

[Áfa, the Ñri-Igbo counterpart of Ifá](#)

Conference on *Ifá* divination in Africa & the Diaspora, Harvard University, 14 March 2008 Grupo de Estudos Africanos e Afrobrasileiros em Línguas e Culturas, [Universidade do Estado da Bahia](#), 15 April 2009 (Os caminhos de Ifá) Current ms abridged at the request of, but eventually not included in, the 2008 conference proceedings (working title: *Sacred Knowledge, Sacred Power & Performance; Ifá divination in West Africa & the African diaspora*, edited by J. Olúpòṅà & R. Abíòdún, Harvard University Press, Cambridge, Mass)
[19 pp A4, last modified 28 June 2013]

ABSTRACT: *Áfa* and *Ifá* are two of many localizations of a farflung West African 'oracle' (information retrieval system) whose digital processor keys natural language text to 256 ordered pairs of 4-bit arrays (ordered binary sets) While being ported south and west from the Benue river valley some 500 years ago, the oracle's own name and those of its proprietary terms underwent sound change in the receiving languages These phonetic shifts, plus paralinguistic mutations, remain behind as footprints on the transmission routes The texts themselves also evolved along their branching path as emergent élites turned from ancestral legitimation rooted underground, to novel authority dangling from the sky

BIBLIOGRAPHIC NOTE: Two files of supplementary data included in earlier versions of this manuscript are now posted separately:

[Comparison of 4-bit array names and associated information from oracle localizations across 5 historical zones](#)

[1 p 410 x 230 mm, last modified 11 June 2013]

[8-bit semantic key — comparison of 7 oracle localizations](#)

[5 pp A4, last modified 25 May 2013]

Part two of this research can be found in the companion manuscript [Before Wazobia: Òminìgbòn and polyglot culture in medieval 9ja](#), posted immediately below

[Before Wazobia: Òminìgbòn and polyglot culture in medieval 9ja](#)

[38 pp A4, last modified 27 July 2013]

[Walter Rodney Seminar](#), African Studies Center, Boston University, 13 February 2012 [Handout](#) [4pp A4, last modified 8 March 2012]

ABSTRACT: A scholarly reincarnation of Egharhevbá's *Ìha Ominìgbòn* (1936) is long overdue This Èdó classic has intrinsic value as cultural description but is virtually unobtainable today It is also relevant to wider historical relationships — even if not in the Ifè-centric way intended by its author — and requires critically-informed translation for both academic and popular access

Preliminary comparisons with Yorùbá *Ifá* and Ìgbo *Áfa* show that *Òminìgbòn* breaks the presentist mold of an encompassing Yorùbá-Èdó world system (Ògúndiran 2003, 57, cf Burton 1863, 222) Ìgbo etymologies exist for core *Ìha* terms *ògwèḗḗga* and *n'áàbe*, as well as for *Ogbeide* — the second appellation of the person who introduced the system to Èdó (Egharhevbá 1936, 3, no tone indicated) Respectively, the Ìgbo sources are *òkwè èja* 'oracle seeds', *n'áàbo* 'double' and *ò-gbú ire* '[performing/possessing] very effective [sacrifices/medicine]' An Ìgbo source for *Òminìgbòn* is independently plausible from comparison of the casting method (Emovon 1984) with Ñri-Ìgbo procedures (Ònwèjìògùwù 1978) in contrast to those of *Ifá* (Abimbólá 1976) Transmission from Èdó to Ìgbo is also consistent with how the oracle crossed the southern 9ja area in medieval times as reconstructed by evidence of loanword phonology, and with matches between the 256-part semantic keys of *Áfa* and *Ìha* on the order of 35% — well above the level of chance similarity — whereas analogous array-matching with *Ifá* is on present knowledge undefined (Manfredi 2009a)

These observations and a long list of others support the view that Yorùbá oral history has confused Odùduwá with Òrúnmilá (Erediauwa 2004, 206) by telescoping several distinct eras together in the service of Ifè-centric narratives motivated by the modern politics of 9ja, the *Nàjía* area, colonial Nigeria (cf Ryder 1965 Vansina 1971, 457 Law 1973 Obáyemí 1979) The codification of *Ifá* shows the mnemonic bias of several arguably modular cognitive domains — number, folk biology, folk sociology, theory of mind — plus the nonmodular but eminently memorable genius of paganism (Augé 1982) and its superstimuli (Sperber & Hirschfield 2004, 45)

UPDATE 12 January 2013: On Saturday 5 January 2013, the boss of Ifè Central Local Government joined General Akínrinádé and the Oñni at the commissioning of the gigantic Orí Oló kun edifice [...] at the Mayfair Roundabout (Adésinà 2013) This is the very spot where 9ja police (alias *Sorrow, Tears & Blood*) fatally stampeded a peaceful anti-*Síjùwádé* protest on Sunday 7 June 1981 (cf §3.5 of my paper) Public doubling down on the Frobenius myth shows the force of Wazobíjan consciousness in the same vein, Olúpòṅà (2011)

Adésinà, B [2013] At Orí Oló kun launch, Yorùbás canvass cultural renaissance *Guardian* [Lagos], 11 January

Olúpòṅà, J [2011] *City of 201 Gods; Ilé-Ifè in time, space & the imagination* University of California Press, Berkeley

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Áfa, the N̄ri-Igbo counterpart of Ifá*

[last updated 28 June 2013]

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Abstract. Áfa and Ifá are two of many localizations of a farflung West African ‘oracle’ (information retrieval system) whose digital processor keys natural language text to 256 ordered pairs of 4-bit arrays (ordered binary sets). While being ported south and west from the Benue river valley some 500 years ago, the oracle’s own name and those of its proprietary terms underwent sound change in the receiving languages. These phonetic shifts, plus paralinguistic mutations, remain behind as footprints on the transmission routes. The texts themselves also evolved along their branching path as emergent élites turned from ancestral legitimation rooted underground, to novel authority dangling from the sky.

1. Not in our (federal) character

Why carry Ìgbo *Áfa* to a conference about *Ifá*, that poetic monument of Yorùbá metaphysics crowned with Bascom, Verger and Abím̄bólá’s scholarship? Federal character—affirmative action, Nigerian style—is not good enough a reason, having been disqualified by a century of “fraud” and “betrayal” (Akínjídé 2000, Vickers 2010). But a properly transparent motive for juxtaposing *Áfa* and *Ifá* does exist: natural science takes diversity as the starting point of analysis, not the final goal, and seeks to explain observed differences in terms of abstract regularities expressed as quasi-universal laws. The comparative method, child of Renaissance humanism that matured with Darwin’s and Schleicher’s histories of species and languages (Pfeiffer 1976, Alter 1999), aims to reconstruct unattested unity from observed diversity by collating nonaccidental similarities. Mutations—whether transcribed in molecules or in words—that spread unevenly across a population, can be reversed in thought and then replayed “forwards in time” (Watkins 1962, 7) to simulate prehistorical unfolding of what now exists. Changes propagated on horizontal (intra-generational) pathways are called borrowing and modeled as areal waves; those taking vertical (inter-generational) routes are described as inheritance and mapped onto trees—be they phylogenetic lineages or literary *stemmata*.¹ Leakage from horizontal to vertical modality—the Lamarckian effect also known as constructive transmission or directed variation—typifies the evolution of culture (Sperber 1999, Jablonka & Lamb 2005, Kronfeldner 2007, Koster 2008, Mufwene 2008) and was decisive in *Ifá*’s development.

2. Demographic framework

Comparing the sixteen 4-bit array names as they are pronounced in seven localities of the “Kwa” zone of the Niger-Congo language family (Westermann 1927, 20; Greenberg 1963, 8), Armstrong concluded that “the spread [across ethnolinguistic boundaries] of this particular divination institution was a relatively recent historical event” (1964, 137).² The paper’s French blurb clarifies:

La linguistique montre que la diffusion de ce culte sur la côte de Guinée est bien plus récente que la separation des divers langages Kwa entre eux. [Linguistics shows that the spread of this initiation society along the West African coast is much younger than the separation of the various Kwa languages from each other.] (1964, 143f, emphasis added)

True enough—but discussion has subsequently moved on, and can be made more precise, in several ways:

(i) The aggregate labels *Kwa* and *Benue-Congo* have succumbed to “legitimate doubts... concerning the validity of the division between them” (Greenberg 1963, 39 fn. 13, cf. Mukarovsky 1977, 240). The null hypothesis is to merge them together as a “dialect continuum” called Benue-Kwa or East Volta-Congo (Williamson & Blench 2000, 17f.; cf. Stewart 1976), unless a more successful historical partition can be suggested.

* Dedicated to Professor M. Ọnwụejíọgwù (1934-2008), anthropologist who spent most of his career at the University of Benin, Benin-City; and to “Ígwé” B. Àkụnné (1924-2006), curator of Ọ́dínàní Museum, N̄ri. In 1976, Ọnwụejíọgwù generously shared a draft of his thesis on *Áfa* (1978/1997) and brought me to the home of kindly Àkụnné, who organized the recording transcribed in the Appendix. *Dààlúkwa n̄i, ó! Èkú ùj̄j̄t ọ́p̄n!* The first draft of this essay was presented in the Harvard Ifá conference (14 March 2008) at the invitation of Professor J. Olúp̄nà. *Èkú ùj̄j̄t ọ́p̄n!* Professor Y. Pessoa hospitably organized the second outing, at Grupo de Estudos Africanos e Afrobrasileiros em Línguas e Culturas, Universidade do Estado da Bahia (15 April 2009). Thanks also to W. Abím̄bólá, O. Èb̄h̄on, A. Lühning, S. Oyèlárán and many others. The virtual reunion of Ifá’s dispersed family convokes three other mentors who have meanwhile become ancestors (*dí òr̄ȳs̄à*) and whose intellectual *eegun* (re-re-re) help to carry Fá’s heavy *eégún* shroud. Professors R. Armstrong, D. Nwàòga and A. Ọbáyemí, see kola.

Transcription. ◆ = concave surface down; ◇ = concave surface up; left side = top of array. Forms preceded by * are either synchronically ungrammatical (claimed to be impossible) or historically reconstructed (claimed to have once existed). Orthographic *ɛ, ɔ* are romanized as *ɛ, ɔ*. Dotted *Ch* is aspirated [Ch], dotless *Ch* is fricative, e.g. *gb* is [ɣ]. ‘C’ is a ‘lenis’ (light) consonant articulation (Stewart 1973). *ŋ* is a velar nasal. Tones are marked [´] = H and [̀] = L. The tonal value of an unmarked syllable differs between Benue-Kwa subgroups (cf. Manfredi 2009). In BK2, comprising the Gbè, Yorùbá, Nupe and Ídòmà clusters, no mark = M. In BK1 (Àkan, Èdó, Ìgbo, Cross, “Bantu”...), no mark = same as preceding syllable and a sequence of H marks = downstep juncture before the second H, e.g. Èdó *Ólókún* (HH¹H). Word-internal period before M = downstep, e.g. Yorùbá *Olá kún* (MH¹M) ‘possessor/epitome of *ókun* (LM) [the ocean]’ vs. *olókun* (MHM) ‘possessor/epitome of *okun* (MM) [energy]’. Word-internal period before L represents the non-spreading of a preceding H, e.g. Yorùbá *olá.dù* (MH¹L) ‘possessor of an *òdù* (LL) [clay cauldron]’ vs. *olódù* (MHL) ‘possessor of an *odù* (ML)’, Èdó *ná.dẹ́* (H¹L) ‘yesterday’ vs. *ókà* ‘maize’ (HL).

1 The division of labor between stems and waves reflects complementary macro- and micro- views of change (Schmidt 1872, Meillet 1922), but sometimes the two perspectives clash. Romantic/racist ideas of cultural inheritance were explicitly countered by the concept of diffusion (Boas 1940, Jakobson 1944), but some historians still react with angst at the possibility of Egyptian religion in Ancient Greece (cf. Bernal 1997).

2 A bit is a binary digit, taking a value of either 0 or 1. ...Eight-bit bytes, also known as octets, can represent 256 values (2⁸ values, 0-255). A four-bit quantity is known as a nibble, and can represent 16 values (2⁴ values, 0-15). ...“Word” is a term for a slightly larger group of bits, but it has no standard size. (en.wikipedia.org/wiki/Bit)

(ii) Lexicostatistic counts (Swadesh 1952) were initially endorsed by Armstrong (1962) but he later found them “objectionable” (1983, 146) and they are now roundly “rejected” by comparatists (Campbell 1998, 186, cf. Embleton 2005, 437). Translated wordlist percentages may accidentally approximate historical relationships at some time-depths, but there’s no reliable shortcut to sorting out language groups philologically, or to giving prehistoric cultures calendrical dates by applying archaeology’s even grittier techniques.

