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The Range and Beauty of Internal Reconstruction: Probing Hausa Linguistic History

Abstract

Using examples from Hausa, this paper demonstrates the probative value of Internal Reconstruction (IR) as a method for unearthing linguistic history. Five developments in the history of Hausa discovered by means of IR are described. These are Klingenheben's Law; two previously unrecognized diphthongs, *iu and *ui; the emergence of the phoneme /h/ from a phonetic feature of word onset; vowel lowering resulting in asymmetry in plural formation; and the preservation of an archaic third person singular masculine pronoun *ni in fixed compounds.

Keywords: Hausa, Klingenheben's Law, historical linguistics, internal reconstruction, diphthongs, compounds

1. Introduction

Although Internal Reconstruction (IR) is not as well understood nor commonly utilized as the Comparative Method, it has a long pedigree in historical linguistics (see Hoenigswald 1944, Kuryłowicz 1973). While recognizing the limitations of IR, most historical linguists appreciate its value in historical linguistics and would agree with Hock (1991: 550) when he concludes, "Internal Reconstruction is an extremely useful and generally quite accurate tool for the reconstruction of linguistic prehistory."

In standard historical linguistics textbooks, IR is presented as a formal discovery technique akin to the Comparative Method. The essence of the method is the analysis of "synchronic morphological alternation" (Bynon 1977: 90) and the attempt to "reduce synchronic

language-internal variation to an earlier prehistoric stage of invariance” (Hock 1991: 533). This is achieved by means of formal procedures, which are spelled out in detail in, for example, Fox (1995, chapters 7 and 8, pp. 145-216), and Crowley (1997, chap. 6, pp. 119-128). This emphasis on IR as a formal technique is captured in the assertion that “Internal reconstruction is like the comparative method applied to a single language” (Campbell 1998: 201).

This unduly restrictive characterization dependent on morpheme alternants overlooks the great potential of IR for uncovering the earlier history of a language and it undervalues the scientific imagination and detailed knowledge that goes into this approach. The formal method has its place; but one can do so much more with internal evidence if one works at it. The scholar who has grasped this more than any other is Givón (see esp. 2000), who has emphasized that peculiarities, irregularities, anomalies, and such can serve as a window into the past. As he put it, “Synchronic irregularities are merely the foot-prints of diachronic change from earlier regularities” (Givón 2000: 114). IR in a broader sense is not a formal discovery method, but rather reflects the realization that from synchronic irregularities, the creative, inventive linguist can tease out a wealth of facts about a language’s history and can reconstruct a dynamic picture of the language as it existed in the past. And even where this broader IR approach doesn’t provide solid answers, it often exposes questions and hypotheses to be investigated.

This paper describes a number of important discoveries in the history of Hausa unearthed by IR. These include Klingenheben’s Law, the identification of two previously unrecognized diphthongs, ***iu** and ***ui**, the source of the phoneme /**h**/, a vowel lowering rule, an explanation for asymmetry in plural formation, and the recovery of an old Chadic pronoun hidden in compounds.

2. Klingenheben’s Law

Klingenheben’s Law (Klingenheben 1927/28; Newman 2004), encompasses a set of historical sound changes affecting syllable-final consonants in Hausa. It presents a good illustration of the application of IR as a “method” involving morpheme alternants. The law

provides that *velar stops > **u**; *coronal stops > **ř** (a rolled/tap *r* that contrasts with a retroflex flap *r*, transcribed as **r**); and (in eastern dialects only) *labial stops (including /f/ [*< */p/*]) > **u** and the labial nasal ***m** > **u**, the latter only before **n** or **r**. These changes were necessarily discovered without appeal to comparative evidence because back in the 1920s, the relationship of Hausa to its sister Chadic languages was not yet known.

What led Klingenheben to postulate his sound laws were the many surface irregularities and morpheme alternations that one finds in plural formations, in other morphological processes, and, with the labials, in western Hausa dialectal variants (noted here as d.v.). See examples in (2).

(1) **Transcription key:** ' = glottal stop; **c** = English *ch*; **ts** = ejective [s'] or [ts'] depending on dialect; **ř** = rolled *r*; **r** = flap *r*; **k^w**, **k^y** etc. = labialized and palatalized velars, respectively; **aa** etc. = long vowel; **à** etc. = low tone; **á** etc. = high tone; **â** etc. = falling tone. Tone is marked on the first letter of long vowels only, e.g., **áa** or **àa**. Superscript * indicates historical/reconstructed, and superscript ^{xx} ungrammatical/non-occurring.

