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Carleton T. Hodge
1917 - 1998

Carleton Hodge, Professor Emeritus of Linguistics and Anthropology at Indiana University, passed away at his home in Bloomington on September 8, 1998.

Hodge received his B.A. (1939) from DePauw University, where he met Carl Voegelin, who remained a friend and mentor throughout his life. He did his graduate work in linguistics and Near Eastern studies (including Ancient Egyptian) at the University of Pennsylvania. His Ph.D. dissertation (1943) was a descriptive grammar of Hausa.

From 1946 to 1963, Hodge worked for the Foreign Service Institute. He supervised courses in foreign language training and also prepared pedagogical materials on languages as varied as Serbo-Croatian, Greek, Persian, and Hausa.

After a visiting appointment at Brandeis, Hodge took up a position at Indiana University (1964), where he taught linguistics and was fully involved in the African Studies Program until his retirement in 1983. During the subsequent fifteen years, Hodge remained extremely active and productive as a scholar, attending numerous linguistic meetings and producing a steady stream of articles and book reviews.

As an Africanist, the focus of Hodge's linguistic work was the analysis of Hausa and Ancient Egyptian. He is best known, however, as a comparative-historical linguist. Much of his research was concerned with the classification and reconstruction of Afroasiatic (for which he coined the term "Lisramic"). He also devoted his extensive knowledge and energies to the problem of establishing the relationship between Afroasiatic and Indo-European (a super phylum he named "Lislakh").

Hodge was an unpretentious individual who was appreciated for his sincerity and his wit. A full bibliography of his writings was prepared on the occasion of his 80th birthday (Gyula Décsy (compiler), *Carleton T. Hodge: Bibliography 1944-1997*, Bloomington: Eurolingua, 1997). The following few citations, drawn from over a hundred and fifty of his publications, are representative of his work.

1947. *An Outline of Hausa Grammar*. (Language dissertation.) Supplement to *Language* 23.

1954. "An outline of Middle Egyptian grammar." *Studies in Linguistics* 12: 8-23.

1963. *Hausa Basic Course*. (with Ibrahim Umaru) Washington, D. C.: Foreign Service Institute.

1970. "Afroasiatic: An overview." In Thomas A. Sebeok (ed.), *Current Trends in Linguistics, Vol. 6: Southwest Asia and North Africa*, pp. 237-254. The Hague: Mouton.

1981. "Lislakh labials." *Anthropological Linguistics* 23: 368-382.

1984. "Lislakh: Progress and prospects." In James Bynon (ed.), *FUCUS: A Semitic/Afrasian Gathering in Remembrance of Albert Ehrman*, pp. 267-276. Amsterdam: Benjamins.

1991. "Indo-European and Afroasiatic." In Sydney M. Lamb and Douglas E. Mitchell (eds.), *Sprung from Some Common Source*, pp. 141-165. Stanford: Standord University Press.

[Paul Newman]

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THE PHONOLOGY OF VOCALIC HEIGHT IN KIKURIA*

Chacha Nyaigotti Chacha
HELB, Nairobi

and

David Odden
The Ohio State University

Vowel height harmony is common in Bantu languages, but the language Kikuria has a particularly rich system of vowel height alternations, which are described in this paper. Included in the height-related phonology of the language are three regressive height harmonies and one progressive harmony. Certain of these processes are triggered by glides and palatal consonants, while for other processes these consonants are transparent, and stem-initial vowels behave exceptionally for some, but not all, of these processes.

1. Introduction

Many Bantu languages have systems of vowel harmony whereby vowels in adjacent syllables assimilate in height, as discussed in Hyman [1988], Clements [1991], Parkinson [1996], inter alii. The language Kikuria, spoken in Kenya and Tanzania, has a rich system of vowel height alternations, and the purpose of this paper is to document the phonology of vowel height in this language. Phonetically, Kikuria is a seven-vowel language, having the vowels [*i e ɛ a ɔ o u*].[1]

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[1] Such vowel-height systems have been analysed in terms of the features [high], [low] and [ATR], as in Hyman [1988], or in terms of a single scalar feature [open] [Clements 1991] or [closed] [Parkinson 1996]. The primary argument for a scalar approach to vowel height is that it provides a unified account of height harmony affecting multiple vowels heights. While Kuria does have height harmony at different heights, strong arguments cannot be made that these harmonies reflect a single process.

Four assimilatory processes exist in the language. The first process raises upper-mid vowels (*e,o*) to high vowels (*i,u*) when they are followed by a high vowel, a glide, or a palatal consonant, as discussed in section 2. The second process, investigated in section 3, raises a lower-mid vowel (*ɛ,ɔ*) to an upper-mid vowel when followed by a high vowel. Section 4 motivates a third process where a high vowel is lowered to an upper-mid vowel when followed by an upper-mid vowel. The fourth assimilation, the subject of section 5, lowers an upper-mid vowel to a lower-mid vowel when preceded by a lower-mid vowel. The status of palatal consonants and glides is taken up in section 6. Processes of vowel merger are documented in section 7, including glide formation and a process whereby the low vowel *a* and the upper-mid vowels *e* and *o* become a single lower-mid vowel. Finally, the interaction of these effects is the subject of section 8.

The goal of this paper is to describe the facts surrounding vowel height in Kikuria rather than to advance a particular theoretical viewpoint, so we have aimed to be neutral as to whether such generalizations should be captured in terms of rules, as is traditionally assumed, or in terms of a system of ranked constraints as assumed in Optimality Theory (see McCarthy & Prince [1993] for an overview of Optimality Theory). References to "rules" and related concepts

(1)

Prefix	**Class**
omo-	1
aba-	2
omo-	3
eme-	4
iri-	5
ama-	6
eke-[2]	7
ibi-	8
e(N)-[3]	9
ichi(N)-	10
oro-	11
obo-	14
ogo-	20

[2] Underlying *k* in a prefix appears as *g* when the following syllable contains a voiceless consonant (e.g., */eke-kébi/* → *ege-kébi* 'knife', */oko-táángá/* → *ogo-táángá* 'to begin') by a dissimilative process known as Dahl's Law.

[3] The symbol N represents a nasal consonant which assimilates in place to a following stop, or deletes before a continuant or another nasal. The vowel of this prefix, as well as the second vowel of the cl. 10 prefix *ichiN-*, may surface as short (*e-séésé* 'cat') or as long (*iin-gúrúbɛ* 'pig'), owing to a process lengthening vowels before sequences of nasal plus consonant. The nasal is lacking in certain lexically specified nouns, e.g., *i-tííñi* 'animal'.

in this paper are thus purely heuristic. This paper draws insights from Cammenga [1994], who describes many of these same patterns. There are minor empirical differences between the version of the language described here and that described by Cammenga, and where these differences are important, we will point them out.

2. Raising to high

The first process in Kikuria phonology we shall discuss that is related to vowel height is a regressive harmony that raises any mid vowel to a high vowel when it is followed by another high vowel, glide, or palatal consonant. This raising operates within stems and prefixes. Evidence for the existence of this process comes from alternations in the form of the noun class prefix, as determined by the phonological properties of the following stem. The list in (1) provides the underlying forms of the noun class prefixes of Kikuria.

The shape of certain of these prefixes, namely those of classes 1, 3, 4, 7, 9, 11, 14, and 20, alternates so that a variant with a high vowel is employed before a stem whose first syllable contains a high vowel, as shown in (2).