(iii) The terms “spread” and “diffusion” beg to know from where to where. Fá’s crosslinguistic leaps left audible tracks as oracle-specific terms crossed between individual languages and underwent normal phonetic rules for exotic-sounding loans (§3). In tandem, other types of mutations occurred in Fá’s intellectual capital (§4) and in supporting metaphysics (§5).³

3. Historical Fá-netics

Adétúgbò (1967, 201) maps two sound shifts affecting the NW Yorùbá dialect area—roughly, the Òyó kingdom—which reduce a *g*-like (voiced velar) consonant to *w* (a bilabial glide). The mutations include *ògbe* > *òwe* ‘proverb’, *àgha* > *àwa* ‘1 pl’ and the Òyó pronunciation of *Ògbhù* [‘a town in *Ònàdó*] as *Òwù*, as well as *gwi* > *wí* ‘say’, *gwó* > *wó* ‘collapse’ and *ègná* > *èwá* ‘ten’. The table below (updating Armstrong 1964, 139 and Peek 1982, 189) suggests that Ifá jargon was caught up in one or both of these NW developments.⁴

	Fòn-Gbè	NW Yorùbá	NE Yorùbá no tones in source	Nupe no tones in source	Ngas no tones in source	Èdó ♯180°	Ùrhobo ♯180° no tones in source	WÌgbo	Ñri-Igbo	Ñsúkà-Igbo ♯180° no tones in source	Ígálà	Ìdòmà
◊◊◊◊	Gbè	Ogbè	[Ošika]	[Šikan]	[Shi]	Ógbi	Ogbi	Ógbi	Óbi/Ógbù	Obi	Èbí	Èbì
◆◆◆◆	Yèkú	Òyèkú	Oyeku	Eyako	Kum	Àkó	Ako	Àkwu	Àkwu/Àhwu	Akwu	Ákwù/Oyeku	Ákwù
◆◆◆◆	(W)òlì	Ìwòrì	Ogori	Gori	Guiri	Òghoi	Oghori	Ògoli	Òyeri/Ògori	Ogoli	Ògòlì	Ògòlì
◊◆◆◆	Dí	Èdí/Òdí	Oji	Eji	[Nwa]	Òdín	Edi/Odi	Òdí	Òdí	missing	Òjì/Òdí	Òjì
◊◆◆◆	Ab(á)là	Òbàrà	Obara	Bara	Mbara	Ò(v)ba	O(v)bara	Òbaǎ	Òbala	Obara	Òbàrà	Òblà
◆◆◆◆	Aklán/Akánà	Òkànran	Okanran	Kana	Gina	Òkan	Okanran	Òkaǎ	Òkala	Ogara	Òkàrà/Òkòṅò	Òklà
◊◆◆◆	Lósò	Ìròsun	Orosun	Rusu	Lusu	Òrúuhu	Urhur(h)u	Úlúshù	Úrúru	Uhu	Òlòrù	Òlò
◆◆◆◆	Wòlín/Wèlé	Òwónrín	Oga	Ega	[Chiyong]	Ògháe	E/Aghare	Ògá(l)í	Áyári/Ágári	Ègali	Ègálì	Ègálì
◊◆◆◆	Gùdá	Ògúndá	Ogunta	Guta	Kura	Ighítan	Ighite	Èjíte/Ògúte	Ìjíte/Ògúte	Ijite/Ogute	Èjítá/Ogwute	Èjítá
◊◆◆◆	Sá	Òsá	Osa	Esa	Saa	Òhá	Orha	Òshá	Òrá	Oha	Òrá	Òlá
◊◆◆◆	Letè	Ìrètè	Irete	Etia	Lete	Ete	Ete/?Eke	Ete	Ète/Èke	Ete	Ètè/Òlètè	Ete
◊◆◆◆	Túlá	Òtù(r)á	Otura	Turia	Toro	Ètùrè	Erhurè	Ètùle	Òtùre	Oture	Òtúlá	Òtlé
◆◆◆◆	Trúkpè	Òtúrúpòn	Otaru	Rakpan	Matpa	Èrhóxuá	Erhokpo/a	Àtùrkpá	Àtùrukpá	Ètùrukpa	Àtúnùkpá	Ètùrukpá
◆◆◆◆	Ká	Ìká	Oyinkan	Yikan	Mishpa	Èká	Èka	Àká	Àká	Èka	Èká	Èká
◊◆◆◆	Chè	Òsè	Okin	Arikin	Kye	Òsè	Ose	Òsè	Òsè	Ose	Òchè	Òchè
◆◆◆◆	Fú	Òfún	Ofun	Efu	[Kaplá]	Òhún	Ophu	Òfú	Òhú	Ohu	Òfú	Òfú

Figure 1. Comparison of 4-bit array names across 12 localities

More specifically, comparison with Èdó *Òghoi* and *Ògháe* raises the likelihood that the NW forms *Ìwòrì* and *Òwónrín* reflect develarization *gh* > *w*.⁵ Middle belt languages like Ígálà and Nupe, lacking such a rule, gave a different treatment to borrowed oracle words with *gh*, strengthening the sound to *g*. An imaginable reverse scenario, with Ùrhobo and Èdó weakening *g* > *gh*, flunks the simplicity test, since a language already possessing an indigenous *g* has no reason to tamper with a borrowed one.

If Òyó develarization applied to proprietary oracle words including the array names in (1a), it follows that Ifá reached Òyó while the phonetic shift was still ongoing there. But when was that? Any ongoing sound change takes at least two generations to convert from a socially restricted style to an unconscious communal norm (Labov 1963, Akéré 1982) and the intrinsic timelag adds a margin of error of tens (but not hundreds) of years. Adétúgbò considers develarization to be “one of the oldest characteristic differentiating factors between SEY and NWY” (1967, 201). An Òyó tradition regarded as “essentially historical” correlates “the introduction of... the cult of Ifá... from the Àwòrì town of Òtá” with “Alááfin Ajíbóyèdè’s victory” in the late 16th century over “the Nupe threat” (Law 1976, 43f).⁶ If Ifá is therefore about 400 years old in Òyó, it’s consistent with evidence that develarization ceased thereafter: Portuguese *goiaba* [gwoyáβα] ‘guava’ was adopted as *gúrùbà* ~ *gúrùfá* ~ *gólóbà* ~ *gílóbà* not **wúrùbà* ~ **wúrùfá* etc., and English *guava* became *gúúfá* ~ *gúáfá* not **wáfá* ~ **wófá* (Abraham 1958, 257; Awóyalé 2008).

Even though Ifá’s array names in NW Yorùbá are older than the oldest loans from European languages, they’re much younger than basic Yorùbá vocabulary. This is clear from the contrast between the relevant oracle words (1a) and mundane lexical roots whose

3 The words in Figure 1 have no etymologies. The claim that “Ifá, Fá and ‘Sixteen Cowries’... derive *directly* from the Arabian prototype” (Binsbergen 1997, 230, my italics) is true at best of the graphic mode for representing 4-bit numbers, but no one has ever found Arabic sources for Ifá’s terminology or interpretations, or even credible “[i]ndications of an Arabic origin for... the names Ifá... and Òrùnmílà” (Morton-Williams 1966, 407, *pace* Odùuyoyè 1971). By contrast, Arab antecedents are clear in the numerous sand-writing oracles of the Sahel and adjoining areas (Maupoil 1943b, Nadel 1954, 55–64, Kassibo 1992, Eglash 1997, 116, Colleyn 2005, Sow 2009, Jansen & Kanté 2010), whereas those systems show no similarities—whether phonetic, semantic or procedural—to the ones under consideration here, apart from 4-bit number notation itself. An apparently isolated exception is the match in Ígálà between “Ifa-anwa” and “Ifa-ebutu” for seven out of the sixteen 4-bit glosses (Boston 1974).

4 Excerpted from people.bu.edu/~manfredi/4bitArraySpreadsheets.pdf. For the three 180° rotations, see Figure 3 in §4.3 below.

5 The Ìlòrín transcription “Gwónrín” (Clarke 1939, 255) could reflect a middlebelt source or an improvised attempt to spell phonetic *ŋwónrín*.

6 The story that “the Ifá oracle was brought [to Yorùbá] by a Nupe man” (Beier 1956, 27) may telescope the Ajíbóyèdè tradition. In Yorùbá, the word *tápà* often refers specifically to Nupe, as in proverbial descriptions of the Ìgunnu mask, but can also point broadly to the savanna zone called Kákàndà, where several indigenous languages are spoken besides Nupe, including Ebira and Ígálà (Òbáyemí 1980, 158f., 1983). Àwòrì (Àhòrì) are a far-southwestern Ègbá subgroup (Abraham 1958, 178 citing Blair 1940).

bilabial consonants in Yorùbá have etymologies with velar stops (1b). Two considerations require that the sound shift in (1b) is older. It's more *extensive*, covering not just a Yorùbá subregion but the whole Yorùbá-Ígálà cluster, as shown by the *b* in Ígálà 'hunger (n.)' versus the *g* in Ígálà $\blacklozenge\blacklozenge\blacklozenge$. It's also more *intensive*: more phonetic features must be changed to get from a velar stop to a bilabial stop to a bilabial glide, $g > b > m$.⁷

		Benue-Kwa									
		BK2					BK1				
		Y-I									
		Gbè	NWYorùbá	Ígálà	Nupe	Ìdòmà	Àkan	Èdó	Ìgbo	"Proto-Bantu"	
(1a)	$\blacklozenge\blacklozenge\blacklozenge$ $\blacklozenge\blacklozenge\blacklozenge$	(W)ólì ŋólí/Wèlé	Ìwòrì Òwónrín	Ògòlì Ègálí	"Gorì" "Ega"	Ògòlì Ègálí		Òghoi Òghác	Ògori/Òyeri Àgári/Àyári		
(1b)	'hunger (v.)' 'hunger (n.)' 'journey' 'needle/thorn' 'pierce/split/sew' 'bend/bent' 'cowry' 'buy'	-wù ebi -bẹ -hó/-wó	 ebi àbẹbẹ -wó owó	ébi ékin ewó	-gùn -gá	-ŋmú èyẹ ìgyẹ -gwá	òkòm -gia -gò	 -gia -gò	-g(h)ú àg(h)uú/ó íj(h)è àg(h)ig(h)á -g(h)á -gó/-g(h)ò ég(h)ó -g(h)ó	*-guid 'seize' *-gend *-gua *-gòb *-gUd	

And if NW develarization predated the Portuguese era, it entails that the names in (1a) were already pronounced with *w* before Òyó ritualists brought Ifá to Tẹgbesu's 18th century Àgbómẹ court (Herskovits 1938, 104 *fn.* 1; Yáì 1992). This is consistent with the phonetic treatment shown by other Yorùbá words borrowed by Fòn presumably around the same time: Yorùbá *g* and *w* were transferred to Fòn intact, even though *k* was labialized (at least in a nasal syllable) and *b* weakened to *v*, cf. (2).⁸

		Fòn-Gbè < Yorùbá	
(2)	'òriṣà name'	Gún	Ògún
	'Cola nitida'	gólò	górò < Hausa [gwóro]
	[leadership title]	duwo	olúwo
	'(type of) seed'	kwin	ikin
	'oracular lots'	vo-de	ibò

Other data indicate that the 8-bit oracle arrived earlier, further east. In the Macro-Èdó cluster (alias "Edoid"), oracle-specific terms (3a) show a phonetic pattern matching some items of basic vocabulary (4a). If so, then the oracle's arrival in Èdó proper (alias "Bin?"), Ísóko and Òrhobo must have been relatively near in time to the diversification of these languages from each other. While no absolute date exists for Macro-Èdó separation, it's unlikely to be less than 500 years ago.⁹

		Benue-Kwa												
		BK2						BK1						
		Gbè		Y-I		N-E		Macro-Èdó						
		Èvè	Mínà	Fòn	Yorùbá	Ígálà	Nupe	Ebira	Ìdòmà	Èdó	Òrhobo	Ísóko	Uvbiẹ	Macro-Ìgbo "Proto-Bantu"
(3a)	[oracle name] $\blacklozenge\blacklozenge\blacklozenge$	"Afa" "Fu"	Iphá Fú	Fá Fú	Ifá Òfún	Ifá Òfú	Eba "Efu"	"Eba"	Èpa/Èba Òfú	Ìha Òhún	Èpha "Ophu"	"Eva" "Ovu"	Áfa/Èfa/È(p)ha Òfú/Òhú	
(3b)	[place name]				Ifẹ/Úhẹ					"Ife" "Ophu"	Úhẹ			
(4a)	'debt-pawn' 'urinate' 'fly/blow [wind]'	àwọbá			iwọfá		swáfá -bóli -bẹ			iyọha -hiọ -hie	-phá 'pay' -phẹ	ijova -vẹ -vbẹ	-fẹ/-phẹ/-hẹ *-pep	
(4b)	'wash [cloth]' 'breeze/wind'	...fáfẹ			-fọ	-fọ	-fo efẹ			-họ [-fọ *-fẹ...	-họ -fọ	ufẹre/ihuhe *-pepo	