- (2) **báunáa** 'buffalo', pl. **bákàanéé**
búuzúu 'sheepskin mat', pl. **búgàajée**
báatàa 'destroy', cf. **bàřnáa** 'damage' (with suffix **-náa**)
fářkàa 'wake up' (intr.), cf. **fáďákář** 'awaken
knowledge' (transitive with grade 5 suffix **-ář**)
gáudáa 'a bean food' = **gábdáa** (d.v.) [dialect variant]
záunàa 'sit down' = **zámnàa** (d.v.)
dàuróo 'millet' = **dàmróo** (d.v.)

Klingenheben found that aberrations such as the above could be made coherent and regular once one postulated historical sound laws and reconstructed earlier forms of the basic words by means of the laws. Taking a look at plurals only, consider the following pairs that follow the pattern of CVCCV (Hi-Hi) singulars and CV**Caa**Cee (Hi-Lo-Hi) plurals, e.g., **gúl**bí**/gúl**à**abée** 'stream (sg./pl.)'. Working from the internally reconstructed singular, the plural formation is

straightforward, and applying KL, the actually occurring singular forms result automatically, as in (3).

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| (3) | báunáa ‘buffalo’ (< * báknáa) | pl. bákàanéé |
| | bàtáuyèè ‘a twin’ (< prefix bà + * tág^wyée) | pl. tág^wáyée |
| | búuzúu ‘sheepskin mat’ (< * búgzúu) | pl. búgàajée |
| | fáǎkée ‘itinerant merchant’ (< * fátkée) | pl. fátàakée |
| | táushíi ‘a drum’ (< * táfshíi) | pl. táfàashée |
| | k^yáurée ‘doorway’ (< * k^yámrée) | pl. k^yàmàarée |

The discovery of KL depended on the presence of morpheme alternants and provided a natural explanation for alternations that at first sight appeared to be highly irregular. However, armed with KL as a regular sound law, we can go further and (partially) reconstruct earlier forms even where no morpheme alternants exist. For example, given a word of the form CVřkV or CVřgV, such as **sàřkàa** ‘skin water bottle’ or **bàřgóo** ‘blanket’, we can reconstruct the form of the word as originally having contained abutting consonants composed of a sequences of two stops, namely ***tk** or ***dk** and ***dg** respectively. Thus, even in the absence of morpheme alternants IR permits us to provide reconstructions such as the following:

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| (4) | a. | càřkíi < * càtkíi or * càdkíi ‘ox-pecker bird’ |
| | | dířkàa < * dítkàa or * dídkàa ‘forked stick’ |
| | | kířkíi < * kítkíi or * kídkíi ‘kindness, upstanding
behaviour’ |
| | | wàřkíi < * wàtkíi or * wàdkíi ‘leather loincloth’ |
| | b. | bářgíi < * bádgíi ‘large corn bin’ |
| | | búřgúu < * búdgúu ‘giant male rat’ |
| | | kářgóo < * kádgóo ‘the tree <i>Bauhinia reticulata</i> ’ |
| | | màřgáa < * màdgáa ‘a cassia tree’ |

The reconstructed forms provided above by IR do not solve all the historical questions – on internal grounds we can’t know whether the coronal consonant abutting with **k** is **t** or **d** – but at least we can narrow down the possible forms to look for comparatively.

3. Internal Reconstruction of the Diphthong *iu

As is typical of Chadic languages, Hausa has two diphthongs, /ai/ and /au/, e.g., **sáimóo** ‘barren land’, **gáuláa** ‘fool’. Synchronically they function as complex vocalic nuclei parallel to monophthongal long vowels (Newman and Salim 1981, Newman 1992), although historically they often derive from ***ay** and ***aw**. At an earlier period, Hausa, surprisingly, had two additional diphthongs, ***iu** and ***ui**, both of which had a very short half-life. The evidence for both of these diphthongs is internal, i.e., they depend on IR for their reconstruction.