(2) **Class 1**

omoó-nto	'person'	*umu-ríísya*	'boy'
omo-sááchá	'male'	*umu-múra*	'young man'

Class 3

omo-té	'tree'	*umu-sí*	'sugar cane'
omo-góóndo	'plowed field'		

Class 4

eme-té	'trees'	*imi-sí*	'sugar canes'
eme-góóndo	'plowed fields'		

Class 7

ege-té	'chair'	*igi-túúmbe*	'stool'
ege-sáka	'stream'	*iki-múúñé*	'deer'
egeé-nto	'thing'	*iki-rúúngúuri*	'soft porridge'

Class 9

e-séésé	'dog'	*i-tííñi*	'animal'
e-ng'áámwí	'cat'	*iin-gúrúbɛ*	'pig'
e-ng'ɔ́ɔ́mbɛ	'cow'		

Class 11

oro-té	'stick'	*uru-síri*	'rope'
oro-réme	'tongue'	*uru-gúta*	'wall'
oro-gɛ́na	'grinding stone'		
oro-tárɛ	'stone'		

Class 14

obo-béébe	'badness'	*ubu-kíma*	'corncake'
obo-gáákáá	'male adulthood'	*ubu-mítítu*	'coldness'
		ubu-kúúngu	'female adulthood'

Class 20

ogo-sééndáno	'huge needle'	*ugu-síri*	'huge rope'
ogo-géna	'huge stone'		
ogo-gábo	'huge basket'		
ogo-tábo	'huge book'		

A low vowel in the prefixes for classes 2 and 6 does not change before a high vowel, as shown in (3), while the prefixes for classes 5, 8, and 10 contain a high vowel irrespective of the vowel of the following stem, as in (4).

(3)

Class 2	*aba-ríísya*	'boys'
	aba-sááchá	'males'
	abaá-nto	'people'
	aba-múra	'young men'
Class 6	*ama-hííndi*	'corn cobs'
	ama-síko	'yards'
	ama-té	'big chairs'
	ama-kéɛ́ndɔ	'date fruits'
	ama-tɔ́ɔ́kɛ	'bananas'
	ama-tóro	'buttocks'

(4)

Class 5	*iri-síko*	'yard'
	iri-hííndi	'corn cob'
	iri-té	'big chair'
	iri-kéɛ́ndɔ	'date fruit'
	iri-tɔ́ɔ́kɛ	'banana'
	iri-tóro	'buttock'

Class 8	*ibi-té*	'chairs'
	ibi-sáka	'streams'
	ibi-gáátɛ	'small breads'
	ibíí-nto	'things'
	ibi-góóndo	'small fields'
	ibi-gúrúbe	'small pigs'
	ibi-túúmbe	'stools'
	ibi-rúúngúuri	'soft porridges'
	ibi-múúnɛ́	'deer (pl)'
Class 10	*ichiin-síri*	'ropes'
	ichi-tííñi	'animal'
	ichiin-té	'sticks'
	ichiin-déme	'tongues'
	ichi-séésé	'dog'
	ichiin-gɛ́na	'stones'
	ichiin-tárɛ	'grinding stones'
	ichi-ng'áámwi	'cat'
	ichi-ng'ɔ́ɔ́mbɛ	'cow'
	ichiin-gúrúbe	'pig'
	ichiin-gúta	'walls'

Additional data which illustrate Raising to High involve the infinitive prefix *oko-*. This prefix has underlying upper-mid vowels, but has phonetic high vowels when the following syllable contains a high vowel, as in (5).

(5)	*oko-réma*	'to plow'	*uku-gííngírá*	'to shave'
	oko-géécha	'to chop'	*ugu-sííká*	'to close a door'
	ogo-táángá	'to begin'	*ugu-súraangá*	'to sing praise'
	oko-rɔ́ga	'to bewitch s.o.'	*ugu-túúhá*	'to be blunt'
	oko-hóórá	'to thresh'		

Raising to High also applies to an object prefix (as well as to the infinitive prefix preceding the object prefix). The underlying forms of the object prefixes are motivated in (6a,b), where they surface unmodified because the following vowel is *a*, a vowel which triggers no vowel harmony. The object prefixes for classes 8 and 10 have underlying high vowels, so these prefixes themselves cause raising of preceding upper-mid vowels (6c).

(6)	a.	*ogo-kó-bárǎ*	'to count you (sg)'
		oko-mó-bárǎ	'to count him'
		ogo-tó-bárǎ	'to count us'

(6) b. *oko-gó-bárǎ* 'to count it (cl 3)'
oko-gé-bárǎ 'to count it (cl 4)'
oko-ré-bárǎ 'to count it (cl 5)'
oko-ró-bárǎ 'to count it (cl 11)'
oko-bó-bárǎ 'to count it (cl 14)'

c. *uku-bí-bárǎ* 'to count it (cl 8)'
ugu-chí-bárǎ 'to count it (cl 10)'

When placed before a stem whose first vowel is high, the vowels of object prefixes (and the preceding infinitive prefix) become high, as in (7). The raising process applies to multiple object prefixes, as in (8), but if the vowel *a* appears in one of the object prefixes, as in (9), raising does not extend to or before that prefix.

(7) *uku-gú-súraánga* 'to praise you (sg)'
uku-mú-súraánga 'to praise him'
ugu-tú-súraánga 'to praise us'
uku-gú-súraánga 'to praise it (3)'
uku-gí-súraánga 'to praise it (4)'
uku-rí-súraánga 'to praise it (5)'
uku-bí-súraánga 'to praise it (8)'
ugu-chí-súraánga 'to praise it (10)'
uku-rú-súraánga 'to praise it (11)'
uku-bú-súraánga 'to praise it (14)'

(8) *oko-mó-gó-gɛsɛ́ra* 'to harvest it (3) for him'
uku-mú-mú-gíingíra 'to shave it (3) for him'
uku-mú-gú-síikya 'to make him close it (3)'
uku-mú-gú-síindya 'to make him win it (3)'
uku-mú-mú-gíingíra 'to shave him in there'

(9) *oko-bá-súraánga* 'to praise them'
oko-mó-bá-suráángéra 'to praise them for him'
oko-bá-mú-suráángéra 'to praise him for them'

Vowel raising also affects the subject prefix, as illustrated in (10) and (11) with data from the perfective and subjunctive forms of verbs. The underlying form of the subject prefixes can be seen in (10) when the following vowel is non-high. Raising to High applies to the subject prefix before a high vowel, as in (11).

(10) PERFECTIVE

o-tɛmerĕ	'you (sg.) hit'
to-tɛmerĕ	'we hit'
mo-tɛmerĕ	'you (pl.) hit'
o-reenderé	'you (sg.) guarded'
to-reenderé	'we guarded'
mo-reenderé	'you (pl.) guarded'

SUBJUNCTIVE

o-tɛmĕ	'you (sg.) should hit'
to-tɛmĕ	'we should hit'
mo-tɛmĕ	'you (pl.) should hit'
o-reendɛ́	'you (sg.) should guard'
to-reendɛ́	'we should guard'
mo-reendɛ́	'you (pl.) should guard'

(11) PERFECTIVE

u-siikeré	'you (sg.) closed'
tu-siikeré	'we closed'
mu-siikeré	'you (pl.) closed'
u-sukerĕ	'you (sg.) plaited'
tu-sukerĕ	'we plaited'
mu-sukerĕ	'you (pl.) plaited'

SUBJUNCTIVE

u-siikɛ́	'you (sg.) should close'
tu-siikɛ́	'we should close'
mu-siikɛ́	'you (pl.) should close'
u-huutɛ́	'you (sg.) should blow'
tu-huutɛ́	'we should blow'
mu-huutɛ́	'you (pl.) should blow'

Up to this point, all examples of Raising to High have involved assimilation initiated by a stem-initial high vowel. Such raising is also found within the stem. An agentive nominalisation is formed by affixing the vowel *-i* to a stem, the resulting noun being in classes 1-2. When the stem contains a mid vowel, that

vowel is raised to become a high vowel. This derived high stem vowel causes raising of the preceding prefix vowel, as in (12).[4]

(12)	*umurími*	'farmer'	<	*okoréma*	'to cultivate'
	umutígíti	'one who is late'	<	*ogotégétă*	'to be late'
	umuhíítúki	'rememberer'	<	*okohéétóká*	'to remember'
	umurúmi	'biter'	<	*okoróma*	'to bite'
	umusúúki	'respecter'	<	*ogosóóká*	'to respect'
	umuhúúri	'thresher'	<	*okohóórá*	'to thresh'
	omotáchúri	'one who unties'	<	*ogotáchóră*	'to tear'

Upper-mid vowels within the verb stem will raise to high vowels when the causative suffix is added. We assume that the causative suffix is underlying /i/, though it surfaces as [y] before a vowel due to a process of Glide Formation. Data from the imperative are given in (13) to illustrate Raising to High conditioned by the causative.