Also deducibly, the items in (3a) did not move from Yorùbá to Èdó. Not recently, because Èdó fails to change *f* to *b* in modern loans, otherwise in Benin-City a Catholic padre should be **ebadá*, not *efadá* (Melzian 1937, 28). Ísóko and Òrhobo also possess indigenous *f* and so lack any reason to change it in a borrowed word. The remaining possibility is that the items in (3a) reached Macro-Èdó in time to undergo older sound shifts, but in that case the donor community could not have been Yorùbá-speaking. Elugbe (1986) reconstructs the [h=ph=v] pattern (4a) as **p*—a consonant produced with 'lenis' (light/unreleased) constriction—in

7 In (1a), ŋólì is Èvè (Surgy 1981, 43), as are all Gbè data in (1b) except the second form of 'cowry' which occurs in Fòn *èkwe-nú* 'cowry' (Segurolo & Rassinoux 2000, 488). Èvè received the "dzisa" oracle via Tádó Kingdom before the (À)nàgó oracle arrived from "Àyó" = Òyó (Surgy 1981, 12, 22 no tones, cf. Herskovits 1938, 104, Kligueh 2001, 199). Àkan devoicing $g > k/ç$ is regular (Stewart 1993, 34; 2002, 219) as is palatalization in Nupe and Ígbo 'journey'. The nasal stop in Ìdòmà 'hunger (v.)' matches the nasal prosody in Nupe and the aspiration (murmur) in southern Ígbo, where dotted *CbV* is the outcome of **CnV* (Williamson 1973a, Ladefoged & al. 1976). Èdó *igbo* 'cowrie' needs separate explanation. In Àgbò—adjacent to Èdó at the Ígbo cluster's western edge—the root for 'buy' is -*ŋó* whose consonant is a common source for the voiced velar fricative *gb* [ɣ]. Even so, *gb* can't be the unique source of Yorùbá *w* in (1b), given the nonspirant *g* in Èdó 'bend'.

8 Cf. Maupoil (1943a, 218f). The second element in *vo-de* could be the word for 'amulet' (Höftmann & Ahoounkpanzon 2003, 143).

9 In (3a), the Mínà and Ebira forms are from Gaillard (1907, 119 via Maupoil 1943a, 4 *fn.* 2) and Wilson-Haffenden (1927, 29) respectively. The oracle name is "Afa" in Grand Popo (Bertho 1936). In (3b), the Ígálà form is from Clifford (1936, 398). In (3a) the Ísóko form is vague between bilabial and labiodental articulation. In (4a), 'urinate' (4a) has a labiodental in Ísóko but a bilabial in Uvbiẹ (Nabofa & Elugbe 1981, 15 *fn.* 4; Elugbe 1989, 63, 219). For 'breeze' (4b), Elugbe (1989, 170) gives a reconstructed Macro-Èdó form without modern reflexes.

contrast to **f* for the [h=f=h] pattern (4b). If the words in (3a) had *f* when they entered Macro-Èdó, the Ùrhobo and Ìsóko versions should contain *f* and *b* respectively, not *ph* and *v*. Therefore the source for (3a) in Macro-Èdó necessarily did not contain **f* at any time, ruling out a Yorùbá source for the *Ìba* oracle of Èdó—*pace* Egbarhevba (1936b).¹⁰

Conversely, (3a) helps narrow down from where Yorùbá itself obtained the specialized oracle terms. Yorùbá shifts *p* to *b* in modern loans like *béba* ‘paper’, *síbù* ‘shop’, *bèbùsi* ‘Pepsi™’ and *Bùkèrìng* ‘Pickering’, but *v* becomes *f* as in *fídìò* ‘video’ and *f* is also the fate of *p* (unreleased *p*) as in *káfinntà* ‘carpenter’.¹¹ Therefore Yorùbá (or Ígàlá, with the same inventory of labial consonants) could have acquired the names in (3a) from a language that pronounced them with any labial consonant except for *b* or plain (nonlenis) *p*.¹² By inspection, such a language is neither Nupe nor modern Èdó, but it could have been another language in the Èdó cluster or an older stage of Èdó itself—the latter probably enhanced by ancillary factors like the match of nasality in the name of ♦♦♦♦, the matching initial vowel qualities in *Ifá* and *Ìba*, and the externally given fact that Èdó imperial “rule undoubtedly extended, at least from the 16th century” across the Yorùbá-speaking coastal fringe (Bradbury 1957, 21).¹³

Reconstruction of the oracle name with **p* also fits evidence from the middle belt. In Ìdòmà, *Èpa* and *Èba* occur in the Àkwéyà and Òtùkópó dialects respectively (Abraham 1951, 132; Amali & Armstrong 1968, 43; Kasfir 1989, 87 *fn.* 19 and *p.c.*). Both places have indigenous *p*, *b* and *f*, and both lack *v* (Armstrong 1983, 140) but it would be odd to borrow *v* as *p*, and much easier for **p* to become *p* or *b* indifferently.¹⁴ Speakers of Ngas (“Angas”) call the oracle either “Pa” or “Peh” (Danfulani 1995, 88, no diacritics), and it’s unlikely that the source contained *b*, *f* or *v*, because Ngas possesses all three of those sounds (Burquest 1973).

The foregoing converges on an intriguing possibility: that the oracle name originally referenced the “Jukun” state, also called *Kororofa* “the salt people” (Adamu 1984, 281 *fn.* 59) or in colonial transcription *Kororafá/Kwararafá* (Meek 1931). This “multi-ethnic” polity was first recorded in 13th century “Hausa chronicles” when it was “probably located in the upper Gongola valley”, then in the 17th century it moved “south of the Benue” (Webster 1975, 11, 17), eventually to a “region... known as *Apa*” (Erim 1981, 15, no diacritics).¹⁵

The Ìdòmà, Ebirá and Ígàlá often describe themselves as being related to the Jukun, and are sometimes jointly referred to as “*Apa* people”. ...[I]t is impressive to see how much borrowing took place and how much the groups had in common in spite of differences in languages and political organization. A particular examination of the material culture and religious institutions of the Nupe, Ígàlá, Èdó, Ígbo and Yorùbá on the one hand, and of the Jukun, Ìdòmà, Ígàlá, Ebirá and the north-east Yorùbá on the other, indicate these complex patterns of pre-*jibād* interactions... (Ọbáyemí 1980, 160, 162)

“The fast decline of Jukun culture” (Storch 2004, 346*f.*) after the Fulani *jibād* has regrettably reduced the set of primary observations on *Kororofa/Apa* metaphysics, but many historians believe that about 500 years ago, the “Jukun” were the middle Benue valley’s

...ritual overlords. ...[T]hey had evolved a complex and persuasive cosmology whose physical expression was a highly developed “sacred kingship”... This undisputed ritual sway found concrete expression in their control of the production and distribution of salt throughout the area, and in the right of the Aku of Wukari to confirm local chiefs... The above relationship existed not only in the Benue valley proper but penetrated into the Ogoja area... (Áfiḡbo 2005b, 71)

An early colonial report portrays “Jukun” hegemony as less military than ideological:¹⁶

Their state appears to have been a theocracy of some sort, with temporal and spiritual power vested in the Asum or king. One is led to suppose that they were not numerous, but owed their power to the possession of an oracle deemed infallible. Owing to this superior “juju” they kept a loose hold over numbers of pagan [= non-muslim] states who paid them a voluntary tribute in horses, cattle, sheep, cloths and produce, and probably to a very small extent in slaves. (Ruxton 1907, 379*f.*)

Ruxton’s mention of “an oracle” doesn’t distinguish the mobile services of a numerological guild like *Ifá* from fixed judicial shrines like *Chí Ukunu* of Àrù (“Arochukwu”, Diké & Èkèjìubá 1990) or *Ọḡwuygwuy* of Ọkija (Benson 2006). Both oracle types existed in “Jukun” (Meek 1931, 276-84, 325-28), and a functional link between them can be guessed by analogy with the nearby state of Ñrì, which overlapped Jukun chronologically.¹⁷ “The basis of Ñrì external affairs” was the Àgbala shrine, whose clients were recruited by *ọ̀zọ ibi* titleholders (see below) acting the shrine’s itinerant “eyes and ears”, and also by *dibia Áfá* (specialists of the 8-bit oracle) “employed...”

10 Independent evidence for this conclusion is presented in a sister manuscript (Manfredi 2012).

11 Cf. Abraham (1958, 357), Bānjo & al. (1991, 181 287), Awóyalé (2008, *p.c.*), Fálana (2001). Some substitutions are metalinguistic, and can be either consciously suppressed, as when English bilinguals say in Yorùbá “*pépa* (not *béba*) ‘conference paper’” (Bāmgbóšé 1986, 60), or else playfully enhanced as when ethnic satire turns a *piece of paper* into a *kpís* of *kpékpá* (spelling pronunciation of Yorùbá orthographic *p*).

12 Some Hausa borrow *p* as *f*, e.g. *silifa* ‘slipper’, *fasinja* ‘passenger’ (Greenberg 1941, 322; Jaggat 2001, 50, 53), but others flip the script and turn a *ceiling fan* into a “sailing pan” (E. Ọmólúábí, *p.c.*). Hausa can’t be discounted as an oracle vector, given the importance of 19th century Benue *Abakwa-riga*, “pagan” (i.e. nonmuslim) Hausa-speaking refugees from the Fulani *jibād* (Ruxton 1907, 381 cited by Rubin 1970, 141), cf. Erim who cites the ethnic name as “the Abakpa people (Hausa)” (1981, 23, no diacritics).

13 For a coastal route taken by “Afa” westwards from Èdó to the Gbè-speaking area, cf. Bertho (1936, 360).

14 English speakers typically parse French unaspirated *p* as *b*. Armstrong (1983, 142) finds no [p=b] correspondence in the Ìdòmà cluster.

15 “Jukun” is an Hausa ethnonym (Welters 1949, 1). Meek cites the southern autonym variously as *Wapá*, *Apa*, *apa-Jukú* and *apa-Jukun* (1931, 14-17) with the circumflex apparently denoting nasalization, but he never writes **Apá* or **Apan*, nor does nasality appear in citations of “*Apa*” by other scholars. In Ígàlá legend, the Ifá oracle was used against “*Apa*” invaders and “*Apa* and *Ibi* frequently stand for East and West in everyday speech” (Boston 1968, 24, 200, no tones, citing Seton 1928, 270). When Áfiḡbo writes “The name *Apa* or *Akpa* is said to have been widely used to refer to the Jukun” (1977, 137), the latter spelling probably points to “[t]he name *Akpa* by which the Jukun are identified in the Cross River region” (Alagoa 1980, 60, no tones). The *kp* outcome is not surprising, as both Èfík and Ibìbio prohibit voiceless bilabial stops as syllable onsets.

16 Colonial “Jukun” studies aggressively assumed the Hamitic conquest theory of state formation (Palmer 1931) and projected “an unwarranted extension backwards in time of 19th-century Fulani political and military structures” (Rubin 1970, 189). Conversely, modern Ígbo studies express reflexive *anti*-statism, thanks to the twin—intertwined if not conjoined—failures of Biafra and Nigeria (Ọnwùmèchìli 2000, Áfiḡbo 2002).