Coronal and corresponding palatal obstruents are in partial complementary distribution in Hausa. The coronals occur before the back vowels; the palatals occur before the front vowels, where they constitute allophones of the corresponding coronals, and both consonants occur contrastively before /a(a)/. One thus gets the following possible contrasts, illustrated here with long vowels:¹

- (5) **súu sóo sáa** **sháa shée shíi** **zúu zóo záa** **jáa jée jíi**
 túu tóo táa **cáa cée cíi** **[dúu dóo dáa** **(jée jíi)]**

The statement that the palatals do not occur before back vowels is not in fact completely true. Although palatals are indeed infrequent before /oo/, there are many examples of palatals followed by /uu/, e.g., **shúukàa** ‘sow, plant’, **júunáa** ‘each other’, **cùutáa** ‘illness’. Many of the palatals followed by /uu/ are the result of the application of KL, where the original syllable-final consonant is still evident in synchronically present morpheme alternants (including, but not limited to plurals), or in dialect variants, as in (6).

¹ I take the position that [sh] before front vowels is an allophone of /s/ and not of the phoneme /sh/, and similarly for [j] (= /z/) and [c] (= /t/). For an alternative interpretation, see Schuh (2002). Synchronically **z** and **d** both palatalize to /j/, thereby neutralizing the distinction between the two voiced coronal obstruents. However, since the palatalization of /d/ and the connection between **d** and **j** is historically more recent (and psychologically less salient) than the allophonic relationship between **z** and **j**, I shall leave /d/ aside in the treatment here.

- (6) **shúuci** (< **shífci*) ‘dry thatching grass’
 = **shífci** (d.v.)
- shúukàa** (< **shífkàa*) ‘sow, plant’ = **shífkàa** (d.v.)
- shúuràa** (< **shíbràa*) ‘kick’ = **shíbràa** (d.v.)
- júudàa** (< **jìbdàa*) ‘musk’ = **jìbdàa** (d.v.)
- júují** (< **jìbjí*) ‘refuse-heap’ (pl. **jìbàajée**)
- júunáa** (< **jìknáa*) ‘each other’ cf. **jìkí** ‘body’
 (-*náa* is a frozen suffix)
- júurèe** (< **jímèe*) ‘withstand (hardship or pain)’
 = **jímèe** (d.v.)
- cúuràa** (< **cìbràa*) ‘knead into balls’ = **cìbràa** (d.v.)

Given CiC- syllables where the syllable-final consonant is a labial or a velar and the operation of KL changing that syllable-final consonant to **u**, the result *had* to have been a diphthong **iu**, e.g., **cìbràa* > **cíuràa** ‘knead into balls’, **jìknáa* > **jíunáa** ‘each other’, cf. **háknáa* > **háunáa** ‘buffalo’. Whereas the **au** diphthong generated by KL was retained, the **iu* diphthong monophthongized to **uu** and was thereby eliminated, although the originally conditioned palatals remained as such.

There are a few examples of words with palatals plus /**uu**/ where KL was not involved. The examples in (7) provide further confirmation of the former existence of the **iu* diphthong.

- (7) **cùutáa** (< **cìutáa* < **cìwtáa*) ‘illness’, from **cíiwòo** + suffix **-táa**
shúú (< **shíu*) ‘silence’, clipped form of **shírúu**
júuyàa < **jìuyàa* < **jìwyàa* ‘turn around’ = **jíwùyáa** (d.v.)

Once we recognize the role of KL and the intermediate **iu* diphthong in the historical development of Hausa, we can reconstruct forms with a high probability of accuracy even in the absence of extant allomorphs or related morphological forms. Thus in all of the following cases, we can assume that a syllable-final velar has been lost. Although it is not always clear which velar has been lost, we can be fairly sure that it was a velar and not a labial. Since the labial portion of KL is dialect restricted, if these words had contained a

bilabial, that form would still show up elsewhere, i.e., in this case, the absence of evidence is evidence! Examples (without tone or final vowel length marked in the reconstructed forms):

- (8) **shúudfi** < ***shiudfi** < ***shiKdfi** ‘blue’
shúuníi < ***shiuni** < ***shiKni** ‘indigo dye’
shúudfèe < ***shiuǰe** < ***shiKǰe** ‘pass through’
cúudfèe < ***ciude** < ***ciKde** ‘become confused’
cúunàa < ***ciuna** < ***ciKna** ‘side seam joining lower ends
of gown’
cúusàa < ***ciusa** < ***ciksa** ‘stuff in’ (possibly related to
cíkàa ‘fill’)