(13)	*remă*	'weed!'	*rimyá*	'make weed!'
	romă	'bite!'	*rumyá*	'make bite!'
	hoorá	'thresh!'	*huuryá*	'make thresh!'
	heetóka	'remember!'	*hiitúkya*	'make remember!'
	sooká	'respect!'	*suukyá*	'make respect!'
	tegetá	'be late!'	*tigityá*	'make late!'

Evidence from tonal alternations—discussed in Odden [1987]—supports the claim that the causative suffix is underlyingly *-i-*. In the imperative, a H tone is assigned to the third stem vowel (mora), as in *heetóka, tegetá*, or *hoorá*, but if the stem does not contain three vowels, as in *remă*, the H tone is mapped to the stem as a rising tone. On the surface, the form *rimyá* with a level H would appear anomalous since the stem has only two vowels, but the final vowel has a level H and not a rising tone. This anomaly is explained by the assumption that [rimyá] is underlying /rem-i-a/, in which case this form follows the general

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[4] Implicit in our analysis is the prediction that upper-mid vowels do not appear within a stem before high vowels. Such a prediction appears to be counterexamplified by words such as *umweéri* 'moon'. As we will show in section 3, the lower-mid vowel *ɛ* raises to *e* before a high vowel. We would thus assume that the underlying form of this noun stem is *ɛri*, which is indeed its form in many Bantu languages. Analogously, we assume that *omorógi* 'witch' derives from /*omo-rɔgi*/. In the latter case, direct confirmation of the hypothesis comes from the fact that this noun derives from the verb stem *-rɔg-*, cf. *okoróga* 'to bewitch'. It is the lack of any means whereby the final vowel *i* of the noun *umweéri* can be replaced with a nonhigh vowel that prevents us from directly demonstrating the hypothesized underlying quality of the stem initial vowel in this case.

pattern for verbs having three vowels, i.e., a level H appears on the final vowel. The high vowel desyllabifies giving the surface form [rimyá].

Raising to High triggered by the causative suffix will iteratively cause the stem vowels and preceding prefix vowels to raise to high vowels, as in (14).

(14)	Simple verb		Causative	Caus. + Cl 1 Object
	okoréma	'to weed'	*ukurímyá*	*ukumúrímyă*
	okoróma	'to bite'	*ukurúmyá*	*ukumúrúmyă*
	okohóóra	'to thresh'	*ukuhúúryá*	*ukumúhuuryá*
	okohéétóká	'to remember'	*ukuhíítúkyá*	*ukumúhiitúkya*
	okogéémbá	'to cause rain'	*ukugíímbyá*	*ukumúgiimbyá*
	ogosóóká	'to respect'	*ugusúúkyá*	*ukumúsuukyá*
	ogotégétă	'to be late'	*ugutígítyă*	*ukumútígityá*

In one phonological context, mid vowels do not raise to high when followed by a high vowel, namely when the mid vowel is in absolute stem initial position. We will also show in section 4 that the process lowering high vowels to upper-mid vowels before upper-mid vowels also does not apply to a vowel in initial position within the stem; however, section 3 documents a process raising lower-mid vowels to upper-mid, which does apply in stem initial position. Note furthermore that the restriction against raising to high does not extend to word-initial position, as in [ukurímyá] 'to cause to cultivate' from /oko-rem-i-a/. Downing [1998] discusses a number of cases from other Bantu languages where stem-initial vowels have unusual phonological properties.

(15)					
a.	*egă*	'learn!'	*egyá*	'teach!'
	ukw-eéga[5]	'to learn'	*ukw-eégya*	'to teach'
	ebă	'forget!'	*ebyá*	'cause to forget!'
	ukw-eéba	'to forget'	*ukw-eébya*	'to cause to forget'
b.	*oongoká*	'be clear!'	*oongokyá*	'clarify!'[6]
	oko-óngókă	'to be clear'	*oko-óngókyă*	'to clarify'
	ogă	'be sharp!'	*ogyá*	'sharpen!'
	oko-óga	'to sharpen'	*oko-ógyá*	'to sharpen'
	oroóra	'float!'	*oroórya*	'cause to float!'
	omo-óroorí	'floater'		

[5] Raising of the prefix vowel to [u] is conditioned by the derived glide [w], and will be discussed in section 6.

[6] The underlying form of this stem has an initial short vowel, and thus abstracting away form the pre-NC lengthening process, the third mora appears in the final syllable.

In the case of *oroórya*, one might expect a form such as **oruúrya*, where the initial vowel is exempt from raising, but medial *oo* is not. However, there is a process of progressive vowel lowering, discussed in section 5, which prevents *u* after *o*.

To summarize, whenever an underlying upper-mid vowel is followed by a high vowel, the mid vowel raises to become a high vowel. In addition, in a sequence of consecutive upper-mid vowels, each vowel is raised to become a high vowel. The presence of an intervening low vowel blocks this process. As we will see in section 6, Raising to High is also triggered by certain nonsyllabic segments, specifically glides and palatal consonants.

3. Raising to mid

A similar process raises the lower-mid vowels *ɛ* and *ɔ* to *e* and *o* when they are followed by a high vowel. This can be seen in the alternations between the basic form of the verb, which shows the underlying lower-mid vowel, and an upper-mid vowel in the causative, which is conditioned by the (underlying) vowel /i/, as in (16).

(16)

ogotérékă	'to brew'	*ogotérékyá*	'to make brew'
okogésa	'to harvest'	*okogésyá*	'to make harvest'
ogoséénsá	'to winnow'	*ogoséénsyá*	'to make winnow'
ogotéémá	'to hunt mushrooms'	*ogotéémyá*	'to make hunt'
okorɔ́ga	'to bewitch'	*okorógyá*	'to make bewitch'
ogosɔ́ka	'to poke'	*ogosókyá*	'to make poke'
okogɔ́ɔ́gá	'to slaughter'	*okogóógyá*	'to make slaughter'
okogɔ́ɔ́tá	'to hold'	*okogóótyá*	'to make hold'

Further evidence for Raising to Mid is seen in the form of agent nominalizations of verbs with an underlying lower-mid vowel (17). Abstract nominalizations with the final vowel *-u* also provide evidence for this process, as in (18).

(17)

omogési	'harvester'
omotéréki	'brewer'
omotéémi	'mushroom hunter'
omorógi	'witch'
omogóógi	'butcher'
omogóóti	'holder'

(18)

obo-téréru	'slipperiness'	<	*ogo-tɛ́rɛ́ră*	'to be slippery'
obo-téreeréku	'smoothness'	<	*ogo-tɛ́rɛɛrɛ́ka*	'to be smooth'
obo-tééndééru	'smoothness'	<	*ogo-tɛ́ɛ́ndɛ́ɛ́ra*	'to be smooth'

Unlike the processes of raising upper-mid vowels before high vowels and lowering high vowels before upper-mid vowels, this process does affect a lower-mid vowel in absolute initial position in the stem, as shown by the examples in (19).

(19)

eyyá	'cause to sweep!'	*ɛyă*	'sweep!'
ukw-eéyya	'to cause to sweep'	*ukw-ɛéya*	'to sweep'
umw-eéyi	'sweeper'		
eremyá	'make swim!'	*ɛrɛmá*	'swim!'
ukw-eégékyă	'to prop up'	*ukw-ɛɛgɛ́kă*	'to be propped up'
oyokyá	'make greedy!'	*ɔyɔká*	'be greedy!'
ok-oóyókyă	'to make greedy'	*ok-ɔɔ́yɔ́kă*	'to be greedy'
orokyá	'verify!'	*ɔrɔká*	'come out!'[7]

The only examples of Raising to Mid are drawn from within the stem domain. In general, prefixes do not contain lower-mid vowels. However, the negative infinitive prefix *tɔko* does, and as the data in (20) show, that prefix does not undergo Raising to Mid.

(20)

ogo-tɔ́kó-réma	'to not cultivate'
ogo-tɔ́gú-súraangá	'to not praise'
ogo-tɔ́gú-gíintuúngúnúuchirya	'to not balance it for me'

The significance of these data is the following. Given the functional similarity of the Raising to Mid and Raising to High, it is natural to consider that these processes might be manifestations of a single generalization.[8] We know of

[7] This verb relates to an initiation rite whereby the initiate emerges from hiding and demonstrates her maturity, passing from stage *obosaamba* to *ubwiiseke*.

