4a)], Àkan, Ẹ̀dó, Ìgbo, Bantoid…} = BK1
4 plus settings: {Gbè, Yorùbá, [Nupe (?4a)], [Ìdọmà (?4b)]…} = BK2
mixed settings: { ≃ ∅ }

The following paradigms contrast all four traits at once.[12]

Yorùbá (BK2)

(5)a. Ǹgìgè-é bi Ìgè (*jádèe).
N.-FIN ask I. exit
'Ngìgè (has) asked Ìgè (*and then left)'
LLL-H M LL (*HLM)

b. Ìgè-é gbé agbọ̀n (báàyìí).
I.-FIN lift basket thus
'Ìgè (has) lifted [a/the] basket (now)'
LL-H H ML (HLLH)

Ìgbo (BK1)

(6)a. Ǹgige jụ-rụ Ige (fụ-ọ́).
N. ask.FIN-CL I. (exit-AFF).
'Ǹgige asked Ìge (and then left)'
LLL L-L LL (L-H)

b. Ìge vu-ru ábọ (*ùgbú à).
I. lift.FIN-CL basket now
'Ìgè lifted [a/the] basket (*now)'
LL L-L HH (LH L)

As stated in (4a), BK languages differ in the tense outcomes of a minimally inflected clause: (5) but not (6) allows a present perfect reading in addition to simple past (Awóyalé 1991, 201). The extra option in (5) can be foregrounded by adverbs (*báàyìí* 'thus', *ní ìsìn yìí* 'right now') or preverb particles (*ṣẹ̀ṣẹ̀* 'just', *ti* 'from') of temporal deixis (Abraham 1958, 99, 320, 614, 639*f.*).[13] For an accomplishment like 'lift a basket', (5b) is true even if the basket remains held aloft (Ṣ. Adéṣọ́lá, Ọ̀. Ajíbóyè *p.c.*), but the same entailment is blocked in (6b) where inclusion of *ùgbú à* 'now' yields ungrammaticality (Ụ. Íhìọ́nụ́, C. Úchèchúkwu *p.c.*).

The difference just described eludes a syntax-free, E-language analysis of similar sentences in these two languages, whereby "[p]erfective forms (simple nonstative verb) are interpreted as referring to the past" (Comrie 1976, 82, citing Welmers 1973, 346*f.*). Short of entertaining a 'semantic parameter of *Aktionsart*, the contrast proves that the mapping from aspect to tense is not a direct default to semantics (Comrie *après* Reichenbach) nor to pragmatics (Dowty 1986). Neither is it possible to appeal to a crosslinguistic difference in tense-marking, because the suffix pronounced *-rụ* in (6) lacks temporal content: as is well known, it fails to deliver a past interpretation in case the lexical predicate is static, e.g. adjectival *-vù ívù* 'fat' or psych/P-based *-kpọ́ asị* 'hate'.[14] I conclude that the only relevant, audible asymmetry between (5) and (6) is scopal: (5) but not (6) is auxiliated, cf. (4c).

In standard Yorùbá, the aux element glossed FIN is pronounced as a pitch accent (lexically spurious H tone) on the right edge of a nonclitic subject (Abraham 1958, *xix*; Awóbùlúyì 1975). Linearization of FIN consistent with the spellout of the phase head T

11. For logistic reasons most of this subsection and the following are cribbed unadulterated from Manfredi (2005a, 2009).

12. At risk of redundancy, the tonemarking conventions adopted in this paper can be reviewed with these data. In <Yorùbá> MLH, unmarked syllables are mid. The H tone glossed FIN is normally written on the last syllable of the subject, thus in (6) <Ǹgìgé> LLH, but this is not phonetically distinct from a more analytic transcription [ǹgìgè-é] LLL-H thanks to regular tone spread (Akinlabí & Liberman 2001). In the BK1 convention due ultimately to Christaller (1975), an unmarked syllable has the same pitch value as the previous mark, thus in (7) <Ǹgige> represents [ǹgìgè] LLL. A downstep precedes the second H mark in sequence, as in the Ìgbo nominal <ígwé> 'sky' representing [í!gwé] H!H.

13. In (i), *ti* has been described as marking "perfective tense" (Bámgbóṣé 1966a, 94*f.*, cf. Abraham 1958, 639), however a homophonous item shows up obligatorily with certain adjuncts (Abraham 1958, 640; Carstens 1986), be they *in-* or *ex- situ* (ii, iii), suggesting an analogous structure for (i) with a null deictic reference time foregrounding one of the readings described in (5).

(i) Ǹgìgè-é ti$_i$ lọ ["now"]$_i$.
N.-FIN TI go
'N. has already gone'

(ii) Ǹgìgè-é [ti Èkó] lọ.
N.-FIN TI Lagos go
'N. left from/via Lagos'

(iii) [Ní ìgbà wo]$_i$ ni Ǹgìgè-é ti$_i$ lọ [t]$_i$?
at time which COMP N.-FIN TI go
'When did N. go?'