4. Internal Reconstruction of the Diphthong *ui

Hausa has a set of labialized velars: **k^w**, **g^w**, and **k^w**. As with the semivowel **w**, they do not occur followed by front vowels; thus, whereas **K^wa(a)** (where **K** represents the three velar consonants **k**, **g**, and **k**) for example, is very common and *feels* normal, **K^wii** seems unusual. Whenever /**aa**/ following /**w**/ or a labialized velar is replaced by /**ii**/ in morphological formations, the labialization is lost, or, perhaps more accurately, the labialized **C^w** is replaced by a corresponding palatalized **C^y**, although orthographically this automatic palatal offglide is not represented, neither in standard orthography nor in the usual scholarly transcriptions.

- (9) **ìg^wáa** ‘canon, artillery gun’ + **-oCi** pl. (where **C** is a copy of the preceding consonant) → **ígóogíi**
àg^wàag^wáa ‘duck’ + **-i** pl. → **àg^wàagíi**

This replacement of labialization by palatalization also applies to the semivowel /**w**/, i.e., **w** + **ii** → **yii**. This is shown in (10).

- (10) **cìyáawàa** ‘grass’ + **-i** pl. → **cìyàayíi**
kàasúwáa ‘market’ + **-oCi** pl. → **kàasúwóoyíi**

Despite the above, which one would think should rule out the possibility of **K^wii** existing in Hausa, there are in fact quite a number of examples of labialized velars followed by /ii/, as seen in (11).

- (11) a. **dúk^wíi** ‘children’s playful trick’
dùsk^wíi ‘horned owl’
g^wíibàa ‘sediment’
g^wíiwàa ‘knee’
k^wíibìi ‘flesh on the side of the body’
túk^wíicìi ‘small gift’
- b. **bùk^wíi** ‘in a bare, exposed state’ *ideophone*
lúk^wíi ‘powdery, very fine’ *ideophone*
- c. **cúk^wíi** ‘cheese’ = **cúkúu**
zúg^wíig^wíitáa ‘exaggerate’ (with **-taa** verbal suffix)
cf. **zùgúugùu** ‘exaggeration’

The large number of such words as **g^wíiwàa** ‘knee’ shows that they cannot be treated as mere “exceptions”. The historical explanation, suggested on internal rather than comparative grounds, is that these examples do *not* actually manifest labialized /**K^w**/ + /ii/, but rather are /**K**/ + /ui/, i.e., **kwíi** is from ***kúii**, etc. The historical sequence would have been ***kúii** > ***k^wúii** (adding redundant phonetic labialization), followed by monophthongization of ***ui** to **ii**, resulting in present-day **k^wíi**.

The examples of alternative forms in 11c with and without **K^wii** also support the analysis presented here. Assuming that the historically earlier forms all contained */ui/, for example ***cúkúii**, then the difference in the present-day forms would have simply been due to whether the diphthong */ui/ monophthongized to /ii/, giving **cúk^wíi**, or to /uu/, giving **cúkúu**, and similarly with the related pairs **zúg^wíig^wíitáa** and **zùgúugùu**.

Explaining the existence of **K^wii** by appeal to a former */ui/ diphthong is fine except that we are now left with the question of where this */ui/, a diphthong generally unattested in Chadic, came from. We know from comparative evidence that Hausa underwent a

historical sound law changing non-initial, especially (only?) syllable-final, *r to /y/. When the erstwhile *r was in syllable-final position, the result was often an **ai** diphthong, e.g., Proto-Chadic *mar > **mâi** ‘oil’ (note also PC *kirfi > **kiiffi** ‘fish’). This leads to the hypothesis, which needs to be confirmed, that the **ui** diphthong, underlying current day **K^wii** syllables, derived from */ur/, e.g., **g^wiibàa** ‘sediment’ < *gúibàa < *gúrbàa. Here we have reached the limit of what IR can do for us. The answer is going to depend on comparative evidence; but in leading to the reconstruction of *ui, IR has enabled us to focus on what kind of comparative evidence to look for.