[8] Cammenga 1994 assumes that the rules are the same, framing an analysis within the scalar height approach of Clements 1991. One fact might be taken to indicate that the two raising processes are distinct, namely the fact (discussed in section 6) that glides and palatal consonants trigger Raising to High but do not trigger raising to Mid. However, this may follow from the representation of height features on nonsyllabics in the language, rather than arising from a stipulated difference in the triggers of the two rules. Since it is not clear exactly what the theoretical basis is for the ability of nonsyllabic segments to trigger Raising to High, we do not take this difference in behavior as an unambiguous indication that the two raising processes must be governed by distinct rules.

no incontrovertible evidence showing that the processes are formally distinct, so, for example, in an analysis employing ordered rules, no other rule can be shown to be ordered between these two rules. On the other hand, we know of no evidence that these processes must necessarily be covered by a single generalization. If the domains of the processes were to differ, that would preclude their being expressed by a single rule. The evidence in (20) suggests that the processes do indeed have different domains, Raising to Mid applying only within the stem domain and Raising to Hi applying throughout the word. On the other hand, since there is only one prefixal morpheme, the negative infinitive, which resists Raising to Mid, this morpheme might simply be an exception. Lacking conclusive evidence regarding the unity of these processes, we leave this issue open.

One final point must be made regarding the operation of Raising to Mid. If a stem contains a sequence of lower-mid vowels followed by a high vowel, each of the lower-mid vowels will be raised, as shown by *omotéréki* 'brewer', from *ogotérékă* 'to brew'. This could be explained in one of two ways. One possibility is that this harmony simultaneously affects the maximal sequence of lower-mid vowels, raising the entire sequence in a single step. Another possibility is that harmony iterates throughout the string, raising the right-most vowel in the sequence, which then creates a new conditioning context for harmony; thus, /omotɛrɛki/ becomes *omotɛreki* and then *omotereki.* Under this scenario, the lower-mid vowel in the syllable *tɛ* would raise not because of the vowel *i* but because of the derived vowel *e* in the following syllable. It would therefore be necessary to expand the conditioning context for Raising to Mid to include both high vowels and upper-mid vowels.

At this point, it is not possible to conclusively determine whether upper-mid vowels trigger Raising to Mid. Various stem suffixes, including the applied *el* and the neuter *ek*, contain upper-mid vowels. However, when these suffixes are added to a stem ending with a lower-mid vowel, they themselves are lowered to lower-mid by a progressive harmony discussed in section 5. Thus, /oko-tɛrɛk-er-a/ surfaces as *ogotérékɛrá* 'to brew for'. One suffix, the perfective affix *-ere,* contains upper-mid vowels and does not undergo progressive lowering, as seen in *otɛmeré* 'you (sg.) hit'. One should note that this suffix also does not condition application of Raising to Mid to the vowel *ɛ*. While this suffix might simply be marked as an exception to Raising to Mid, its failure to condition raising casts some doubt on the claim that upper-mid vowels trigger this raising process. Lacking convincing empirical evidence as to whether upper-mid vowels directly trigger Raising to Mid, we leave open for the moment the question of the mode of application for this process.[9] In section 7, however, we show that

[9] Cammenga 1994 notes the existence of another raising process whereby lower-mid vowels are raised to upper-mid when followed by an upper-mid vowel, whereby /*m-ba-sɔm-ere*/ appears as *mbasomeré* 'they read'. As observed in section 5, an upper-mid vowel followed by a lower-

although merger of the vowel sequence /oa/ generally yields ɔɔ when that vowel is followed by the non-harmonizing final vowel of the stem *-áme* 'rich', the expected lower-mid vowel surfaces as upper-mid, viz. /omo-áme/ → [omoóme] 'rich (cl. 1)'. This supports the view that both high vowels and upper-mid vowels trigger raising of lower-mid vowels.

4. Regressive lowering

The third height-related process applies only within the stem, and lowers a high vowel to an upper-mid vowel when the high vowel is followed by a mid vowel. The applied suffix *-er-*, the statives *-ek-* and *-ok-*, and the reversive *-or-* all trigger this vowel lowering process. The following data, where the final stem vowel is non-high, establish that these suffixes have underlying upper-mid vowels.

(21) a. *oko-rééɴd-ér-á*[10] 'to guard for'
oko-géémb-ér-á 'to cause rain'
oko-báámb-ér-á 'to fit a drum head for'
ogo-táángát-ér-a 'to lead for'
ugu-súraang-ér-a 'to praise for'
oko-hóór-ér-á 'to thresh for'

b. *ogo-sár-ék-ă* 'to be destroyed'
ogo-sáámb-ék-á 'to be roasted'
uku-ñáhaar-ék-a 'to be hurt'

c. *ogo-táánd-ók-á* 'to tear'
ogo-táánd-ór-á 'to tear'

The data in (22) show that a stem with a high vowel is lowered when it is followed by a suffix with an upper-mid vowel. This lowering process does not operate between the stem and a prefix vowel, as the nominal data in (23) demonstrate. Analogous failure of lowering to affect a prefix is illustrated by the invariance of object prefixes containing high vowels in (24).

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mid vowel generally becomes a lower-mid vowel. However, the perfective suffix does not undergo that lowering harmony. In the dialect we describe, that suffix does not trigger raising of lower-mid vowels, hence the surface form is *mbasɔmeré*.

[10] In normal speech, a non-low vowel is severely reduced or perhaps deleted when within the stem it appears in the context VC___rV, where C is *r*, *nt* or *nd*. Thus *ogoréénderá* appears phonetically as [*ogoréénd*ra]. Rounding of the preceding consonant is found when the vowel is round. We have no evidence indicating whether this process is a categorial phonological process or a phonetic one.

(22)

ogoséékérá	'to close for'	<	*ugusííká*	'to close'
ogosééndérá	'to win for'	<	*ugusííndá*	'to win'
okorééngérá	'to fold for'	<	*ukurííngá*	'to fold'
okorógérǎ	'to cook for'	<	*ukurúga*	'to cook'
ogosókérǎ	'to plait for'	<	*ugusúka*	'to plait'
okobónékǎ	'to be broken'	<	*ukubúna*	'to break'
okorébórǎ	'to unblock'	<	*ukuríba*	'to block'
okohéétóká	'to remember'	<	*ukuhíítá*	'to remember'
okorééngórá	'to unfold'	<	*ukurííngá*	'to fold'
ogotókórǎ	'to dig up'	<	*ugutúka*	'to dig'
okohótókǎ	'to disappear through rubbing'	<	*ukuhúta*	'to rub off'

(23)

Class 5	*irité*	'aug. chair'
	iritóro	'buttock'
Class 8	*ibigóóndo*	'small fields'
	ibité	'chairs'
	ibíínto	'things'
Class 10	*ichiséésé*	'dog'
	ichiindéme	'tongues'
	ichiinté	'sticks'

(24)

uku-bí-rémǎ	'to cultivate them (8)'
ugu-chí-rémǎ	'to cultivate them (10)'

The perfective suffix *-ere* does not trigger regressive lowering (25), nor do so-called final vowel morphemes (26).

(25)

u-sukerě	'you (sg.) plaited'
tu-sukerě	'we plaited'
mu-sukerě	'you (pl.) plaited'

(26)

ugu-kíra	'to be deaf'	*umu-kíro*	'deaf person'
uku-gíra	'to deny'	*umu-gíro*	'taboo'

Regressive lowering is also blocked in one further context; when a verb root begins with a high vowel (27), there is no lowering of that initial vowel. This is analogous to the failure of Raising to High to apply in stem initial position.