17 The “Jukun” mobile oracle, whose name is not recorded, interpreted each 4-bit array individually not in compound (8-bit) signs (Meek 1931, 326*f.*).

as directed by the Àgbala” (Ònwùjéìógwù 1981, 142). Through this network, Ñrì elites collected tribute from yam farmers of the Òmámbara (“Anambra”) floodplain, patronized ironsmiths of the Óka (“Awka”) scarplands and accumulated the rich brass-and-bead hoard which was excavated from a 9th century Ìgbo Úkwu grave (Shaw 1970, Ònwùjéìógwù 1981, 27).¹⁸

Another test of the **p* hypothesis is its development to *b* in the oracle name. In Ìdòmà, no phonetic bias separating the Àkwéyà and Òtùkpo varieties exists which could determine their respective choice of *p* versus *b*: both dialects indigenously possess both of these consonants (as well as *f*), so the split looks more like random normalization of an exotic sound such as **p*. The modern *b* in the oracle name also lacks internal motivation in Nupe, which natively has both *p* and *f*, so unless the *b* is a random event, it points to a source like **p* which is phonetically intermediate on the voicing onset scale.¹⁹

In Ìgbo too, sound patterns mark the oracle terms apart from basic vocabulary. The forms in (5a) and (5b) share the consonantal outcome *f* in Àgbò and M̀bàisén, but elsewhere they diverge: (5b) is both phonetically and geographically more diverse, consistent with longer evolution. A third cross-dialect pattern appears in the name of ◆◆◆, with *b* in Ñrì but *f* in some other locations (Èzíkèòjàkù *n.d.*, 73), like the regular treatment of **f* in the nasalised syllable of the 3pl clitic pronoun (5c)—not unexpectedly, insofar as ◆◆◆ shows nasality in both Èdó and Yorùbá, cf. (3a).²⁰

		Macro-Ìgbo					
		Àgbò	Ònichá	Ñrì	Ñsùkà	M̀bàisén	Èhùgbò
(5a)	[oracle name] 'lineage staff'	Èfá òfó	Áfá òfó	Áfá òfó	Èhá òhó	Áfá òfó	Áfá òfó
(5b)	'stew/soup' 'fly/blow(wind)' 'avoid/venerate'	ófe -fè -fè	ó[β]e -[β]é -[β]è	ó[β]e -[β]é -[β]è	óphe -phé -phè	ófe -fè -fè	óhe -hé -hè
(5c)	'3pl' ◆◆◆	wé	fá Òfú	há Òhú	há “Ohu”	hán	wó

The separate phonetic treatments of the oracle name and the name of ◆◆◆ in Nupe, Ìdòmà and Ìgbo may reflect a functional distinction: the oracle name is public knowledge—more so if it derives from an ethnic designation—whereas the 16 names of the 4-bit arrays are esoteric, rote-learned en bloc by initiates. Paralinguistic status is also indicated by the apparently random flux in pronunciation of the array names in the Ñrì recording transcribed in the Appendix. Dual transmission is also consistent with a colonial report that the Ebira version of the oracle was “learned from the Egbo [sic] tribe south of the Benue” (Wilson-Haffenden 1927, 27) whereas Ebira people had presumably been interacting with (and referring to) the “A’pa” state for a longer time.

Other phonetic details add more clues to the oracle’s itinerary. (6) shows that the sound written “gb” in the name of ◆◆◆ is limited to the contiguous area of Gbè, Yorùbá, Macro-Èdó, western Ìgbo and one variant of Ñrì-Igbo; elsewhere the name either has plain *b* or is etymologically unrelated. In the official (1961) Ìgbo orthography, the digraph “gb” spells phonetic [β], a bilabial implosive (Ladefoged & al. 1976) cf. the colonial improvisations “Ibwo” and “Ib’o”. Èdó, Yorùbá and other regional languages lack implosives, and regularly borrow Ìgbo [β] as the plosive labiovelar [gb], as in the ethnonym *Ìgbo* itself. Alternations between *b* and [β] are unknown in quotidian Ìgbo, yet in speaking the name of ◆◆◆ in 1977, an Ñrì *d̀b̀ià* consistently produced *b* before *i* and [β] before *u* (see Appendix). Moreover, the geographic split between orthographic “gb” (either plosive or implosive) and *b* matches the distribution of the continuant *gb/y* versus the stop *g* in the names of ◆◆◆ and ◆◆◆. In both (6) and (1a+), Ñrì is the place of greatest internal diversity, and thus the presumptive gateway between the conservative and innovative zones.²¹

		cluster of innovations										
		F̀on-Gbè	NWYorùbá	Èdó	Úrhobo	W Ìgbo	Ñrì-Igbo	Ígálà	Ìdòmà	NE Yorùbá	Nupe	Ngas
(6)	◆◆◆	Gbè	Ogbè	Ógbi	Ogbi	Ógbi	Ógbù/Óbi	Èbí	Èbí	[Ošika]	[Šikan]	[Ši]
(1a+)	◆◆◆	(W)òli	Ìwòrì	Òghoi	Oghori	Ògoli	Òyeri/Ògori	Ògòli	Ògòli	“Ogori”	“Gori”	“Guiri”
	◆◆◆	Ẁlè	Òwònrín	Ògháe	E/Aghare	Ògá()i	Áyári/Ágári	Ègálí	Ègálí	“Qga”	“Ega”	[Chiuyong]

Variants of two more names, ◆◆◆ and ◆◆◆, show an intersecting wave: Ngas, Nupe and Gbè have *s* versus Ìdòmà *l*, while the Macro-Ìgbo, Macro-Èdó and Yorùbá-Ígálà clusters are each internally split between *s* and *r*, cf. (7a). Akínkugbè analyzes the Yorùbá-

18 Ñrì influence extended upstream to Ígálà in medieval times (Oguagha & Okpoko 1984, 215) and within modern memory was still visible at closer range. Shelton (1965a, 123) repeats garbled tales of Ñrì *d̀b̀iàs* working in northern Ñsùkà circa 1900. Ònwùjéìógwù (1981, 166) observed Ñrì intervention in a 1967 case at Ùm̀l̀erì and Àgùl̀erì, and I may have glimpsed similar activity in Èhùgbò (“Afikpo”) when my host pointed out two respected visitors with *ìchì* facemarks (see *fn.* 15 above) attending Èkè market in 1977. Itinerant Ñrì made strategic use of the *òzò* initiation argot, called *òlu*, literally ‘neck’ i.e. concealed voice (Manfredi 1991, 269f.).

19 4 out of the 11 Macro-Ìdòmà varieties surveyed by Armstrong (1983) fail to contrast *p* and *f*. In Nupe, the same phonetic split between *Eba* and “*efu*” separates two tokens of one lexical root, *-bè* ‘blow [wind]’ (4a) versus *efe* ‘breeze’ (4b), as well as dividing the loanword *áfàtá* ‘Cola acuminata’ (Banfield 1914, 22) from its presumed source, Yorùbá *àbàtá*. In Ebira, the Okene dialect lacks *f* though it has *v*; a more southern variety “has *f* or *sb* in place of [Okene] *b*” (Ladefoged 1964, 33; 1968, 58).

20 Syllabic nasality was systematically lost in northern Ìgbo. It’s unclear if the Ìgbo protolanguage distinguished **f* from **p* (Williamson & Óhirí-Ànjìchè 1996, §3.1.1.1, cf. Williamson 1973b, 30; 1983; Manfredi 1991, 50). The tradeoff is dicey between reconstructing a richer repertoire of syntagmatic root shapes or a larger set of paradigmatic features; the same dilemma dogs Proto-Indo-European (Watkins 1958; Gamkrelidze & Ivanov 1973). Government Phonology points to a solution, if “melodic” (paradigmatic) elements reduce to structural domains (cf. Jensen 1994).

21 In (1a+), Western Ìgbo has *g* not *gb* (Bradbury *p.c.* via Armstrong 1964, 139), entailing that the oracle arrived after the Western Ìgbo development *gb* > *y* as in *-gbá* > *-yá* ‘scatter’, *-gbé* > *-yé* ‘fry’ and *-gbó* > *-yó* ‘sharp/clever’ (Thomas 1914b, 6, 149ff.). Eastern BK cognates of these roots have a voiceless palatal or velar plosive onset and a nasal coda: *-can*, *-kang*, *-cong* (www.metajro.be/lbl/).

4.3 Retrieval key

Anywhere north and east of Ilé-Ifè, semantic content is retrieved by a lookup table indexing each of 256 duplex arrays to a phrase (from a word to a full sentence) of natural language. The keys are fully documented in Ñri and Èdó, with partial data for Ñsúká, Ùrhobo, Nupe and Ígàlà. Across all six locations, the mapping is similar enough that it could not be the result of chance. Figure 2 tallies all known interpretative matches to Ñri, followed by an illustrative sample of 30 out of the total of 256 addresses.³⁴

← top, left\right	Áfa (Ñri-Igbo) n=256	Éba (Ñsúká-Igbo) n=12, match=50%	Èpha (Ùrhobo) n=64, match=35%	Ìba (Èdó) n=223, match=35%	Eba (Nupe) n=32, match=25%	“Ifa anwa” (Ígàlà) n=20, match=50%
◇◇◇◇\ ◇◇◇◇	reappear/ twice		double	doubled/ repeated [make sacrifice]	[smallpox]	
◆◆◆◆\ ◇◇◇◇	go			journey	pleasant trip	
◆◆◆◆\ ◆◆◆◆	abandon home		[ears/ dry season]	rotten crops		
◆◆◆◆\ ◆◆◆◆	animal sacrifice	ram or sheep		animal sacrifice		
◇◇◆◆\ ◇◇◆◆	stomach illness			stomach illness		
◇◇◆◆\ ◆◆◆◆	oracle priest/ Agwù ³⁵			oracle priest		
◆◆◆◆\ ◇◇◆◆	common sense			wisdom		
◇◆◆◆\ ◇◆◆◆	prepared medicine			medicine/ poison		
◇◆◆◆\ ◆◆◆◆	cleanse evil			overcome evil		
◆◆◆◆\ ◇◆◆◆	mother, pregnancy			mother		
◆◆◆◆\ ◇◆◆◆	alcoholic drink	alcoholic drink		alcoholic drink		
◇◆◆◆\ ◆◆◆◆	said/ decided		advice, counsel	messenger	[quarrel]	
◇◆◆◆\ ◇◆◆◆	watchfulness			heart/ confidence		
◆◆◆◆\ ◆◆◆◆	alcoholic drink		alcoholic drink	alcoholic drink		
◇◆◆◆\ ◇◆◆◆	pay a debt		debt	vomit back	[happiness]	
◇◆◆◆\ ◆◆◆◆	refusal/ crazy talk			mischief	anger/[gifts]	
◆◆◆◆\ ◆◆◆◆	shame/ billygoat			shame/ billygoat		
◆◆◆◆\ ◆◆◆◆	money		money, [male child]	money		
◇◆◆◆\ ◇◆◆◆	thing outside			visitor	highway/ visitor	
◇◆◆◆\ ◇◆◆◆	close door/ night		night	[war]		
◇◆◆◆\ ◇◆◆◆	sworn oath		[destiny]	sworn oath		
◇◆◆◆\ ◇◆◆◆	pleading			request		
◆◆◆◆\ ◇◆◆◆	bad talk			bad talk		
◆◆◆◆\ ◆◆◆◆	taboo			turn away from		
◆◆◆◆\ ◆◆◆◆	patrilineage		relative/ brother/ sister	patrilineage		
◆◆◆◆\ ◆◆◆◆	bad-death ones		spirit world/ the dead	bad companions		
◆◆◆◆\ ◆◆◆◆	chí (procreative force)			[mother]		no ancestral staff gjo (≈ Igbo chí)
◇◆◆◆\ ◇◆◆◆	see		eyes	eyes		
◆◆◆◆\ ◆◆◆◆	meeting/ forest		crowd/ public			
◆◆◆◆\ ◆◆◆◆	eat poison			poison		

Figure 2. Comparison of 8-bit semantic translations across 6 localities

Figure 2 shows that the six keys share a common origin, but the data are too sparse to sort donors from recipients. Nor are all the systems procedurally identical. Èdó *Ìba* appears to go further in storing at each address a “fixed sentence” i.e. a proverb or wellerism, which in many if not all instances the oracle specialist can extend to a complete “folktale” or *èria nọ òdímwín* ‘deep explanation’, if not multiple, alternate ones (Emòvòn 1984, Egharhevba 1936b).³⁶ But no locality north or east of Ilé-Ifè gives users the general option to choose between multiple, alternative interpretations of a single duplex array. Such a luxury demands supreme mnemonic investment, thus it’s no surprise that an easier mechanism of interpretive freedom was preferred: to multiply the number of outcomes readable per processor cycle (per throw). As shown for Ñri in the Appendix (below), throwing four 4-bit strings together yields up to six distinct right-to-left 8-bit addresses (right to left paired arrays) per cycle, and other permutations are reported (Egharhevba 1936b, 54-86, Nadel 1954, 39-55, Shelton 1965b, 1451, Boston 1974, 351f., Emòvòn 1984, 6, Nabofa & Elugbe 1981). Of these six or more, some can be freely disregarded, focusing on useable interpretations filtered by shared situational knowledge.

In Ifá and its westerly descendants, by contrast, a single array returns in principle an open-ended number of texts, each conforming to the *ese Ifá* template (Abímbólá 1976, 43-57), up to the limits of cultivated human memory. The *awo* and client collaboratively select from these alternative interpretations, which may share a semantic core called “the character of the *odù*” (Abímbólá 1976, 33). The mnemonic and ritual utility of such resemblance is confirmed by the existence of

...verbal links between names of plants, names of the medicinal and magical action expected from them and the *odù* or sign of Ifá in which they are classified by the *babaláwos*. Those verbal links are essential to help them to memorize notions and knowledge transmitted by oral traditions, having so a collective character and not an individual one.