Interestingly, two linguists who are native speakers of Hausa (Abubakar 1983/85 and Sani 1999) have postulated **ui** as a synchronically existing diphthong alongside **ai** and **au**. Although I am sympathetic to the idea, I am not entirely convinced that this analysis holds up for the language as it currently exists; however, that one can reconstruct **ui** (and **iu**) on internal grounds as formerly having been a part of the language strikes me as almost certain. That is, at some period in the past, Hausa, untypical by Chadic standards, had four, not two, diphthongs, the common **ai** and **au**, plus the unusual ***ui** and ***iu**.

5. Origin of h

Before the back rounded vowels, [h] is an allophone of /f/, e.g., **táhóo** ‘come’ (= /táfóo/), a grade 6 verb with the -óo ventive suffix, cf. **tàfi** ‘go’; **tsóohóo** ‘old (man)’, cf. the partially reduplicated plural **tsòofàffii**; **húdí** ‘four’ = dialect variant **fúdí**. Excluding recent loanwords, [h] in Standard Hausa does not occur before the front vowels /i(i)/ and /e(e)/. It does occur before /a/, where it contrasts with /f/, but always in word-initial position, e.g., **hádàa** ‘combine’, cf. **fádàa** ‘tell to’. The question is: what is the historical origin of this /h/ phoneme, i.e., what does it correspond to elsewhere in Chadic? Given the prevalence of gutturals and velar fricatives in languages of the Afroasiatic phylum, one would expect to trace Hausa /h/ back to a source in the consonantal system of proto-Chadic, although not to *h itself since a distinct /h/ phoneme is relatively rare in Chadic and not reconstructable for the proto-

language (Newman 1977). Skinner (1976) investigated the matter from a comparative perspective and surprisingly came up with nothing. Looking at the question from an internal point of view, I discovered that the reason that Skinner found nothing was because /h/ does come from nothing! The source of Hausa /h/ is initial *Ø (Newman 1976), i.e. /h/ came not from another consonant, but from an originally non-distinctive phonetic feature of word onset. The clues leading to this discovery, and evidence for its correctness, came from internal facts about the behaviour of /h/ and its similarities to glottal stop, whose history is well known.

First, excluding loanwords, /h/ is limited to word-initial position, e.g., **há**ɓ**ò** ‘nosebleed’, **há**ɗ**àa** ‘combine, unite’. This is not what would have been the case if /h/ were a reflex of a fricative *x or some other full-fledged consonant. Moreover, this restriction is shared with glottal stop, which was introduced into Hausa as a feature of word onset (Greenberg 1947).

Second, as with glottal stop, the /a/ following initial /h/ is invariably short. In normal CVCV words, length is (and was) distinctive for the first vowel, which occurs long at least as often as it occurs short. By contrast, at an earlier period when Hausa had vowel initial words - it doesn’t now because of the addition of the prothetic glottal stop - those vowels were invariably short (Newman 1979). The restriction on the length of /a/ in /ha/ syllables follows automatically from the fact that the words containing these syllables were original vowel-initial. That is, since in a word such ***á**ɓ**ò** the phonotactics of the language required that the initial /a/ be short, the /a/ that appears in **há**ɓ**ò** is necessarily short.

The third clue to the origin of /h/ is a bit more complicated and relates to a restriction applying to glottal stop. Hausa words never contain a sequence of non-identical glottal(ized) consonants. Thus, **ɗá**k**à** ‘in the room’ and **bàa**k**ó** ‘stranger’ are acceptable whereas ^{xx}**ɗa**k**a** and ^{xx}**baa**k**oo** are not. This restriction also applies to glottal stop, and so we find words such as **’á**ɗ**ó** ‘adornment’ and **’á**s**kii** ‘shaving’, but not ^{xx}**’á**ɗ**ó** or ^{xx}**’á**k**àa**. On first thought this seems natural and straightforward, but on deeper reflection the restriction presents a problem. We know that glottal stop in Hausa is a new

phoneme and that before it was added, Hausa had vowel-initial words. For example, with VCV words, there is no inherent reason why the C couldn't have been glottalized. Thus, the language should have had words such as ***áǎó** and ***ákàa**, which, when the glottal stop was added, would have become ^{xx}**áǎó** and ^{xx}**ákàa**; but words of this shape are absent. Why? The answer is that words such as ***ákàa** *did* exist and that they are still alive and well represented, but with an **h** onset instead of glottal stop onset. When Hausa developed from a language with vowel-initial words into one that required a consonantal onset for all syllables, **h** stepped in to do the job in situations where the addition of a glottal stop was phonotactically prohibited. The examples in (12) show formerly vowel initial words now containing initial **h** where a following consonant is glottalized. (Note that orthographic **ts** represents an ejective, glottalized consonant.)