14. To label the item pronounced *-rụ* in (6) a past tense suffix (Green & Ígwè 1963, 54; Nwáchukwu 1976) is to posit a homophonous nonpast item in complementary distribution. Better a non-tense analysis of this morpheme, either as null aspect (Welmers & Welmers 1968, 76; Éménanjọ 1978; Manfredi 1991), affirmative polarity (Carrell 1970; Williamson 1983; Ụ̀walá̀ka 1988; Déchaine 1992) or an aspecually active argument-type clitic (Déchaine 1991; Manfredi 2005b). The choice of label is irrelevant to (4c) so long as the item has finite distribution.

(Manfredi 2010b) suffices to explain the tense difference at hand, as shown by an independent fact also cited by Comrie: in Yorùbá as well as (northern) Ìgbo the bare durative aux is compatible with either past or nonpast topic time. The items in question are Yorùbá *ń* and Ìgbo *nà* (Abraham 1958, 433 ex. 1e; Émènanjọ 1978, 174).[15] But many southern Ìgbo dialects form progressives with a suffix not an aux, and these unauxiliated progressives are *never* ambiguous as to tense (Émènanjọ 1985, 122-25; Déchaine 1991). Conclusion: ambiguity iff auxiliation (4c).[16]

The H glossed FIN in (5) is indeed an aux, not a sprinkle of phonology, and counts as a scope-taking element, because it stands in complementary distribution with the set of irrealis auxes including future and clausal negation (Oyèláràn 1982; Awóyalé 1991; Déchaine 1992, 1995). In Standard Yorùbá the same irrealis auxes which block auxiliary H also trigger 3sg subject *pro-drop*, perhaps diagnosing a Case split since 3sg accusative happens to be segmentally null (Manfredi 2003a, 2010c).[17] Affirmative FIN takes prosodic shape also in Ìgbo, but its position and pronunciation are opposite from what was just described for Yorùbá: Ìgbo FIN synchronizes with the predicate root itself, and its effect is suppression of root H, not addition of nonlexical H. This difference can be understood as Ìgbo deaccenting of the roots *-jú* 'ask' and *-vú* 'carry', versus Yorùbá accenting the head of TP.[18] In this way, (4c) captures the fact that Yorùbá but not Ìgbo locates the clause's point of greatest morphological redundancy (Kaye 2003) to the predicate's left, causing Yorùbá- but not Ìgbo-learning infants to conclude that the minimally inflected clause contains a tense-related aux—an 'extra' scopal position which can freely anchor to topic time, even though the verb's event is construed in the past.

(4d) is uncontroversial (Green & Ígwè 1963; Bámgbóṣé 1966b; Akinlabí 1985), setting aside asymmetries in toneme distribution (Manfredi 1993, 1995, 2003, 2004). (4b) refers to the ungrammaticality of the parenthesized serial predicate in (5), versus its counterpart in (6) which is fine. Bámgbóṣé (1974, 28) was the first to discuss this difference, observing (7a). (7b) is parallel, with the second predicate transitive. The Ìgbo equivalents of both are fully grammatical (8a-b) and no less "serial" (Ụ̀waláàka 1982; Manfredi 2005a) notwithstanding the popular E-language label of "consecutive construction" (Hyman 1971, Lord 1973, Stewart 1998; Baker & Stewart 2002).

	Yorùbá (BK2)		Ìgbo (BK1)
(7)a.	Mo ta iṣu (*wá). 1S sell yam come 'I('ve) sold [the] yams (*and came/come)'	(8)a.	Ḿ rè-re jí (wè-é) bya. 1S sell.FIN-CL yam take-AFF come.AFF 'I sold [the] yams and (then) came'
b.	Mo se ẹran (*ta bàtà). 1S boil meat sell shoes 'I('ve) boiled [the] meat (*and sold [the] shoes)'	b.	Ḿ shì-ri ánụ (wè-é) re-e shuù. 1S boilF.IN-CL meat take-AFF sell-AFF shoe 'I boiled [the] meat and (then) sold [the] shoes'

3. Predictions

(4) claims that all BK languages sort themselves into one or the other camp, Yorùbá-like or Ìgbo-like, as to the four traits. This is true to the limit of available descriptions. (4a) holds in Ìdọmà (Armstrong 1963, 143*f.)*. It's unclear in Standard Nupe, but seems to hold in the north of the cluster in Gbagyi ("Gwari"), where "yesterday" and "before yesterday" forms are built on a morphological present perfect (with object shift) plus modifying auxes (Hyman & Magaji 1970, 57). In BK1, by contrast, the recent/remote past distinction is orthogonal to the difference between past and present perfect in Àkan, Ẹ̀dó and Ìgbo, and probably also in traditional "Bantu" (Welmers 1973, 348). (4b) holds in both Fɔn-Gbè (da Cruz 1997, 31) and in Nupe (Stewart *& al.* 2000, 3):