(27)	*ugw-iítérǎ*	'to kill for'	< *ugw-iíta*	'to kill'
	iterá	'kill for!'		
	ugw-iíteendéra	'to rely on for'	< *ugw-iítiindá*	'to rely on'
	iteéndéra	'rely on for!'		
	ukw-iíbérǎ	'to steal for'	< *ugw-iíba*	'to steal'
	iberá	'steal for!'		
	ukw-iíhékǎ	'to cook'		
	iheká	'cook!'		
	umw-iísékě	'girl'		
	ukw-iígórǎ	'to open'		
	igorá	'open!'		
	ukw-iírórǎ	'to winnow'		
	irorá	'winnow!'		
	ihomá	'be dry!'	cf. *ihumyǎ*	'dry!'

We are aware of no verb roots beginning with the vowel *u*, so it is possible that this particular type of failure of Regressive Lowering is restricted to the vowel *i*.

5. Progressive lowering

The fourth harmony process is a progressive harmony turning upper-mid vowels—for example, that of the applied suffix *-er*—into lower-mid vowels after a lower-mid vowel, as in the data in (28), which include the applied forms of stems ending in a lower-mid vowel.

(28)	*okogésérǎ*	'to harvest for'	< *okogésa*	'to harvest'
	ogoséénsérá	'to winnow for'	< *ogoséénsá*	'to winnow'
	ogotérékɛrá	'to brew for'	< *ogotéréka*	'to brew'
	okorɔ́gérǎ	'to bewitch for'	< *okorɔ́ga*	'to bewitch'
	ogosɔ́kérǎ	'to poke for'	< *ogosɔ́ka*	'to poke'
	okogɔ́ɔ́gérá	'to slaughter for'	< *okogɔ́ɔ́gá*	'to slaughter'
	okogɔ́ɔ́térá	'to hold for'	< *okogɔ́ɔ́tá*	'to hold'

Given that lower-mid vowels do not generally appear in prefixes, the number of contexts where progressive lowering might apply is necessarily restricted. As previously noted, the negative infinitive prefix *-tɔko-* contaiṅs lower-mid vowels, and as the data in (29) show, the vowel *ɔ* does not trigger lowering of the following vowel (which is always the vowel *o* of that same prefix). This might indicate a domain restriction such that only stem vowels

trigger lowering; or, this one prefix might be an exception to Progressive Lowering.

(29) *ogotɔ́kóréma* 'to not cultivate'
ogotɔ́kóróma 'to not bite'

One suffix, the perfective *-ere*, is an exception to Progressive Lowering. As the examples in (30) show, the upper-mid vowels of the perfective do not lower.

(30) *oseɛnseré* 'you (sg.) winnowed'
toseɛnseré 'we winnowed'
moseɛnseré 'you (pl.) winnowed'
orɔgerě 'you (sg.) bewitched'
torɔgerě 'we bewitched'
morɔgerě 'you (pl.) bewitched'

There is some evidence that Progressive Lowering will lower a high vowel after an upper-mid vowel. Although /o...i/ becomes [u...i] by Raising to High, recall also that Raising to High cannot apply to a stem-initial vowel. In cases such as the causative form *oroórya* 'cause to float!' and the agent nominalization *omoóroorí* 'floater', Raising to High would be expected to yield **oruúrya* and **omoóruurí*. However, assuming that Progressive Lowering applies here as well, and is triggered by an upper-mid vowel, the correct surface forms will result.

Additional contexts where Progressive Lowering applies will be discussed in section 8, in the discussion of the interaction between Progressive Lowering and vowel merger.

6. Nonsyllabic Triggers

Certain consonants enter into the picture regarding height alternation. As the following data demonstrate, Raising to High is triggered by the palatal consonants *ch* and *ñ*, as shown by the fact that the prefix vowel preceding these consonants is high even if the vowel of the stem is non-high. Data involving nominal stems are seen in (31), verbal infinitives in (32).

(31) **Class 1** *umuchóóri* 'drawer'

Class 3 *umucháre* 'rice'

Class 4 *imicháre* 'rices'
imichóka 'huge snakes'
imichóóngwa 'huge oranges'
imichárra 'huge cattle egrets'

Class 7	*ikiñúñi*	'bird'
	igichóka	'snake'
	ikiñáánki	'grass'
	igicháíné	'civet'
Class 9	*iñáámwí*	'cat'
Class 14	*ubuñáánki*	'grass'
Class 20	*uguchóka*	'huge snake'
	uguchóóngwa	'huge orange'
	uguchárra	'huge cattle egret'

(32)	*uguchémókă*	'to boil (intransitive)'
	ugucháánchá árya	'to spread open'
	uguchɔ́ɔ́rá	'to draw'
	ukuñéérá	'to eat for'
	ukuñáámúúra	'to dismember animal and drag off'
	ukuñáhaará	'to injure'
	ukuñɔ́ɔ́rá	'to get'

A third source of palatal consonants which trigger this raising is the first person singular object prefix *ñ*, which appears before a vowel (33). Notice that when this object prefix is immediately followed by a consonant (34), it assimilates in place of articulation to that consonant or else deletes before a nasal or a continuant, and in either case does not trigger Raising to High (except in those cases in which the following consonant is a palatal or the following vowel is a high vowel: under either condition Raising proceeds as expected).

(33)	*ukuú-ñ-ébă*	'to forget me'
	ukuú-ñ-áherá	'to pick vegetables for me'
	ukuú-ñ-aandékéra[11]	'to write for me'
	ukuú-ñ-óbohyá	'to scare me'
	ugu-kúú-ñ-óbóhírya	'to make me scare for you'

[11] The second vowel of the infinitive prefix is lengthened because of the following 1 sg. object prefix. This lengthening is somewhat surprising, since lengthening in Bantu is usually only found before preconsonantal nasals. We assume that the 1 sg. object prefix and the 1 sg. subject prefix are underlyingly moraic, and that this lengthening is just a standard case of compensatory lengthening.

(34) *okoómaahá* 'to see me'
okoóheetóka 'to remember me'
okoómbárǎ 'to count me'
okoóndógǎ 'to bewitch me'
ukuúmbuuryá 'to ask me'
uguúntuuryá 'to help me'
uguúnchɔ́ra 'to draw for me'[12]
ukuúññooryá 'to make me get'

Glides also trigger Raising to High. In some instances, the triggering glide transparently derives from an underlying high vowel (35), in which case it is just as plausible that an underlying high vowel is the trigger of raising as it is that a derived glide is the trigger. In other cases (36), an underlying mid vowel becomes a glide, but the following vowel is high, so it is impossible to determine whether raising is triggered by the glide or the high vowel. In still other instances (37), the trigger of raising in the prefix is underlyingly a mid vowel which becomes a glide because of the general prohibition against vowel-vowel sequences in the language, and when followed by a non-high vowel, such examples provide unambiguous evidence that glides trigger Raising to High.

(35) *uku-by-áándéká* 'to write them (8)' < */oko-bi-andeka/*
uku-rúmyá 'to cause to bite' < */oko-rom-i-a/*

(36) *umwííséke* */omo-íséke/* 'girl'
ugwííta */oko-íta/* 'to kill'
ugwíísaabyá */oko-ísaabiá/* 'to wash oneself'
ukwííba */oko-íba/* 'to steal'

(37) *imyeéri* */eme-ɛri/* 'months'
imyɔ́rɔ */eme-ɔrɔ/* 'rivers'
imyoócho */eme-ocho/* 'sorts'
imyoóño */eme-oño/* 'salts'
ikyoóño */eke-oño/* 'salt (dim)'
umweébi */omo-ebi/* 'forgetter'
umweéri */omo-ɛri/* 'month'
ukweéba */oko-eba/* 'to forget'
ugutwéébá */oko-to-eba/* 'to forget us'
umwoócho */omo-ocho/* 'sort'

[12] This word would derive from */oko-ń-chɔɔréra/*, with *ɛ* being deleted between *r*'s; its tone is transfered to the preceding consonant which closes the syllable. The underlying long vowel appears to be phonetically shortened because the following [*r*] functions as a coda consonant—though since there are otherwise no coda consonants in the language, it is impossible to test this hypothesis independently.

In yet other instances (38), the glide is wholely contained within a root and there is no alternation between vowel and glide which might directly motivate the claim that the triggering segment is anything other than a glide.