- (12) **háǎà** ‘chin’ < ***ǎǎa**
hátsii ‘grain’ < ***ǎatsi**
háǎè ‘to swallow’ < ***ǎǎe**
háǎà ‘dig’ < ***ǎǎa**

In sum, a careful analysis of internal restrictions and distributional peculiarities led to the discovery of the origin of /**h**/ which comparative work had failed to provide. However, problems remain. Consider (13):

- (13) **háǎàá** ‘armpit’
háncii ‘nose’
háǎii ‘intestines’
háǎúu ‘arm, hand’
háǎshè ‘tongue’
háǎtà ‘liver’ (= dialectal **’áǎtà**)
háǎfù ‘give birth’ (= dialectal **’áǎfù**)
háǎzáa ‘the shrub *Boscia angustifolia*’ (= dialectal **’áǎzáa**)

Because of the restriction against adding glottal stop to words that contained a glottalized consonant, one had to add **h** to such words, as seen in (12). But there is no phonological reason why ' couldn't have been added to words such as those in (13) that lacked a glottalized consonants. The question then is what accounts for the historical choice of **h** vs. ' (or **h** and ' both occurring as dialectal variants). For the moment, I have no answer: the solution may lie in comparative evidence, but most likely it will come out of a consideration of subtle internal factors the importance of which we have failed to recognize.

6. Reformulating a Morphological Rule of Plural Formation and the Discovery of a Vowel Lowering Rule

Hausa has a wealth of plural formations (see Newman 2000). Most involve affixation (often -VCV), or suffixal reduplication, usually with an associated tone pattern, e.g., **zómóó** 'hare'/pl. **zómàáyée**; **kúlkíí** 'cudgel'/pl. **kúlàakée**; **kéesòò** 'grass mat'/pl. **kéesúnàà**; **dámóó** 'land monitor'/pl. **dámàmée**; **táagàà** 'window' / pl. **táagóogíí**. A small number of basic disyllabic nouns with the canonical shape CVCV with the first vowel /**aa**/ form their plurals by final vowel replacement, e.g., **rámìì** 'hole'/pl. **rámúú**; **tsàakóó** 'chick'/pl. **tsàakíí**. The essence of the formation rule is that a front vowel is replaced by high tone /**úú**/ and a back vowel by high tone /**íí**/. (The **t/c**, **s/sh**, and **z/j** alternations, which depend on the following vowel, are automatic.)

(14) **i** → **u** : **máashìì** 'spear'/pl. **máasúú**;
rámìì 'hole'/pl. **rámúú**

o → **i** : **k^wàadóó** 'frog'/pl. **k^wàadíí**;
bàakóó 'stranger, guest'/pl. **bàakíí**;
màazóó 'antelope'/pl. **màajíí**;
tsàakóó 'chick'/pl. **tsàakíí**

This plural formation involves flip-flop whereby a front vowel goes to back and a back vowel goes to front, but the two parts of the

rule are not symmetrical. The **i** → **u** part looks fine, but, when one stops and thinks about it (as no Hausaist that I am aware of had ever done) the **o** → **i** part is curious. To begin with, **o** → **i** doesn't match **i** → **u** exactly in that the singular has a mid rather than a high vowel. Second, the **o** → **i** vowel switch involves raising as well as fronting. Given that the switching rule with final back vowels only applies to **oo**, the obvious question is how do **uu**-final singulars of this shape form their plurals? Surprisingly, apart from a few apparent loanwords, e.g., **gàařúu** 'town wall'/pl. **gáařúkàa**, such words do not exist. That is, Hausa lacks singular nouns of the form **CaaCuu**. This is a very strange gap given that **uu** is a common word-final vowel and **aa** is a very common syllable-initial vowel. The explanation, discovered by IR, is that Hausa underwent a conditioned vowel lowering rule, ***uu** > **oo** / **CaaC__** (Newman 1990). Thus, the final mid vowel **oo** that one finds in the vowel-switching plurals comes from ***uu**, e.g., **tsàakóo** 'chick' < ***tsàakúu**, etc. Postulation of this rule not only accounts for the missing **uu**-final singular nouns, it also allows us to reformulate and thereby understand the vowel switching plural formation, which can now be described simply as **ii** ↔ **uu**, as in (15).