	Fɔn-Gbè (BK2)		Nupe (BK2)
(10)	Kɔkú sɔ́ asɔ́n lɛ́ yi axi mɛ. K. take crab PL go market interior 'K. has brought the crabs to the market' [*'…took the crabs somewhere & then went…']	(11)	Musa du etsi (*gi nakàn). M. cook yam eat meat 'M. has cooked [the] yams (*& eaten [the] meat)'

15. In Yorùbá, Awóyalé (1991, 201*f.*) reports that any past reading of bare *ń* must be habitual, not progressive, but this does not alter the aux's basic durative meaning, on which habitual is parasitic. A second example of the same effect is the element *máa*, which in a non-finite context suffices to denote a habitual eventuality, but which in a finite context cannot occur without accompaniment of an explicitly durative aux, yielding either [*a máa*] or [*máa ń*] (Oyèláràn 1989).

16. Relying on Comrie's summary of Welmers, Hornstein imagines that "in some languages the same morpheme marks the past and the present tense" (1990, 216 *fn.* 25) and takes this to support Reichenbach's rich temporal meaning postulates, but that's mistaken: real tenselessness (temporal ambiguity) in BK requires auxiliary scope, i.e. it's a configurational property not attributable to morphological 'marking' by itself. Perhaps recognizing this, Comrie's second draft on "tenseless languages" (1985, 50-52) drops all Niger-Congo data.

17. Overt FIN is blocked, in the Yorùbá examples in (7), by the overtly nominative subject clitic. After a nonclitic subject, Yorùbá orthography usually glosses over the presence of FIN, whose phonetic linearization is subtle and requires instrumental study: for example, after nonclitic subjects of certain tone patterns such as ML, it may be less audible on the subject to its left than on the predicate root to its right (F. Adékẹ́yè *p.c.*)—perhaps as an effect of foot structure (Manfredi 1995). Another example could be the "optional" (Bámgbóṣé 1966a, 35) occurrence of FIN before *á*, the prospective aux:

    (i) Èrò/Èró á pọ̀.
    crowd PROS plentiful
    'There will be many people'

    (ii) Wọn/Wọ́n á pọ̀.
    3P PROS plentiful
    'They will be numerous'

    Ṣ. Adéṣọlá (*p.c.*) finds "no obvious [semantic] difference between each pair" above, so I'm inclined to invoke phonetic spread of the lexical H from the onsetless mora of *á* within its phase i.e. leftward (Manfredi (2010b). The alternative is to assume that Oyèláràn's [±realis] feature is simply undefined for this aux. The picture in nonstandard dialects is different (Fresco 1970) but thusfar has not been analyzed.

18. The analysis of FIN's lowering effect in Ìgbo as phonology somehow triggered by the clitic *-rụ* (Goldsmith 1976, following Welmers 1970, 51) can't be true, because the distributions are independent: the appearance of CL is compositionally determined by predicate *Aktionsart* and sentential aspect (Manfredi 2005b), whereas FIN marks a nonauxiliated, finite indicative affirmative with any aspectual content, so Ìgbo has unlimited examples of FIN-lowering in the absence of CL.

(4b) has the BK1 value throughout the macro-Àkan cluster (Christaller 1875; Stewart 1963; van Leynseele 1979; Dolphyne 1988; Campbell 1988; Sáàh 1992, 1995; Larson 2005), and the same goes for "all [Bantu] languages for which there is adequate data" thanks to a "consecutive tense"—comparable to the non-initial predicates in (6) and (8)—with the requisite properties of being a finite "dependent form" (morphologically distinct from an infinitive) in which "tense distinctions are neutralized" i.e. supplied by the preceding verb (Nurse 2003, 101*f.*).

(4c) is challenged in Gbè by a range of suffixed main verbs (Fabb 1992; Kinyalolo 1992; Aboh 2004), but on second thought all these are either overtly auxiliated progressives (Mínà-Gbè, Fɔ̀n-Gbè), or else generic/nonreferential (Gɛ̀n-Gbè, Èʋè-Gbè). To refer to either past or future, the generics need a suppletive aux—a stative modal lexically related to a predicate meaning 'remain' (Westermann 1930, 75*f.*)—but such suppletion is absent in the suffixless generics of Yorùbá. Overall, the fact that Gbè sentences can have zero overt inflection—prosody included—is more consistent with a positive value for (4c) than a negative one, assuming that infants allow null finite inflection as a last resort, localized by scopal considerations in the Middle Field. Apparently this bias can be undone by slight audible counterevidence like the Ìgbo version of FIN described above, or the "final vowel" which is "part of [Bantu] inflectional morphology" (Schadeberg 2003, 71) in complementary distribution with finite aspectual *-ile* (Meinhof *&* *al.* 1932, 45). In sum, Gbè shows that the unmarked value of (4c) is the one chosen by BK2.