We must mention first that verbal transmission of knowledge is thought in Yorùbá tradition to be the vehicle of *àsẹ̀*, the power, the strength of the words which remain ineffectual in a written text. ...A plant alone may be compared to a letter which is part of a word. Alone it is without signification; associated with other letters it contributes to the meaning of the word. ...We must keep in mind that in [the] Yorùbá language there is often a direct relation between the name of the plant and its qualities, and it would be important to know if

34 The most complete translation table at present knowledge is posted at people.bu.edu/~manfredi/8bit.SemanticKey.pdf.

35. *Agwù* is the Igbo supernatural most closely resembling Yorùbá *Èsù*. Both are tutelary mediators of potentially equivocal oracle messages.

36 The *Ìba* glosses in Figure 2 necessarily oversimplify Egharhevba (1936b, 10-45). It remains to be seen if any of Egharhevba’s *Ìba* narratives (1936b, 90-168) resemble texts from corresponding binary addresses of *Ifá*, and if so in which direction the influence may have flowed.

the plants bear those names according to their virtues or if it is because the plants bear those names that they have received in attribution [of] the said virtues by a kind of play on words (that again more respectfully we could call *ofò*, incantation). Those ‘play of words-incantations’ have an enormous importance in the oral-tradition civilizations. Being pronounced in solemn traditional texts and incantations, they may be considered as definitions. They are often the bases on which reasoning is built up. In the same way, they serve as conclusion and final proof in the traditional stories transmitted from generation to generation by *babaláwo*, and express at the same time the philosophical point of view of the Yorùbá culture and the common sense of its people.

... Among the Yorùbá, *ofò*, the incantatory formulas accompanying the preparation of remedies and magical works are short sentences in which very often the verb which defines the anticipated action, the ‘acting verb’, is one of the syllables in the name of the plant or the ingredient employed. ... All the recipes and ‘works’ made with the plants are classified by the *babaláwo* into the 256 signs, *odù* of Ifá and verbal links, which often established links between the names of the *odù* of Ifá, but more specifically with the second names given to each *odù*. A *babaláwo* seldom uses the name of an *odù* in its original form, but [rather] a name proceeding from it phonetically with adjunction of prefix and suffix giving them a particular signification, which helps the *babaláwo* to find out more easily the symbolism and the context of the stories, *itán*, and remedies classified into this *odù*...

(Verger 1977a, 242f., 245, 248f., 254, 268, cf. Souty 2007, 345ff.)

Here are a few of the “second names given to each *odù*”.³⁷ In (8a), the link to a medical or ritual recipe is phonetically cued, as marked by the syllables *in bold italics*. In (8b), the link is the lexical accident that the array name *Ìròsùn* has a homophone in ordinary Yorùbá meaning ‘camwood’.³⁸ In (8c), no obvious phonetic or lexical similarity ties the array name to its semantics.

- (8a) Ogbè *Ìwòrì* → *w'èhìn* ‘look [wò] back [èhìn]’
 → *w'èhìn* ‘wash/cure [wè] back [èhìn]’ → ewé j'òmó ruke ‘let-child-grow-well leaf, a backache remedy’³⁹
 Ogbè *Òdí* → *dí nà* ‘block the road [ò nà]’
 → *dímú-dímú* ‘that which siezes by grasping’
 Ogbè *Òtúrá* → *háríhá* ‘sheath... enveloping the maize cob’ → aláṣo funfun ‘owner of white cloth’
 Ogbè *Òtúrúpòn* → *tún* omọ *pòn* ‘carry again [tún] a child in a sling [pòn]’ i.e. on the parent’s back → àwèbí ‘birth medicine’
 Ogbè *Òsé* → *sé* ‘gun’ ‘win the war [ogun]’ OR *sé*.tẹ ‘quell the rebellion [òtẹ]’
 Òyèkú *Ìròsùn* → *alàṣùn* ‘without sleep’
 Òyèkú *Òtúrúpòn* → *Ikú* jẹ n jó! ‘[personified] Death, allow me to dance!’ → idáàbòbò l’òwó ikú ‘protection from death’
 Ìròsùn *Ògúndá* → *gún dá* ‘pound bush-rat [edá]’
 Ìròsùn *Òtúrúpòn* → *tútù* ‘fresh’
 Ìwòrì *Ìròsùn* → *olòsùn* ‘owner of sleep’
 Ìwòrì *Òwónrín* → *èbín* omódé ‘tooth of a young child’
 Ìwòrì *Ìrètẹ* → *wèrè* ‘madness’
 Ìwòrì *Òfún* → *fún* ‘white’ → ewé àgbàdò ‘leaves of [white West African] maize’ (“used for àwùrè orí ire, to have good luck”)
 Òdí *Ìròsùn* → *ìdín ò sùn* ‘maggot does not sleep’
 Òbàrà *Ìwòrì* → *àkó’yèè* ‘collector of understanding [òyè]’
 Òbàrà *Òsé* → *alásèpè* ‘owner of power’
Òwónrín *Òfún* → *fún* ‘white’ → ewé àwèfún ‘leaves that wash white’ (“used to wash [images of] òrìṣà”)
 Ògúndá *Ogbè* → *egbò ogbé* ‘ulcer of knife-wound’ → ewé p’ogbé-p’ogbé ‘leaf, antidote [pa] for knife-wound’
 Ògúndá *Òyèkú* → *ikú* ‘death’
 Ògúndá *Òdí* → *gẹ́ dítì* ‘gbin’ ‘cut the base [idí] of snail’ (“which alludes to the notion of calm”)
 Ògúndá *Ìròsùn* → Mo *sùn* ‘I sleep’
 Òsá *Ìròsùn* → lè *sùn* ‘can sleep’ OR ò lè *sùn* ‘cannot sleep’
Ìrètẹ *Òsé*⁴⁰ → *tẹ ọsẹ* ‘press down on soap’ → “medicament composed of a leopard’s tail [*ìrù*] pounded [*tẹ*] with soap”
 → *ẹkùn ìrù nà lẹ* ‘leopard beat the ground with its tail’ (“showing its dangerous, restless, personality”)
 → fa *tútù tó yinyin* ‘as cold as a hailstone’ (“not much encouraging”)
 → *alájé* ‘owner of wealth’ (“things are ambivalent and ... may also... have their beneficent sides”)
 Òtúrá *mé.ji* → *eléjọ* ‘litigant in court’
 Òsé *mé.ji* → *oníjá* ‘quarrelsome’ → pòpòrò àgbàdò ‘cornstalk’ (used “to be victorious in wrestling”)⁴¹
 Òsé *Òwónrín* → *oníwo* ‘owner of poison’
 Òfún *Ìwòrì* → *wò re* ‘look well upon’
- (8b) Ìròsùn *mé.ji* → odíderé ‘parrot’ (“whose tail feathers are very red”)
 Òsá *Ìròsùn* → elépo ‘possessing red palm oil [epo]’
 Ìròsùn *Òsé* → èjẹ ‘blood’
- (8c) Ogbè *Òdí* → káká ‘strong’
 Ogbè *Ìrètẹ* → aláhéré owó ‘owner of storehouse for money’
 Ogbè *Òtúrá* → àgbàdò sún sun ‘roasted maize grains’ → kò l’èjọ ‘has no court-case’
 Òbàrà *Ògúndá* → èpè tán ‘curse finished’
 Òtúrá *Ogbè* → olójò OR eréji ‘owner of rain’
 Òfún *Òtúrá* → olómọ sọ àdà ‘parent throw cutlass’

The synergistic mechanisms in (8) suggest a historical explanation as to how Ifá’s semantic key could inflate so massively, compared to its more northern and eastern relatives. Not only do the associations help to retrieve texts from mental storage, but possibly they

37 Such data abound in various sources, e.g. “*Òtúrúpòn Ìròsùn* [is] better known as *Òtúrúpòn Ɔokùn*” [sc. ‘tie a rope’] (Lóngé 1983, 24). Other examples can be found in Verger’s archives in the Brazilian city of Salvador; in Babáyemí & Adékólá (eds. 1987-1991) and in numerous Cuban typewritten *libretas* ‘user manuals’ of Ifá texts, one of which records type (8a) aliases for 69 out of the 256 *odù*.

38 *Ìròsùn* or *igi osun* is a redwood tree whose *iyèrè* ‘scrapings’ are used analogously to sahelian sand as a writing medium on the *ofon Ifá* tray.

39 “Of the 19 recipes I have for this *oogùn* [= backache remedy], 12 are classified in *Ogbè* [*Ìwòrì* → *wèhìn*]” (Verger 1977a, 273f.).

40 This *odù* is “too dangerous to be pronounced” so Verger describes it as “formed by the fourteenth and fifteenth simple signs” (1977a, 277).

41 Verger glosses *pòpòrò àgbàdò* as “[t]he central cob of maize... freed from the grains” (1977a, 290).

also operated in reverse, allowing Ifá users to index any given text (whether *ìtàn* or *ofò*) to a particular *odù*, thus helping to fill the oracular database with botanical, zoological, ritual, poetic and prose narrative content.⁴²

North and east of Ilé-Ifè, as mentined, multiple arrays are returned per processor cycle. The easiest way is to double the processor to two folded 8-bit chains or equivalently four 4-bit strings. Another doubling of output occurs if the arrays can also be read from the client's side. Shelton (1965b) reported client-oriented readings in Ñsúká, leading Bascom to “seriously question his description of the method... unless one reads all the figures from the bottom up” (1966, 420 and *fn.* 1). But if the 180° rotation in Ñsúká is *intentional*, such a change would affect exactly those twelve arrays which Bascom regards as Shelton’s “twelve errors” (the other four possessing linear symmetry). Both internal and comparative evidence supports the more charitable view. The string Shelton describes as held in the *dibù*’s right hand appears on the left side of the diagrams and photos (1965b, 1449ff.), which makes sense only if the illustrations and thus the names give the client’s-eye view, since *dibù* and client face each other. The same rotation appears in a diagram of the Ùrhobo processor (Nabofa & Elugbe 1981, 9) and in a description of the Èdó procedure where “the reading was done from the side of the client sitting opposite the diviner” (Emovon 1984, 4f).⁴³

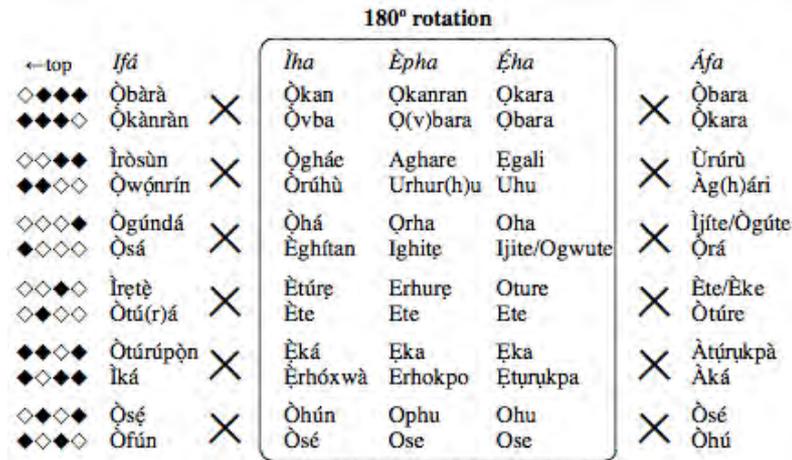


Figure 3. Comparison of asymmetric 4-bit arrays across 5 localities

Consistent with the idea that rotation enhances interpretive freedom, the Ùrhobo oraclist Erivwo “says that when the seeds are cast, there are two ends from which the reading can be taken viz: the *Àkpo* end and the *Èrìwìn* end” (Nabofa & Elugbe 1981, 8). Nabofa & Elugbe voice Bascomian “doubts about Erivwo’s explanations as regards the reading of the Èpha” (1981, 6) and reinterpret his statement as referring not to rotation of the whole array, but to a polarity switch of each binary digit:

[I]n Ùrhobo thought forms, *Àkpo* is the abode of the living—both plants and animals—and this is believed to be on the surface of the earth. Conversely, *Èrìwìn* is the permanent [sic] abode of the dead, and it is thought to be under the earth, although the living-dead are said to show up occasionally in *Àkpo*. ... When the whole divination element is read from the surface, it is then said that its *Àkpo* end is being read. However, when the diviner imaginatively goes under the earth and reads the Èpha from there, it is then regarded that its *Èrìwìn* end is being read... (Nabofa & Elugbe 1981, 10)

As examples of overground↔underground views, they cite *Ogbori* ◆◆◆◆ ↔ *Odi* ◆◆◆◆ and *Ogbi* ◆◆◆◆ ↔ *Ako* ◆◆◆◆ (Nabofa & Elugbe 1981, 10) but don’t report the alternate versions of any of the 12 asymmetric arrays, and it would be relevant to ask whether the *Èrìwìn* version of *Òkanran* ◆◆◆◆ is *Ò(v)bara* ◆◆◆◆ (by rotation) or *Ighite* ◆◆◆◆ (by polarity switch, as they would predict).