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| (15) | ráamii 'hole' | → | pl. ráamúu |
| | *tsàakúu (now tsàakóo) 'chick' | → | pl. tsàakíi |

As if the above were not enough, this historical rule provides an extra bonus in our understanding of Hausa. Although some current-day disyllabic singular nouns with final **oo** form their plurals by means of the vowel switching formation, not all do, e.g. **ràagóo** 'ram'/pl. **ráagúnàa**, cf. **bàakóo** 'stranger'/pl. **bàakíi**. One could dodge the problem by saying that plural choice is random and/or lexically specific, but there is now a good explanation at hand. This explanation, which needs to be verified, is that the vowel switching formation only applies to words that historically had high final vowels and that words with final mid vowels had a different plural formation. That is, the vowel switching plural applies, for example, to **bàakóo** since it historically comes from ***bàakúu**, but not with the

similar looking **ràagóo**, since that comes from ***ràagóo** where the final **-oo** is original. In sum, final **uu** and final **oo** have merged in the specific phonological environment of a long **aa** in the preceding syllable, with the result that one cannot see any phonological difference synchronically, but the plural formation employed allows us to reconstruct which vowel was originally present, as in (16).

- (16) **bàakóo** < ***bàakúu**, pl. **bàakíi** ‘stranger’
ràagóo < ***ràagóo**, pl. **ràagúnàa** ‘ram’

7. Reconstructed Pronoun *ni* ‘him/it’

The indefinite determiner/pronoun ‘some(one)’ has three forms depending on gender and number. (Hausa does not distinguish gender in the plural.)

- (17) m.sg. **wání:** **wání dǎalibíi** ‘some male student’
wání yáa zóo ‘someone (m.) he came’
f.sg. **wátá:** **wátá dǎalibáa** ‘some female student’
wátá táa zóo ‘someone (f.) she came’
pl. **wású:** **wású dǎalibái** ‘some students’
wású sún zóo ‘some (pl.) they came’

The indefinites are clearly composed of a formative **wá-**, possibly related to the question word **wàa** ‘who’, plus some other element. This element is obviously a personal pronoun, as can be seen from a paradigm such as the following object set (tone variable depending on usage):

- (18) sg: 1s **ni** 2m **ka** 2f **ki** 3m **shi** 3f **ta**
pl: 1p **mu** 2p **ku** 3p **su**

The analysis of the indefinites looks simple, i.e., **wátá** = **wá** + **ta** 3f; **wású** = **wá** + **su** 3pl and **wání** = **wá** + **ni** 1s. But if one stops to think about it, the analysis provides a result that is skewed and unbalanced. It is odd that the masculine indefinite should employ the 1st person pronoun when the other two forms use the appropriate 3rd

person pronouns. To be consistent, the masculine form should contain a 3rd person masculine singular pronoun, and comparative Chadic evidences suggests that this is indeed so (Newman 1972). In Hausa, the pronoun **ni** in **wání** looks just like the 1st person pronoun, but in related Chadic languages **ni** is a 3rd person masculine form differing from the first person, which also begins with /n/, in the vowel and/or the tone. In Bole, for example, a language of the same West-Chadic branch as Hausa, the 1st and 3rd singular pronouns belonging to the “complement” paradigm (used for indirect objects, possessives, etc.) are 1s **no**, 3m **ni**, and 3f **to** (Lukas 1970/71: 251). What apparently happened in Hausa is that the 1st and 3rd m. pronouns fell together phonologically after which Hausa dropped the **ni** 3m pronoun and replaced it with the 3m pronoun **sa/shi** that was already available in other paradigms. The form **wání**, however, had become frozen and thus stayed as is rather than being replaced by something like ^{xx}**wáshí**.

That the ^{*}**ni** one sees in **wání** was originally a 3m pronoun seems incontrovertible. What is strange is that Hausa could have lost this 3m **ni** everywhere in the language except in this one form. One would expect that if one dug deeply and carefully enough, one would find other traces of this erstwhile 3m pronoun; and one does.