(38) *ukuyá* 'to go'
umuyéémbɛ 'mango tree'
ubusyó 'forehead'
ugusyóómá 'to peer'
ukubyóórá 'to dip sth. out of water'

ugukwá 'to die'
ukuñwá 'to drink'
ugutwá 'to pick fruit'
ugutwáángá 'to pound'
ukugwéémá 'to hunt'
ugutwééná 'to divide'

Not every surface glide triggers Raising to High. The glide *w* of the passive suffix in (39) never raises upper-mid vowels to high vowels (nor does it cause raising of lower-mid vowels to upper-mid vowels, though, as we will demonstrate later in this section, one would not expect raising in such a case).[13] In some nouns as well (40), the glide *w* does not trigger raising of a preceding prefix vowel.

(39) *ukwiíhékwă* 'to be cooked'
okorémwa 'to be weeded'
okohómérwă 'to be poured for'
okogééchwá 'to be chopped'
okogóótwá 'to be touched'
okogóógwá 'to be slaughtered'
okorómwa 'to be bitten'
okobáárórwá 'to be split'

(40) *ekegwé* 'yam' *eengwé* 'leopard'
ekebwé 'fox' *eeng'wééna* 'crocodile'
ekewéére 'gnu'
ekwáási 'fly whisk' *ogohwá* 'huge thorn'

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[13] We would not analyse the passive suffix as underlyingly being a vowel on the grounds that it does not have the tonal properties of underlying vowels. Thus there is a tonal contrast betweeen *okobára* 'to count' and *okobárwa* 'to be counted' with a HL tone pattern, versus *okobáryá* 'to cause to count' with a HH tone pattern. As we have noted previously in section 2, the causative suffix behaves as though it is a tone-bearing unit; the passive, in contrast, does not exhibit this behavior.

The glide found in certain so-called monosyllabic verbs such as 'die' poses a problem. Phonetically, the quality of the (front) glide is different from that found elsewhere in the language: it has an audibly lower height, as indicated by the transcription with the symbol [^{e}]. Note also that this glide-like segment does not trigger raising to mid. As far as we are aware, this segment does not occur elsewhere within words, and there does not appear to be a back counterpart to this glide.

(41)	*ogok^{e}á*	'to dawn'
	ogos^{e}á	'to grind'
	okoh^{e}á	'to be burnt'
	okor^{e}á	'to eat'

It would be plausible to argue that these stems contain underlying lower-mid vowels, since the applied form of these verbs exhibits a lower-mid vowel (42). Cammenga [1994] argues for a rule raising a vowel by one degree of height when it is followed by another vowel, and, assuming such a process in the language, one might propose the underlying roots *-kɛ-*, *-sɛ-*, *-hɛ-*, and *-rɛ-*, respectively. The infinitive forms would then derive by this prevocalic vowel raising process combined with a general diphthong-formation process.

(42)	*ogoséérá*	'to grind for'
	okoñéérá	'to eat for'[14]

Having established that palatal consonants and glides trigger Raising to High, one would predict that upper-mid vowels should not appear within a stem before one of these consonants. This prediction appears to be correct. On the other hand, palatal consonants and glides are not prohibited from appearing after a lower-mid vowel, as a comparison of (43) and (44) suggests. As noted in section 3, the causative suffix triggers Raising to Mid—compare *okogésyá* 'to make harvest' with *okogɛ́sa* 'to harvest'—but the glide of that suffix derives underlyingly from a high vowel. Palatal consonants are transparent to Raising to Mid, which is triggered by a following high vowel (45). Note also that the underlying high vowel of the causative, which surfaces as the glide *y*, does trigger raising of lower-mid stem vowels across a palatal consonant (46).

(43)	*ugusíña*	'to be absent'	*ugutúúyá*	'to urge'
	ukuhííñá	'to bend (tr.)'	*ukurúruuchá*	'to buzz (of insects)'
	ugutúúñá	'to try'	*uguchúúchá*	'to filter beer'

[14] The applied form of the verb 'eat' irregularly changes its initial consonant to *ñ*.

(44)	*ogokéña*	'to run'	*umwɛɛ́ya*	'a gap'
	okoréééñá	'to tremble'	*ukwɛɛ́ya*	'to sweep'
	ogotɛ́ɛ́ñá	'to collect firewood'	*okogéya*	'to persuade'
	okobɔ́cha	'to vomit (of baby)'	*omɔɔ́yɔ*	'heart'
	okobɔ́ɔ́chá	'to peck'	*okɔɔ́yɔ́kă*	'to be greedy'
	okohɔ́ɔ́chá	'to keep from straying'	*okohɔ́ɔ́yá*	'to play'
(45)	*omokéñi*	'runner'	*omogéyi*	'persuader'
	omotéééñi	'firewood collecter'	*ukweéyi*	'sweeper'
	omoréééñi	'trembler'	*omobóchi*	'vomiting baby'
(46)	*okokéñyá*	'to make run'	*ukweéyyá*	'to make sweep'
	okoréééñyá	'to make tremble'	*okogéyyá*	'to make persuade'
	ogotéééñyá	'to make collect firewood'	*okohóóyyá*	'to play'
	okobóóchyá	'to make peck'		
	okohóóchyá	'to make keep from straying'		

Palatal consonants and glides are also transparent to Progressive Lowering, as shown by the fact that suffixes with underlying upper-mid vowels cause lowering after lower-mid vowels over palatal consonants and glides, just as they do over other consonants. It is not possible to determine unambiguously whether regressive lowering of high vowels to upper-mid vowels is blocked by glides and palatal consonants. As the data in (48) establish, that process does not appear to apply across glides and palatals.

(47)	*ogokéñéră*	'to run for'	*ukwɛɛ́yéră*	'to sweep with'
	ogotéééñérá	'to collect firewood for'	*okogéyéră*	'to persuade for'
	okobɔ́ɔ́chérá	'to peck with'	*okohɔ́ɔ́yérá*	'to play with'
	okohɔ́ɔ́chéká	'to be kept from straying'	*okɔɔ́yɔ́kă*	'to be greedy'

(48)	*ugusíñéră*	'to be absent for'	<	*ugusíña*	'to be absent'
	ukuñúñóóntera	'to be chilled for'	<	*ukuñúñúúnta*	'to be chilled'[15]
	ukumíñoongóra	'to crush'			
	uguchúúchérá	'to filter beer for'	<	*uguchúúchá*	'to filter beer'
	uguchúúnchóóréra	'to crawl away for'	<	*uguchúúnchúúra*	'to crawl away'

[15] The tone of this verb appears irregular in contrast to analogous forms such as *ogo-káraangá* 'to fry', *oko-bá-maahá* 'to see them'. We suspect that the fact that the stem is partially reduplicated is relevant, since reduplicated verbs have special tonal properties.

There are two explanations for the apparent failure of Regressive Lowering here. One possibility is that glides and palatal consonants block the process directly. Or, it is possible that the effect of Regressive Lowering is simply obliterated by the independent raising of mid vowels before a glide or palatal consonants, a process that is independently motivated.

7. Vowel Merger

Kikuria does not freely tolerate sequences of adjacent vowels, and rather than maintaining vocalic hiatus, processes of syllable fusion take place (see Rosenthall [1994] for discussion of hiatus-resolution in a number of Bantu languages from the perspective of Optimality Theory). The resolution of vowel hiatus depends on a number of factors, such as the height of the vowels and their backness. In a sequence of two underlying mid vowels, if the two vowels differ in backness, the first vowel becomes a glide.

(49) **/e+ɔ/ → [yɔɔ]**

im[yɔ́]rɔ	/eme-ɔ́rɔ/	'rivers'
im[yɔ]fírɔ	/eme-ɔ́rrɔ/	'fires'
im[yɔ́]yɔ	/eme-ɔ́yɔ/	'hearts'

/e+o/ → [yoo]

im[yoó]ño	/eme-óño/	'salts'
mbar[yoo]roóra	/mbare-oroóra/	'they will float (rem.)'
mbar[yoo]maná	/mbare-omaná/	'they will quarrel (rem.)'
(*cf. mbaretɛrɛká*		'they will brew (rem)')

/o+e/ → [wee]

uk[weé]ba	/oko-éba/	'to forget'
uk[weé]ga	/oko-éga/	'to learn'
[wee]bĕ	/o-ebĕ/	'may you forget!'
um[weé]ng'e	/omo-éng'e/	'short (cl. 1)'

/o+ɛ/ → [wɛɛ]

um[wɛ́]rɛ	/omo-érɛ/	'bamboo stalk'
uk[wɛ́]gékă	/oko-égékă/	'to prop up against'
uk[wɛ́]ya	/oko-éya/	'to sweep'

Glide Formation also takes place when *e* is followed by *e* or *ɛ* (50). However, if the two vowels are *o+o* or *o+ɔ*, they fuse into a single long vowel with the quality of the second vowel (51).