Potential counterexamples to (4d) are few and unconvincing. Mambila (Bantoid) is called "a language with four level tones" (Connell 1996), but uninflected roots of predicate type choose from only two distinct pitch values (Connell 2000, 167). Similarly, Kamba and Chaga (of "narrow Bantu") possess "four tone levels" only by counting "*secondary* superhigh and superlow" (Kissebirth *&* Odden 2003, 59, my italics). In certain varieties of Gbè, as mentioned above, the M/L distinction is fully reducible to phonation type (Ansre 1961) but only if syntactic phrasing is taken into account (Stahlke 1971; Manfredi 2004). In BK2, 'tones' are more typically underspecified relative to position (Yorùbá onsetless prefixes can't bear H, Gbè prefixes don't contrast M and L) than they are to lexical category (as is the norm for BK1, see above). Such asymmetries matter, because the generalization in (4) cannot hold unless paradigmatic properties like tone contrasts are systematically related to morphosyntax.

Absent synchronic evidence for mixed values of the subrules of (4), I conclude that BK contains only two parametric states, BK1/2. Given the large population of BK languages, such a result is beyond the coincidence of drift, and is irreducible to gradient borrowing. The remaining possibility is common origin.

4. Explanations

The BK bifurcation hypothesis above claims that all the observed effects are consistent with a single shift in the domain of phase spellout, from relatively late (complement of C = TP) in BK1 to relatively early (bare VP) in BK2, consistent with the finding in other language families that that the timing of spellout can vary across closely related varieties (Barbiers 2009). This shift could easily also be formalized as loss by TP of the status of "extended phase" (den Dikken 2007), leaving VP as the default, except that phase extension technically assumes narrow syntactic head movement V-to-T, which is as unworkable in Benue-Kwa (Manfredi 2005a) as it is in French (Williams 1994). Another instance of prosodic bifurcation occurs in the nominal domain in Sinitic (Manfredi 2010b).

The two inaudible—and probably not directly learnable—traits in (4) can be derived from late spellout, very briefly, as follows. For (4a), if tense in BK2 necessarily fills the Aux position glossed *FIN* in (5) above, and if semantic and phonetic phases run in parallel (Chomsky 2004, 107) then BK2 languages with minimal finite inflection get 'two bites at the apple' of temporal reference via pragmatic default: a 'bare' eventive VP receives a past denotation (Déchaine 1991 following Welmers *&* Welmers 1968, 76), but additionally null T can anchor to topic time (Enç 1987), and past plus topic time straightforwardly yields present perfect. For (4b), the generalization is that "a sequence of aspectually unrelated events cannot be expressed in a single clause… unless each root is either local to Tense or audibly tensemarked (Manfredi 2005a, 13). In BK2 the second root fails this condition, hence its temporal reference is parasitic on the event structure of the first root, failing which it is uninterpretable.[19]

The inheritance of syntactic parameters such as the one whose effects are summarized in (4) has been independently argued to be possible in Indo-European and in general (Longobardi *&* Guardiano 2009). Note that the particular cluster of effects in BK need not ever repeat outside of BK: Perlmutter's "null subject parameter" (1971) alias "*pro*-drop" works well for Romance minus French, relating null subjects to free inversion, absence of the comp-trace effect and presence of rich agreement, but it breaks down outside Romance in various ways, as extensively discussed by Biberauer *&* *al.* (2010), hence it's not literally a parameter of UG anymore than (4) is. *Pro*-drop nevertheless has explanatory adequacy so long as it's reachable from an initial state related to the independent inherited grammar of Indo-European with univerbation of agreeing clitics; in other Indo-European branches like Germanic it's substantially lost through externally triggered change, though it remains very similiar in others like Greek. As in BK, so in Indo-European, the respective parametric change was triggered by inflectional erosion, but with manifestly different consequences because of the different content of inflection in the initial state: if BK had 'agreement' at all (Kinyalolo 2004 vs. Baker 2008), it was morphologically speaking in a proclitic and not an enclitic position and hence much less erodable as such, whereas erosion of the bare finite affix triggered the default to small phases in BK2.

19. For some reason, irrealis/infinitival interpretation of the second root is impossible both in BK2 and in "Atlantic creoles" (Mufwene *&* Dijkhoff 1989, 326 fn. 26), although the situation in Mandarin is apparently different (Paul 2004).

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