In Figure 2, the decoding of visual arrays is mediated by the ritual names, otherwise rotation would erase most of the cross-zone semantic matches. For example, Ònwuejiógwù records the Áfa gloss of *Òrà Àghári* ◆◆◆◆/◆◆◆◆ as “patrilineage” (1997, 143), which is very close to *Ìha* *Òhá* *Òghác* ◆◆◆◆/◆◆◆◆ “believed to indicate enmity from a brother by the same father... It seems, however, that the term can also be used without any connotation of enmity, only to denote paternal relatives” (Melzian 1937, 32f.). The similarity continues in Èpha where “Orhaghare” ◆◆◆◆/◆◆◆◆ is glossed as “relation, brother, sister” (Nabofa & Elugbe 1981, 17). If the meanings were retrieved directly from the visual arrays (as happens in the Arabic sand-writing oracles), the correspondent of Áfa’s *Òrà Àghári* in *Ìha* should have been ◆◆◆◆/◆◆◆◆, which is *Èghítan* *Òrúbù*, glossed as “*òhé* [gift]” (Egharhevba 1936b, 25), an unrelated meaning.⁴⁴ By inspection, all such matches are keyed by name, not directly by array. In this respect, the 8-bit oracle works like any other writing system: meaning is associated primarily with an auditory sign, and only secondarily with a visual representation; that’s why one language like Hindi-Urdu can be written in two alternative and unrelated scripts, and why Japanese writing can combine two unrelated scripts (Chinese and Japanese) at once. Processing is affected, but not denotation.

42 Verger held that this process had a special character in oral civilizations, but Europe’s literate mystics of the late Renaissance weren’t so different, as when Giordano Bruno—Galileo’s forerunner—sought “[b]y applying his art of memory... to call the whole world to attention within his head” (Rowland 2008, 138). The Italian Renaissance also resembled the Yorùbá enlightenment in developing a numerological database format to aggregate disparate folk narratives, respectively *Odù Ifá* and *Decamerone*. The big difference is that the *awos* became a rich and powerful clergy, but their counterparts Bruno and Galileo were martyred or intimidated into silence by the Holy Inquisition.

43 Possibly related is the fact that *Fá* practitioners in the Gbè zone cast the folded 8-bit chain so as to present a U-shape to the oraclist’s view (Maupoil 1943a, 201) rather than than the П-shape obtaining elsewhere. The Ígàlà *mapping* is *non*-rotated, despite the total freedom of the *reading* permutations (Boston 1974, 351). This fact fits a tentative hypothesis of Ígbo>Ígàlà>Yorùbá transmission, i.e. skipping Èdó.

44 In Ùrhobo Èpha, the gloss of Èpha *Ighite* *Urhur(h)u* ◆◆◆◆/◆◆◆◆ is not known.

5. From “underground spiritual game” to “enjoy for heaven”

These two imperishable phrases by Fẹ́lá Aníkúlápò Kùtì, Africa’s *abàmi èdà* ‘enfant terrible’, neatly divide the presuppositions of *geomancy* and *divination*.⁴⁵ When Abrahamic invaders carried jihādic and colonial war to adherents of indigenous *ìmòlẹ̀* ‘earth spirits’, indigenous ideology was retrofitted to a neologistic sky deity *Qlórún/Oló.dùmarè* (cf. Bámgbóṣé 1972) in support of Odùduwàn divine kingship, and today historians are stuck with the resulting reinterpretations. Thus Oyèláràn finds

a contradiction in the postulate that [the] Yorùbá institution of *Qba* and the growth of an urban setting constitute the prerequisites for the emergence, the promotion and the preservation of the Yorùbá civilization and culture, while at the same time suggesting that the pre-Odùduà group... was responsible for this civilization (Ìgè 1974, 1976). If the Ọwọ̀rọ̀, Idàisà-Mànígrì and Ìlájẹ̀ descended from a Yorùbá-speaking group who had neither *qba* nor cities... then we may have to rest content that the pre-Odùduà Yorùbá group gave us only the values and not the political organization that made Yorùbá civilization possible. (1977, 646)

and Qbáyẹmí warns that

[c]onsensus among informants, even if widely separated in time and space, need not signify anything more than values held sacred, sociological or ideological standpoints that need to be consistently defended... Indeed the might of consensus can be, and has been shown to be, the major obstacle to meaningful and systematic progress in the historiography of precolonial contexts in the history of African peoples. ...It has been my contention that the figure called Odùduwà and all that are associated with such a figure constitute one of the most formidable obstacles to an advancement of the history of the Yorùbá-speaking peoples. (1981, 6, 9)

none of which would surprise Franz Boas:

Ethnological phenomena... often rise into consciousness and thus give rise to secondary reasoning and to re-interpretations... which are so common in ethnology... that they generally obscure the real history of the development of ideas entirely. (1911, 67, 71)

The risk of inverting or telescoping chronological sequence is not special to nonliterates (Staal 1989, pace Goody 1986, 4f) but is obviously enhanced when transmission of public knowledge is limited by human memory. In Yorùbá kingdoms, “it was the traditional genealogies which were functions of political relationships, rather than vice-versa” (Law 1976, 129 *fn.* 34, cf. Aṣíwájú 1976, 125 *fn.* 45), but oral narrative may use the ascriptive idiom of descent to recode a contingent event as an antecedent cause. No amount of mnemonic discipline can erase the material interest of intellectual capital. Tales that “Oòduà descended from Heaven... with the reputed sixteen elders and their followers” (Fábùnmi 1969, 3f) or that “when the principal sixteen Odù came to the frontier gate separating heaven from earth, they reversed their order of procession...” (Abím̀bó́lá 1976, 26f) can’t erase the existence of varied *odù* orderings (Bascom 1961, 1966, Hébert 1961) or of differing Ifẹ̀ kinglists (Qbáyẹmí 1979a, 158, cf. Àjàyí 2004).

Qbáyẹmí emphasized the distinctness of Ọ̀okun (NE Yorùbá) culture from Ifẹ̀ and Ọ̀yọ̀, not just for its own sake (federal character) but for its value as comparative evidence to reconstruct Yorùbá-internal dynamics that had been obscured by “revisionist” ideologies. He was impressed by similarity between Nupe *Eba* and the oracle practiced in his home zone of “Ìjùmú, Abínú, Ìkírí, Ọ̀wọ̀rọ̀ and Ìgbede” (1979a, 175). From his peripheral viewpoint, the Ifá that prospered in the Odùduwàn monarchies was less a historical origin point than the fruit of a determinate political context: “In the north-west (Ọ̀yọ̀), the stories link [Ifá’s] introduction with the times of the exile of the Aláàfins to Ìgbòho” (Qbáyẹmí 1979a, 175). A divine king needed divination (cf. Young 1966).

Nwáòga carried the critique to Ìgbo. His final book, *The Supreme God as Stranger...*, builds on Àchebé’s (1975) devastating complaint that colonial translators and Ìgbo converts malapropistically mistook the expressions *Chúkwu* and *Chínàèkè* as referring to a supreme creator in the sky. Such a concept may now populate eastern Ọ̀ja minds, but Nwáòga debunks Àrínzẹ’s claim that it is old, arguing instead that Ìgbo *Chí Ukwu* ‘Big *Chí*’ primarily denoted the slave-trade oracle at Àrù (“Arochuku”) and that “[a]ny appearances [in Ìgbo texts] of reference to the Judeo-Christian concept must be seen as accretions due to the dynamism of the oral tradition” (1984, 48). As for *chí* itself, Ọ̀nwẹjíògwù derides Àchebé’s gloss of “personal god” as being “similar to the Christian religious idea of guardian angel” (1997, 18). There remains a semantic gap between Nwáòga’s southern Ìgbo understanding of *Big Chí* as the Àrù slaving shrine, and Ọ̀nwẹjíògwù’s Ñrì translation of *chí* as “procreative force” (1997, 17f). Ñrì escaped Àrù influence (Ọ̀nwẹjíògwù 1981, 26-30, 59-61) and glossed *Chí Ukwu* instead as *Ányaanwú* ‘Eye of the sun’—the ritual twin of *Agbala*, a force that “manifests some aspects of... knowledge related to prosperity, fertility, health [and] longevity known to men through selected media and agents” (Ọ̀nwẹjíògwù 1997, 31, 78-82, 89). Daylight associations were also attached to *íchi*, the facial scarification resembling solar rays that was applied at Ñrì to *òzò* initiates (Jeffreys 1951). In the literal sense, *ndị́ gbúru íchi* ‘those incised with *íchi*’ were thus *illuminati*.⁴⁶ Nwáòga scrupulously notes that his theory of Àrù origin can’t explain Ñrì’s association of *chí* with sky or sun, but insists that the sky-god idea betrays foreign origin just like any other visitor, by its patent uselessness or irrelevance in Ìgbo ritual (1984, 61-67). Nonetheless, the bigger comparative context makes it easier to understand how an Ñrì fertility concept was launched into the upper atmosphere.

In nonritual contexts, *chí* means ‘daylight’, *Chí òjìgo* means ‘The day has darkened’ or ‘Time to stop work and go home’ while *Kà chí fool* ‘Goodnight!’ is literally ‘Let [tomorrow’s] dawn spread out!’ (cf. Ọ̀nwẹjíògwù 1997, 88). The same root occurs in the noun *échi* meaning ‘tomorrow’ (and in some southern dialects also ‘yesterday’ i.e. in effect ‘at one day’s remove from now’). Perhaps the identical sound of the Ìgbo nouns for ‘daylight’ and ‘procreative force’ is a coincidence, and the association of *Chúkwu* with the sky a double entendre—something *babaláwos* are skilled at (Bascom 1969, 130; Verger 1977a,b). But the two nouns could be etymologically related through a shared root, and I’ve argued for such an analysis because Ìgbo male initiation recognizes *chí* as the agent of reincarnation. *Chí* belongs to Ìgbo’s handful of monosyllabic nouns, but the lack of a nominalizing prefix is only apparent. As in Gbè (Stahlke 1971), tonal evidence proves the nominalization of a root. Accordingly I proposed (1998, 177f) that both meanings of the noun *chí* (H) derive from the root *-chí* (H) ‘return’ as in *-chí* (L) *azú* ‘turn back’ or *-nù-chí* (L-L) *uwa* ‘replace/reincarnate’. But my semantically plausible hunch fails on phonetic grounds: not just the tone mismatch, but the fact that the ‘return’ root is always aspirated in aspirating dialects,

45 In modern Ọ̀ja studies, the term *geomancy* is rare; elsewhere, Binsbergen (1997, 219) and Colleyn (2005, 9) treat it as a subset of *divination*.

46 In linguistic exile, these agents came to be known as “briche” (Ortiz 1924, 66, cf. Edwards 1962).

whereas neither of the nouns ever is (Ìgwè 1999, 110, 119). The only remaining possibility is that the association of *chí* with sky is purely pragmatic, and this is indirectly confirmed in Èdó where *èbí*, the spirit-double analogue of *chí* (Thomas 1914b, 19), “is believed to be ‘with a man all the day’ ” (Melzian 1937, 51). Such a belief, if shared in Ìgbo, would motivate extension of the noun for ‘daylight’ to the concept of ‘reincarnating force’ and thus explain why *Chí Ukwu* as ‘Big Daylight’ would obtain supernatural significance.

Like Yorùbá *orí*, Ìgbo *chí* is a key element of oracle theory. *Chí*, determining “the course of a person’s life-history”, is represented by an *ógbú* (= Yorùbá *akòkò*) tree, planted at the birth of one’s first child and cut down during mortuary rites (Ọnwẹjìógwù 1997, 17f). Life-crises are blamed on a situation in which one’s *chí* abandons the human individual to an ambivalent force called *ágwù*:

[E]very living being is constantly under the influence of *ágwù* which can take possession of a person temporarily. When this happens... he becomes unpredictable. His actions alternate between frenzy and calmness, disorderliness and orderliness, destructiveness and creativeness, insanity and sanity, violence and peacefulness, ignorance and wisdom. Such personality traits are generally described in two ways, either by using the popular concept of describing *chí* as ‘bad *chí*’ [*ájọ chí*] or using the specific concept of saying that *ágwù* has taken possession of the person’s actions, *ágwù atú yá*. Where has one’s *chí* gone during the period one is under the influence of *ágwù*? ...When a person is defiled, for example on breaking a taboo, his *chí* abandons him and dwells in the *chí* tree until the ritual of purification is done, after which his *chí* returns to him to direct him along creative lines. [...]