Hausa is incredibly rich in compounds, well exemplified in the Yale Hausa dictionaries (R. M. Newman 1990; P. Newman 2007) and the subject of two excellent studies (Ahmad 1994; McIntyre 2006). One structural type consists of a verb plus a personal pronoun object plus additional material, such as a clause, a ‘with’ phrase, or an adverbial, e.g., **bii-tá-dà-kállóo** (follow-her/it-with-looking) ‘attractive decoration on back of a woman’s wrapper’. The most commonly occurring pronoun in this type of compound is **ní**, which has always been assumed to be the 1st person singular pronoun and thus glossed as ‘me’. Here are typical examples, with the literal gloss in parentheses.

- (19) **bàř-ní-dà-múugùu** (leave-me-with-ugliness) ‘acne’
bii-ní-kà-láalàacée (follow-me-you-break down)
‘fragile branch’

bii-ní-kà-tsintáa (follow-me-you-pick it up)
 ‘anything hanging down the back of the neck by a cord’
tàbáa-ní-kà-sáamùu (touch-me-you-get it)
 ‘name of several trees providing useful products’

The only other pronoun commonly used in compounds of this type is **tá** ‘her/it (f.)’, as in (20).

- (20) **bàa-tá-káashí** (give-her-excrement)
 ‘turmoil, fight’
bii-tá-dà-kùllíi (follow-her-with-punching)
 ‘adding insult to injury’
rigàa-tá-gádóo (precede-her-bed)
 ‘plaits on the side of the head’
sàu-tá-gà-wáawáa (release-her-to-a fool)
 ‘short-lived marriage’

Compounds of this type are pretty much limited to **ní** ‘me’ and **tá** ‘her/it’, but this is weird. Since compounds are formed readily with the 3rd feminine pronoun, there doesn’t seem to be any *a priori* reason, semantic or otherwise, why they shouldn’t readily make use of the 3rd masculine pronoun. The answer is that compounds with the 3rd masculine object pronoun probably do exist, parallel to the ones with the feminine pronoun, but we have failed to recognize this because of the form of the pronoun. Instead of using **shí**, the normal 3m object pronoun in current-day Hausa, the compounds are making use of the historically archaic ***ní** 3m pronoun that we first identified as such in the indefinite form **wání**. Significant here is the fact that there are a couple of compounds that have alternative forms employing both **ní** and **tá**.

- (21) **bii-tá-dà-zúgúu** (follow-her/it (f.)-with-burial cloth)
 = **bii-ní-dà-zúgúu** (follow-him/it (m.)-with-burial cloth)
 ‘physic nut’
bii-tá-zàizàì (follow-her-zàizàì [ideophone indicating going round and round])

= **bii-ní-zàizài** (follow-him-zàizài) ‘a charm / love potion that makes a person irresistible’

The above alternatives would be strange if you viewed one member of the pair as 3rd person (feminine) and the other as 1st person. By contrast the alternative pairs follow naturally if one considers them as parallel equivalents, both employing the 3rd person but differing only in gender.

8. Conclusion

The strength of IR is not in providing errorless reconstructions, but in leading to new ideas, hypotheses, and questions. It is a creative way to account for anomalies in a language, to expand one’s understanding of the past, and to appreciate the language’s historical development. What I have shown in this study of Hausa is that if one digs deeply, the possibilities of applying IR are not rare but can be found widely throughout the language.

To the extent that historical linguists have thought about IR, they have tended to view it as a restricted method applicable only when morpheme alternants are present. What I have shown in this paper is that all irregularities and anomalies in the synchronic state of a language, whatever their nature, can potentially provide hints and insight into the language’s past. The exciting thing about this approach is that there are no *a priori* limits on what kinds of data one can use and what kinds of historical information one can retrieve. Unlike the Comparative Method, which, although extremely important, is in many ways a tedious and intellectually pedestrian approach to masses of raw data, IR as envisioned here requires in-depth knowledge, insightful understanding of the language in question, and a creative and fertile mind. This is what makes IR so difficult, and also what makes it so challenging.

Dedication. This paper is dedicated to my longtime friend and colleague Larry Hyman, a prolific scholar of wide-ranging knowledge whose work in African linguistics and theoretical phonology is characterized by perceptiveness, creativity, and high scientific standards.

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