(50) **/e+e/ → [yee]**

mba[ryee]bă	*/m-ba-re-ebă/*	'they will forget (rem.)'
im[yeé]ri	*/eme-éri/* or */eme-éri/*	'months'
im[yeé]ng'e	*/eme-éng'e/*	'short (cl. 4)'

/e+ɛ/ → [yɛɛ]

mba[ryɛɛ]yă	*/m-ba-re-ɛyă/*	'they will sweep (rem.)'
im[yɛé]rɛ	*/eme-érɛ/*	'bamboo stalks'
ik[yɛé]yɔ	*/eke-éyɔ/*	'broom'
uguk[yéé]yá	*/okoké-éyá/*	'to sweep it (Cl. 7)'

(51) **/oo/ → [oo]**

om[oó]ño	*/omo-óño/*	'salt'
ok[oó]mánă	*/oko-ómánă/*	'to quarrel w/each other'
(cf. *omaná* 'quarrel w/each other!')		
ok[oó]roorá	*/oko-óroorá/*	'to float'
(cf. *oroóra* 'float!')		

/oɔ/ → [ɔɔ]

om[ɔɔ́]rɔ	*/omo-ɔ́rɔ/*	'rivers'
om[ɔ]ɾ́rɔ	*/omo-ɔ́rrɔ/*	'fire'
om[ɔɔ́]yɔ	*/omo-ɔ́yɔ/*	'heart'
og[ɔɔ́]ta	*/oko-ɔ́ta/*	'to get warm
om[ɔɔ́]yɔ	*/omo-ɔ́yɔ/*	'heart'
ok[ɔɔ́]ñɔ́mă	*/oko-ɔ́ñɔ́mă/*	'to stand up'
(cf. *ɔñɔmá* 'stand up!')		

Parallel to the treatment of /e+e/ and /e+ɛ/, one would have expected *[*woo*] and *[*wɔɔ*]. The resulting sequence of like vowels and glides is apparently too similar, and leads to dissimilation in the form of deletion of *w* before a round vowel (see Odden & Odden [in press] for discussion of analogous phenomena in Kihehe).

A further complication shows that this expectation is not entirely incorrect, since in cases in which the underlying vowel sequence is word initial, and where no consonant precedes to form a syllable onset, then */o+ɔ/* becomes [*wɔɔ*] but */o+o/* becomes [*oo*], as in (52).

(52)

oomĕ	*/o+omĕ/*	'that you quarrel'
ooroórɛ	*/o+oroórɛ/*	'that you float'
wɔɔñɔkɛ́	*/o+ɔñɔkɛ́/*	'that you stand up'
(cf. *okɔɔ́ñɔ́kă*	*/oko-ɔ́ñɔ́kă/*	'to stand up')

Syllables in Kikuria generally, though not universally, have an onset consonant that can be provided through syllable fusion. When a vowel sequence appears in word initial position, no other consonant can be recruited to serve as the syllable onset. In that case, the first of the underlying vowels becomes a glide, to provide the syllable with an onset. Notice though that this happens only when the second of the vowels is [ɔ]; that is, the segmental sequence [*wɔ*] is dispreferred (since it is avoided in [*okɔ́ñɔ́mă*]) but tolerated in case no other segment can provide a syllable onset, whereas the sequence [*wo*] is simply not tolerated at all, even for the sake of providing a syllable onset.

If the second vowel is /*a*/ (53), a preceding non-high vowel undergoes Vowel Merger with that /*a*/, so that /*oa*/ surfaces as [ɔɔ] and /*ea*/ surfaces as [ɛɛ].

(53) /**oa**/ → **[ɔɔ]**

atyá		'split!'
og[ɔ́]ta	< /oko-ata/	'to be split'
ahă		'pick vegetables!'
ok[ɔ́]ha	< /oko-aha/	'to pick vegetables'
agă		'weed!'
ok[ɔ́]ga	< /oko-aga/	'to weed'
aangă		'refuse!'
ok[ɔ́]nga	< /oko-anga/	'to refuse'
ahoká		'go aside!'
ok[ɔ́]hɔ́kă	< /oko-ahoka/	'to pick go aside'
ihy[aá]ka		'year (dim.)'
om[ɔ́]ka	< /omo-aka/	'year'
ak[aá]rɛ		'soot (dim.)'
om[ɔ́]rɛ	< /omo-árɛ/	'soot'
ab[aá]na		'children'
ihy[aá]na		'children (diminutive)'
om[ɔ́]na	< /omo-ana/	'child'
ob[ɔ́]na	< /obo-ana/	'childhood'

/**ea**/ → [**ɛɛ**]

ek[ɛɛ́]na	< /eke-ana/	'child (diminutive)'
em[ɛɛ́]na	< /eme-ana/	'children (augmentative)'
iby[aá]ra		'fingers'
ek[ɛɛ́]ra	< /eke-ara/	'finger'
em[ɛɛ́]ka	< /eme-aka/	'years'
(cf. *om[ɔɔ́]ka*, *ihy[aá]ka*		'year', 'year (dim.)')
iby[aá]hókanyó		'differences'
ek[ɛɛ́]hókanyó	< /eke-áhókanyó/	'difference'[16]
[aa]ndeká		'write!'
mbar[ɛɛ́]ndɛ́ka	< /mbare-ándéka/	'they will write (rem.)'

As was the case with Glide Formation, Vowel Merger is not found, and instead one finds Glide Formation, just in case the vowel sequence is word-initial (54). Glide Formation, rather than Vowel Merger, is found since the latter process provides the syllable with an onset consonant.

(54)	*waandeké*	< /o-andeké/	'that you write'
	waahĕ	< /o-ahĕ/	'that you pick vegetables'

Vowel Merger fails to apply in certain words, and instead Glide Formation applies. In these examples (55), the explanation for exceptional failure of Vowel Merger lies in the fact that the words are contemporary loan words borrowed from Swahili: *chalo*, *chama*, and *mwalimu*. Application of Vowel Merger would result in forms which are apparently viewed as phonologically too different from the Swahili source.

(55)	*ikyaáro*	< /eke-áro/	'country'
	ugwaáro	< /ogo-áro/	'huge country'
	ikyaáma	< /eke-áma/	'political party'
	umwaárímu	< /omo-árímu/	'teacher'

In the mirror image of this vowel sequence, Vowel Merger also fuses /*ao*/ and /*aɔ*/ into [ɔɔ], /*ae*/ and /*aɛ*/ into [ɛɛ], as in (56). The sequences /*ɛa*/ and /*ɔa*/ do not arise.

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16 In the example *ekɛéhókanyó*, the following vowel is mid-high *o*, not ɔ as would be expected by Progressive Lowering. The raising of ɔ to *o* in the syllable *ho* is conditioned by the following causative suffix, *-y-*.

(56) **/aɔ/ → [ɔɔ]**

ak[ɔ́]rɔ	< */aka-ɔrɔ/*	'river (diminutive)'
ak[ɔ́]yɔ	< */aka-ɔ́yɔ/*	'heart (dim)'

/ao/ → [ɔɔ]

bak[ɔɔ]mană	< */baka-omană/*	'and then they quarrelled'
bak[ɔɔ]rɔɔrá	< */baka-oroorá/*	'and they will float'

/aɛ/ → [ɛɛ]

okob[ɛ́ɛ́]gɛ́ká	< */oko-ba-ɛgeka/*	'prop up against them'
okob[ɛ́ɛ́]yɛ́rá	< */oko-ba-ɛyera/*	'to sweep for them'
am[ɛɛ́]gɔ	< */ama-ɛ́gɔ/*	'teeth'
(cf. *iryɛɛ́gɔ*		'tooth')

/ae/ → [ɛɛ]

okob[ɛ́ɛ́]gérá	< */oko-ba-egera/*	'to learn for them'
okog[ɛ́ɛ́]gá	< */oko-ga-ega/*	'to learn them (Cl 6)'
[ɛɛ]bɛ̌	< */a-ebɛ̌/*	'may he forget!'