Occasionally it happens that a person remains in a state of defilement for a long time... In that case, it is believed that the person’s *chí* has gone from the *chí* tree to the sky, *ányaanwú*. The *dibíà áfá* must be consulted to find out why *chí* has abandoned the person, why *ágwù* has decided to act in a negative way. ...The *dibíà áfá*’s interpretation of such a state of affairs is based on the person’s past and present actions in relation to those of his ancestors, in short his biography and history of the social structure. ...The *dibíà áfá* refers him to the *dibíà àja* who specializes in the performance of all types of sacrifices to the supernaturals, in purification rituals, in exorcism of *ágwù*, in chaining of *ékewènsu* [suicides and accidental deaths, known by Christians as “Lucifer” (Ìgwè 1985, 157)] and *àkálá-ògali* [spirits of ‘halfway’ i.e. wasted lives], and in preparing protective charms. The client, in some extreme cases, is also referred to the *dibíà ógwù* or the specialist in the use of herbs, roots and rocks for healing purposes. (Ọnwẹjìógwù 1997, 18f)

The *dibíà* of the Áfa oracle is initiated in Ágwù, “a supernatural being and also a force that reveals the secret ‘actions’ of *álusi* [spirits] and *m-mú-ó* [ancestors] to the visible world [*élu ò wá*] through *áfá*” (Ọnwẹjìógwù 1997, 13). Ìgbo *Ágwù*, though not cognate to Yorùbá *Èsù*, is its close functional counterpart, as shown by its attribute as “the embodiment of contradictions. It can be A and not-A simultaneously or alternatively” and as “a being/force that mediates and resolves contradictions in human life and bridges the gap between known and unknown in the universe of knowledge, in which social actions are directed” (Ọnwẹjìógwù 1997, 15).⁴⁷

The dialogue carried out by the *dibíà* on behalf of the Áfa client is described as a mediated conversation with the client’s ancestors—*ndí m-mú-ó*, literally ‘dead people’ (cf. *-nwú* ‘die’, *m-má-nwú* ‘ancestral mask’). Éléje Aghá, my *dibíà* friend in Èhugbò (“Afikpo”), enjoyed being greeted by his oracular handle *Ò-jé-la-m-mú-ó* ‘Someone who goes to the ancestors and returns [with clairvoyant knowledge]’. Not every *dibíà* claims Ágha’s shamanic travel ability, in fact the *Ọjọbu* of Ágbò explicitly demurred, while echoing the idea of Erivwo of Ùrhobo that his oracle is a wireless link with *Èrúwìn*, the ancestors’ underground abode (Nabofa & Elugbe 1981, 10).

This comparative context foregrounds the marginality of the ancestors in Ifá, compared to elsewhere in the oracle’s area of adoption. Ìgbo’s mild sky-worshipping tendency, represented by a possibly punning link between *Chúkunu* and *Ányaanwú*, seems to have evolved in many Yorùbá minds into the descent of Odù(duwà) to earth on an (*òpèlè?*) chain from *òrun* ‘sky’ (Abraham 1958, 527). Modern partisans of Ọlórún, the upper case ‘God’ of the monotheists (Verger 1966, 30f), are therefore not entirely misguided to reparse the name of Ọrúnmilà, Ifá’s alter ego, as “*òrun ni ó mọ à-ti-là*, Only Heaven knows the means of salvation” (Ìdòwú 1962, 75).

Verger efficiently cut this nomenclatural knot:

We must realise that in Yorùbá vocabulary *òrun*, the sky, is associated with the idea of death and the *arú òrun*—people [inhabitants] of the sky—are the dead; whilst *ayé* means world, earth, lifetime, and the *aráyé* are mankind, living people. The same opposition exists between a religion of salvation based on the expiation of individual sin and directed to preparation for a good death, and the religion of the *òrìṣà* and the *àṣẹ*, ...a religion of exaltation turned toward life and its continuance. ‘Life on earth is better than life in the beyond,’ declared Gèdègbè to Maupoil.⁴⁸ (1966, 35)

Maupoil in turn cites older reports of indigenous scepticism of a connection between ancestral ‘Heaven’ and the sky:

The idea of heaven in the sky probably came from Egypt [to Èdó] via the Yorùbá... though it may be a relic of the old Roman Catholic missionary teaching. That the dead were originally thought to dwell beneath the earth seems probable from the fact that the entrance to this, in the old story of Èwúarè, was by a hole in the ground. Unless badly treated in this world, all people prefer it to the next. Life in ‘heaven’ cannot be pleasant, otherwise people would not come back so quickly—sometimes the next year—while many live to such a great age on earth. ...Bad people are punished by being kept long in ‘heaven’ and are detained there till they ‘learn sense’. Good and wise people are reincarnated very quickly. (Talbot 1926, 268)

In the same vein, the phrase *òrun eni* is interpreted as “one’s ancestors” (Bánjò & al. 1991, 15) and the root *-run* means “to perish” (Abraham 1958, 579) in the following highly relevant song (Adéoyè 1979, 10, cited by Awóyalé 2008):

Awo kí kú, awo kí run, awoó pa’pò dà ni
Kí awo má sèdàro awo: bí ó pé tíí, awo á tún rí awo he.

[An *awo* doesn’t die, doesn’t perish, but is merely transformed.

An *awo* should never grieve over an *awo*: sooner or later, the *awo* will find [the] *awo* again.]

⁴⁷ The correspondence is exact between the foregoing Ìgbo description and the respective Yorùbá metaphysics:

Èsù is the arbiter in the exercise of *àṣẹ* for and among all beings, including all the *òrìṣà* and spirits, and all incorporeal, sentient beings. ... Èsù the arbiter, the assiduous companion of Ọrúnmilà, holds the individual accountable for the scrupulous observance of the required act of consciousness called for by each step in the dance of existence, *ìwà*. (Oyèláràn 2011, 14, 17).

⁴⁸ “La vie terrestre, poursuit Gèdègbè, est préférable à la vie dans l’au delà” (Maupoil 1943a, 402).

Verger’s internally motivated etymology of *òrun* as ‘death’ is externally proved by crosslinguistic comparison:⁴⁹

	NW Yorùbá	NE Yorùbá	Ígàlà	Èdó	Ìgbo
(9a) ‘perish’	-run			-wú	-nwú
‘death’				ùwú	ònwù
‘sun’	oòrùn	onù	ólù	òvẹn, ònwẹ	ánwù
(9b) ‘neck’	òrùn		òlò	ùrhu	ónu
‘four’	ẹrin		ẹlẹ	ènẹ	ànó

Verger’s hypothesis is consistent with another likely semantic development: the shift of *òrìsà* from the plain meaning of ‘ancestor’ (still used that way in Qbáyemí’s town of Ìjùmú where in 1997 I saw *éégún* greeted as “Òrìsà!”) to the more abstract, orthodox interpretation of “god(s)” as distinct from “ancestors (*òkú òrun* [‘corpses of *òrun*’])” (Abímbólá 1976, 151). At Ifẹ, Bascom observed that

the worship of the immediate ancestors and of the compound founder are set apart from the worship of the *òrìsàs*... Nevertheless it should be noted that the worship of the *òrìsàs* is conceptually ancestor worship, and that in many respects the elaborate Dahomean cult of the ancestors resembles the worship of the *òrìsàs* more closely than it does the Yorùbá ancestor cult. (1944, 39)

Supporting evidence appears in an important ritual event in Òyó:

At the annual *Òrun* festival, the Baṣòrun... can declare, after divination, that the king’s fortune, as symbolized by his head, would be bad and that his *òrun*—spirit double in the sky—no longer supports his stay on earth. (Morton-Williams 1960, 364)

At this festival the King and the Baṣòrun worship together the *Orí* or god of fate. The *Òrun* from which it appears the Baṣòrun derives his name and title is a curious if not rather a mystical rite. The word “*òrun*” signifies heaven [sic]. The title in full is *Iba Qṣòrun* i.e. the lord who performs the *Òrun* or heavenly mysteries. The King and his *Qṣòrun* are often spoken of as “*Qba ayé*” and “*Qba Òrun*” i.e. King terrestrial and King celestial. ...[T]he rite seems to deal with the affairs connected with the King’s life. ...The emblem of worship is said to be a coffin made or paved with clay in which he is to be buried. (Johnson 1921, 48, no tones)

The Alààfin is Šàngó’s counterpart “on earth” (Babáyemí 1973, 121), *Qba ayé* ‘king of the living’ (cf. *ayé* ‘lifetime’, Abraham 1957, 83) as opposed to *Qṣòrun/Qba Òrun* the royal ancestral priest.⁵⁰

This etymological thread tangles up the latest instalment of the autobiography of Nigeria’s Nobel laureate—a compendium of apologias including a chapter on his own relationship with Verger which concludes thus:

Pierre died some years ago. Reconciliation with that misused scholar was one that I truly craved, but appeasement must now be delayed until our reunion under the generous canopy of Qrùnmilá [sic]. (Sóyínká 2006, 261)

Verger’s biographer supplies a less heavenly perspective on the matter:

À Lagos, juste avant l’embarquement à l’aéroport pour retourner au Brésil, [Verger] est arrêté sur des motifs inventés (trafiquant d’armes ou d’œuvres d’art, agent de l’Afrique du Sud...), dénoncé pour des motifs rocambolesques (le vol d’une sculpture en bronze d’Ifẹ connue comme la tête d’Oló.kun) par certains collègues de l’université nigérienne qu’il croyait être des amis (’Wándé Abímbólá, ’Wólé Šóyínká, Qlábíyì Yáì), jeté en prison sans recours et ainsi humilié à l’âge de 77 ans. [FN 112: Verger aurait notamment été dénoncé à la police en raison de la jalousie de ’Wándé Abímbólá (Verger avait fait une copie de tous ses enregistrements sur Ifá pour l’Université d’Ifẹ, mais Abímbólá aurait souhaité accaparer l’ensemble de ses archives). Quelques jours auparavant, Verger s’était opposé à ’Wólé Šóyínká qui appuyait alors la thèse de l’existence d’un racisme politique de nature génocidaire au Brésil. Deux professeurs de l’université d’Ifẹ, ’W. Šóyínká, futur prix Nobel de littérature et alors à la tête du département de théâtre, et Qlábíyì Yáì, se rendent rapidement à Salvador et trouvent dans la maison bahaïenne du peintre et sculpteur Carybé une copie de la tête d’Oló.kun que ce dernier a lui-même réalisée et qu’ils supposent être l’original. Ils se ramènent au Nigeria où ils s’aperçoivent qu’elle n’est qu’une modeste copie en plâtre d’une réplique en bronze de la pièce du British Museum... (Souty 2007, 104 citing Nóbrega & Echeverria 2002, 270-75)

[In Lagos, just before boarding a flight back to Brazil, Verger was arrested on trumped up charges (arms- or art-trafficker, South African spy...), having been accused on incredible grounds (theft of an Ifẹ bronze sculpture called the Head of Oló.kun) by certain Nigerian university colleagues whom he had regarded as his friends (’Wándé Abímbólá, ’Wólé Šóyínká, Qlábíyì Yáì), thrown in jail without appeal and thus humiliated at the age of 77. [FN 112: Verger had notably been reported to the police due to the jealousy of ’Wándé Abímbólá (Verger had made copies of all his Ifá recordings for the University of Ifẹ, but Abímbólá wanted to grab the totality of his archives). Several days before, Verger had disagreed with ’Wólé Šóyínká who at the time held the view that genocidal political racism existed in Brazil. Two professors of the University of Ifẹ, ’W. Šóyínká, future Nobel laureate in literature and then Head of the Department of Theater, and Qlábíyì Yáì, dashed to Salvador [Brazil] and found in the Bahian house of the painter and sculptor Carybé a copy of the Head of Oló.kun which Carybé had himself made and which they believed to be the original. They returned to Nigeria where they realized that it was only a modest plaster copy of a bronze replica in the British Museum...]

The injustice of Verger’s treatment by so-called colleagues is even sharper because he had himself compiled an extensive Ifá archive, which remains mostly unpublished today ‘thanks’ to Odù(duwà)’s self-appointed defenders:⁵¹

49 Cf. Akínkugbé (1978, 610). In (9a), the NE Yorùbá forms are Àkókó and “Uyere/Iyere” (Struck 1911, 53). By contrast, Babalólá (1975) takes considers the meaning of *òrun* as ‘ancestors’ to be merely “idiomatic” rather than original as shown by the evidence in (9).

50 Heusch accidentally inverts the opposition: “Johnson nous dit que le roi et le *baṣòrun* forment en quelque sort de couple, le *baṣòrun* étant en rapport avec la terre, le roi avec le ciel” [Johnson tells us that the king and the *baṣòrun* form a kind of pair, with the *baṣòrun* corresponding to the earth, and the king to the sky] (1987, 120). Law (1977, 65) quotes a relevant detail from Johnson, that the Ifá festival in Òyó is called “Mòlẹ”, an expression which depending on its tones most likely refers to veneration of the earth (*ilẹ*).

En ce qui concerne l'étude de la divination, il [= Verger] tenta sans succès de faire publier au Nigeria dans les années 1970 le corpus d'histoires d'Ifá qu'il a recueilli. ...En 1966, il déclare avoir recueilli plus de 4,000 histoires d'Ifá, "d'intérêt plus ou moins grand, mais toutes contribuent à définir la structure et correspondances du système d'Ifá" ainsi que d'avoir enregistré, retranscrites en yorùbá et traduites en français plus de 600 de ces histoires. [FN 71: Titres et travaux (sept. 1966), 35.] Étant donné que plusieurs histoires se chevauchent ou constituent des variations proches, le corpus effectivement recueilli puis retranscrit peut être ramené au final à environ 2,000 histoires distinctes. (Souty 2007, 106, 337)

[Regarding the study of divination, in the 1970's Verger unsuccessfully tried to publish in Nigeria the corpus of Ifá stories which he had collected. ...In 1966, he claimed to have collected more than 4,000 Ifá stories "of more or less interest, but all helping to define the structure and correspondences of the Ifá system", as well as to have recorded, transcribed in Yorùbá and translated into French more than 600 of these stories. (FN...) Given that several stories overlapped or were close variants, the corpus ultimately collected and transcribed may have amounted to about 2,000 individual stories.]

Appendix: A simulated oracle recitation by Chúkumà, *dìbìà áfá*, Àgbádàna town, Òrì, August 1977

Preliminary transcription; audio (11 min. *mp3* = 16MB) available on request. Each numbered line was spoken after a single cycle (throw) of two 8-bit chains, yielding four 4-bit arrays which can be labeled ABCD from right to left. In principle six 8-bit words can be read from each throw, although in practice fewer can be called, and with some mutations such that in the course of 31 throws in this text, ten basic patterns occur:

- "AB, BC, AC, CD, BD, AD." [= the full parse]
 "AB, BC, BD, CD, AD." [alt.-a]
 "AB, BC, AC, CD, AD." [alt.-b]
 "AB, AC, AD, BD, BC." [alt.-c]
 "AB, BC, BD, CD, AC." [alt.-d]
 "AB, AC, BC, CD, AD." [alt.-e]
 "AB, AC, BC, CA, CD." [alt.-f]
 "AB, CA, CD, DB, CB." [alt.-g]
 "AB, CB, DB, CA, DA." [alt.-h]
 "AB, CA, DA, DB" [alt.-i]

Identical arrays in sequence are called X-*námbò* or *náàbò* (double-X) or X-*náátò* (triple X). (Quadruples did not occur.) Each pair of distinct array names is pronounced with the normal derived tones of a X + Y genitive construction meaning 'X of Y', except that LL+L is unperturbed in line (14), and metalinguistic L tone appears in (23). Consonant substitutions are marked <in angle brackets> and annotated as [x] → [y].

1. Àká Óra, Órà Àwù, Àká Àwù, Àkwù Otùlé, Órà Ótule, Àká Ótule.
2. Ótùlé nàmbò, Ótùlé Obi, Óbí Óse, Ótùlé Óse. [AC=BC, AD=BD]
3. Órà nàmbò, Órà Ète, Ógbù Ète. [alt.-a truncated AD, A=B]
4. Óbí Atùrùkpà, Àtùrùkpà Áka, Àká Òyeri, Àtùrùkpà Òyeri. [truncated AD], [g] → [y]
5. Óbí Óse, Òsé Òkala, Òsé È<k>e, Òkalá Ète, Ógbù È<k>e. [t] → [k], [b] → [gb]
6. Ìjite Áka, Àká Óhu, Òhù nàmbò, Ìjite Óhu. [alt.-b, BC=BD, AC=AD]
7. Àtùrùkpà Áka, Àká Ò<y>eri, Àká Ógute, Ógori Ógute. [truncated AD], [g] → [y]
 [hits tortoise shell once with *òfò* stick]
8. Àká Ótùlé, Àká Ète, Àká Obi, Ótùlé Obi, Ógbù È<k>e. [alt.-c], [b] → [gb]
9. Àtùrùkpà Óse, Òsé Àkwù, Òsé È<k>e, Àkwù Ète, Àtùrùkpà Àkwù. [alt.-d], [t] → [k]
10. Òhù Ógori, Ógori Ókala, Òhù Ókala, Ókalá È[k]e, Ógori È<k>e, Òhù È<k>e. [t] → [k]
 [hits double *ògèné* bell repeatedly with *òfò* stick]
11. Óbí Àkwù, Àkwù Óra, Órà Ùrùrù, Àkwù Urùrù, Óbí Urùrù. [dropped AC]
12. Ódí Óhu, Ódí Ókala, Óhu nàmbò, Óhù Ókala, Ódí Ókala. [alt.-e plus extra AD, AB=AC]
13. Èté Óhu, Óhù Ète, Ète náàbò, Ète náátò. [alt.-b, A=C=D]
14. Ète Atùrùkpà, Ète A<hw>ù, Àtùrùkpà Àhwù, Àkwù Ète, Àkwù Óhu. [alt.-f], [kw] → [hw]
15. Ódí Àtùrùkpà, Ódí Ète, Ódí Óse. [alt.-c truncated last two]
16. Àtùrùkpà Ète, Àtùrùkpà A<y>ári, Àgári Ó<r>a, Èté Óha, Àtùrùkpà Ó[r]a. [dropped BC], [g] → [y], [h] → [r]
17. Ète A[hw]ù, Àgári A<hw>ù, Àkwù Óhu, Àgári Óhu. [alt.-a truncated AD], [kw] → [hw]
18. Àká náàbò, Àká Óbala, Óbalá Óse, Àká Óse, Àká Óse. [A=A]
19. Àgári Obi, Àgári Áka, Ókalá Áka, Óbí Áka. [alt.-e, reversed CD, truncated AD]
20. Àká A<hw>ù, Àká náàbò, Àká Ò<y>eri, Àkwù Áka [alt.-d, A=C], [kw] → [hw], [g] → [y]
21. Àtùrùkpà Óhu, Óhù Àkwù, Àwù Óbala, Àtùrùkpà Óbala. [alt.-b dropped BD]
22. Ùrurù Óhu, Ùrurù Ókala, Ókalá Ète, Óhù Ète, Ùrurù Ète. [dropped BC]
23. Àgári Ógute, Ìjite Óbala, Óbala Odù, Ìjite Odù, Àgári Odù. [dropped AC]

[laughs theatrically]

51 The appendix of Verger (1989) includes two Ifá texts recorded in 1969 from Awótundé Awórindé in Òşogbo. A foto of this famous *awò*, on the LP sleeve cover of Awórindé (1965), can be viewed at people.bu.edu/manfredi/AwotundeAworinde1965.jpg.

24. Ìjíte Ótúle, Òtúle Ò<y>eri, Òtúle Òkàlá, Ògeri Òkàlá, Ìjíte Òkàlá. [alt.-b], [g] → [y]
 25. Òkàlá Òbàlá, Òhú Òkàlá, Òhú Ùrùrù, Ùruru Òbàlá, Òhú Òbàlá. [alt.-g]
 26. Àkà Óhu, Òhú Òkàlá, Àkà Òkàlá, Òkàlá Óhu, Òhú nàmbò. [dropped BD]
 27. Óbí Òbàlá, Àkà Òbàlá, Àtúrùkpà Òbàlá, Àkà Obi, Àtúrùkpà Óbi, Àtúrùkpà Òbàlá [alt.-h repeating DB?]
 28. Àkà Òkàlá, Òkàlá Otúle, Òtúle Ògeri, Àkà Ótúle. [alt.-d dropped BD].
 29. Òrá Á[y]ari, Ògeri Òrá, Àtúrùkpà Òrá, Ògeri A<y>ári. [alt.-i], [g] → [y]
 30. Ùrurú Àhwù, Ùruru Atúrùkpà, Àtúrùkpà Otúle, Ùruru Otúle, Àhwù Otúle. [dropped BC]
 31. Òhú Ése, Àtúrùkpà Óhu, Òsé Á<y>ari, Òhú Á<y>ari, Àtúrùkpà Á<y>ari. [dropped BC, reordered], [g] → [y]

[hits tortoise shell with òfó stick]

32. Ònyé bù Okéreké bù ndì à? Ndí Okéreké dì kwa!
 Who are these So-and-So family? So-and-So family are indeed present!
33. Òkéreké kèné òfulè! Kèdí ká nǵa gí?
 Mr. So-and-So should greet by worshipping! Where is your offering?
34. Ò sǵ nà ó nwèrè ife jídeni gí... òké ndí unò... tǒgbó yá nà nkítí!
 It then says something is holding you... relating to the people at home... causing suffering!
35. ...gwá m ífe ọ bù, kà m gwa Òkéreké.
 ...tell me what it is, so that I can tell Mr. So-and-So.
36. Ò sǵ nà ọ bù ndù mílì, yá ndí dí nà mílì, ife a kwadobe nà mílì.
 He says it is the ones of water, it's those which are in the water, something kept in water.
37. Nà ọ bya nà-enyé gí ife ị gá-iji ebú ife ọhù áwùsì.
 That he will come and give you what you will use to pour the thing away
38. Nà í me nyá, ị mé echí.
 That you should do it tomorrow.
39. Nà anyí gá-èjì égó, gbákòsì ifé, jèé nà mílì, wánye yá.
 That we will use money, assemble everything, go in the water, submerge it in.
40. Yá bù, é were ụbòsì nwerò me Eké jee nyá, ọ díghí mmá.
 That is, if you go and do that on any other day than Èké (the main market and ritual day), it is not good.
41. Kèé egó jee mezi na, ị gá-afù ya afù, ị gá-afù yá, nà ife kwù ọtò, ife na-úzò òkáná, n'úzò áka èkpe. Yá bù é mesia, ò mé giní? Ò má-èrú è ká. N'ime ife à, ị mé égo.
 If you divide money go and invest in it, you will surely see it standing on the left side. Then, what it is doing? It will not be too large. Then inside this thing, you put the money.
42. Ì ríjuo afò [g]u, àrù adùá gí mmá, ị dí ka ị nwèzína uchè.
 If you have eaten belly full and your body feels OK, you still ought to think further!
43. Ì nwete ife ụmùáká gá ná-èrì? Òfò gá-adí mmá. Ùmùáká na-èrì-ifé, mà nwóké mà nwàanya í nwèrè. Fáà ná-èrìjuo afò.
 Have you got what the children will be eating? [Then] the ancestral lineage (òfò) will be good. Children need something to eat, whether you have boys or girls. They just keep on eating until their bellies are full.
44. Òkéreké mà gí eména jì ife? Nà adí ife a dí ekwé, kà urúu madí? Ònye eména jì ife, àrù adí ekwé yá. Òkéreké wèrè nzu bàá!
 Mr. So-and-So, shouldn't you have things? That there is anything that is more appropriate than human profit? If someone should not have things, his body will not agree. Mr. So-and-So crumble chalk (as a sacrifice)
45. Nà ọ bù íjé tère na ị byà na bé m, wèé gbágha ife dí etu à. Màna kwó aká ọtò màka Chínàèkè!
 It's a long journey you came to my place and started doing something like this. Raise up your open hands to the Sky God.

[Side discussion between Chúkumà and Àkúné about how to conclude the recording.]

46. Ífe m nà-ekwú, díbyà m nà-emé, ọ màra m amá, nà mù asátara ya asatá, nà ó dùlégbu anyi, onye ọ màra, o mébe.
 What I'm saying, the oracle I practice, it suits me, I've mastered it thoroughly, it has guided us through, someone it suits, he practices [it].
47. “Ète Akwù” bù ñnekwu ọkúkù, ọ dírókwa nyá? “Ète Akwù” ñnekwu ọkúkù.
 Ète Akwù is [signifies] a big hen, isn't it so? Ète Akwù [is] a big hen,
48. “Òghori Ète”, áwo ya áru.
 Òghori Ète [means] s/he has a stomach ache.
49. “Òdí Òsé”, íwe, “Àtúrùkpà Òse” ájì ohwú.
 Òdí Òsé [is] quarrel, Àtúrùkpà Òse is a piece of coarse wrapper cloth.
50. “Ùrurù nàmbò” úgwó. “Èté Òsé”, íyi a gá-anù.
 Double Ùrurù [means] debt; Èté Òsé [means] an oath that to be sworn [drunk].
51. “Àkwù Àkà”, Ñkwó, èvini.
 Àkwù Àkà [means] Ñkwó [day], a ram.
52. “Àkà Òtúre”, ọwó.
 Àkà Òtúre [means] an òfò lineage staff.
53. “Àkwù Ìjíte”, ụnò.
 Àkwù Ìjíte [means] household.
54. “Àkwù Òhú” bù chí. “Àkwù Ùrurù” yá bù nwá.
 Àkwù Òhú is the chí life-force. Àkwù Ùrurù, that is a child.
55. “Òrá Obi”, ọbìbya.
 Òrá Obi [means] a visitor.
56. “Àkà naàbò”, há nà-abya.
 Àkà naàbò [means] they are coming.

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