8. Interaction of processes

The final issue to be considered is how these processes interact with each other. Such interaction is non-trivial, given the conflicting patterns of raising and vowel lowering exhibited in the language. Certain interactions between processes are surface transparent. Thus, raising of upper-mid vowels to high vowels, as in (57), can override the potential lowering effect of high vowel lowering, since underlying C*i*C*e*C*i* surfaces as C*i*C*i*C*i*. One might expect C*i*C*e* to become C*e*C*e* by Regressive Lowering: however, one equally expects C*e*C*e*C*i* to become C*i*C*i*C*i* by Raising to High.

(57)

ugusííkíryá	*/oko-siik-er-i-a/*	'to make close for'
ukurúgíryă	*/oko-rug-er-i-a/*	'to make cook for'
ugusúkíryă	*/oko-suk-er-ia/*	'to make plait for'
ukurííngíryá	*/oko-riing-er-i-a*	'to make fold for'
ugusííndɗíryá	*/oko-siind-er-i-a/*	'to make win for'

A non-trivial interaction is found between the two raising processes, as illustrated in forms such as *okorógyá* 'to make bewitch' from */oko-rɔg-i-a/*. Raising to Mid has applied in the surface form, but it is important to note that the surface form is identical in terms of vowel quality to the underlying form of *ukurúgyá* 'to make cook' (cf. *okoróga* 'to cook'), which has undergone Raising to High. Stated in rule-ordering terms, Raising to Mid counterfeeds Raising to High, since the output of the former process could, in principle, undergo the

latter process, but does not. This interaction can also be explained in purely structural terms under the model of vowel height proposed by Parkinson [1996], to which the reader is referred.

Another interesting interaction is the one between Progressive Lowering and Raising to High, and a relevant underlying structure would be something like C*ɔ*C*e*C*i*. On the one hand, Progressive Lowering would lower stem-medial *e* to *ɛ* after the vowel *ɔ*, but on the other hand, Raising to High could raise that same *e* to *i*. In fact, there are two possible surface results in such structures, as shown by the examples in (58).

(58) a. *okogéséryă ~ okogésíryă* < *okogɛ́sa* 'to harvest'
'to make harvest for'

ogoséénséryá ~ ogoséénsíryá < *ogoséɛ́nsá* 'to winnow'
'to make winnow for'

ogotérékeryá ~ ogotérékiryá < *ogotɛ́rɛ́kă* 'to brew'
'to make brew for'

b. *okorógéryă ~ okorógíryă* < *okorɔ́ga* 'to bewitch'
'to make bewitch for'

ogosókéryă ~ ogosókíryă < *ogosɔ́ka* 'to poke'
'to make poke for'

okogóógéryá ~ okogóógíryá < *okogɔ́ɔ́gá* 'to slaughter'
'to make slaughter for'

okogóótéryá ~ okogóótíryá < *okogɔ́ɔ́tá* 'to hold'
'to make hold for'

These two variants can be explained in terms of different interactions between the raising and lowering processes. We begin with the first variant in each set, as exemplified by *okorógéryă* 'to make bewitch for'. The underlying form is /*oko-rɔg-er-i-a*/. Accounting for the form *okorógéryă* seems problematic, since surface *e*C*ya* should only arise from underlying *ɛ*C*ya*. Although that vocalic sequence is not found in the underlying form, it would arise in a derivational account of these processes, by applying Progressive Lowering to the underlying form, resulting in *okorɔgɛria*. Subsequent application of Raising to Mid would then raise both lower-mid vowels before the causative suffix in the usual manner, giving the surface form. The variant *okorógíryă* can be derived by first applying Raising to High to the underlying form, giving *okorɔ́gíryă*, which then undergoes Raising to Mid, giving *okorógíryă*. The crucial factor involved in accounting for these two variants is how Raising to High interacts with Progressive Lowering—if Raising to High takes precedence over lowering,

then lowering is deprived of the opportunity to apply and mid vowels, not high vowels, appear on the surface.

Another interaction, between Vowel Merger and Progressive Lowering, can be observed in (59). As the data show, the vowel ɔ derived by Vowel Merger conditions Progressive Lowering within the stem. A lower-mid vowel which is created by Vowel Merger will undergo Raising to Mid just as an underlying lower-mid vowel will (60). A derived lower-mid vowel also behaves just as an underlying lower-mid vowel does in terms of the interaction between Progressive Lowering and Raising to High. This can be seen in the causative forms in (61).

(59)	*okɔ́ndékă*	'to write'	*aandeká*	'write!'
	ogɔ́tékă	'to be broken apart'	*ată*	'be split!'
	okɔ́géră	'to weed for'	*agă*	'weed!'
(60)	*okoógyá*	'to make weed'	*okɔ́ga*	'to weed'
	ogoótyá	'to split (tr.)'	*ogɔ́ta*	'to split (intr.)'

(61) *okoóndékyă* 'to cause to write'
okoógéryă 'to cause to weed for'
ogoótéryă 'to split for'

We have noted that there are two attested interactions between Progressive Lowering and Raising to High in cases such as *ɛCeCi* when *ɛ* is present underlyingly. Correspondingly, there are two possible interactions in the case of lower-mid vowels which derive by Vowel Merger. In addition to the pronunciations found in (61), the following are allowed.

(62) *okoóndíkyă* 'to cause to write'
okoógíryă 'to cause to weed for'
ogoótíryă 'to split for'

Within the nominal paradigm, a similar interaction between vowel merger and raising explains the alternation seen in *umuúri* 'foundation measurer' from */omo-ori/* and the plural *aboóri* from */aba-ori/*. In *umuúri*, vowel merger applied to */o+o/* would result in an upper-mid vowel since the two underlying components of the vowel are upper-mid. Thus Raising to High gives a high vowel. On the other hand, in the case of */aba-ori/*, the sequence */ao/* merges to *ɔɔ*, which would result in **abɔɔri*, but this also undergoes Raising to Mid, yielding the surface form *aboóri*.

Analogous examples can be found in the operation of Vowel Merger in stems with a non-high final vowel. The stem 'rich' is underlying *-áme*; cf. *ihyaáme* 'rich (dim.)', *abaáme* 'rich (cl. 2)'. When the cl. 1 prefix *omo-* appears before

this stem, one finds *omoóme.* Considering only the effect of Vowel Merger, one would expect **omɔɔ́me*—but Raising to Mid, triggered by the final upper-mid vowel *e*, has the consequence that the fused vowel sequence surfaces as an upper-mid vowel.

9. Conclusion

In this paper, we have illustrated a wide range of phonological processes relating to vocalic height in Kikuria. While height-based vowel harmony is common in Bantu languages, one generally finds a single transparent process of complete height-agreement. Because of the wealth of height-relevant processes found in Kikuria, their interaction, and their sensitivity to consonants, data from Kikuria will surely be of significance in the theoretical treatment of vowel height.

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Department of Linguistics
222 Oxley Hall
The Ohio State University
Columbus, OH 43210
odden@ling.ohio-state.edu

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MAASAI GENDER IN TYPOLOGICAL PERSPECTIVE

Doris L. Payne
University of Oregon and Summer Institute of Linguistics

Maasai nouns (or determined NPs) occur in one of three genders: masculine/augmentative, feminine/diminutive, or place (the last is extremely limited). The Maasai gender system is semantic rather than formal (i.e., based on phonological or morphological criteria) in type, but with at least two distinct semantic subtypes. For a restricted set of nouns, gender is immutably based on lexical semantic features. Other nouns are lexically neutral, or have a default gender specification which can be overridden by the speaker's construal of the referent as small/female, large/male, or pejorative. Varying by the noun, either of the productive genders may convey a pejorative construal, though it is most common in the feminine. The default gender of a noun is that which yields the non-pejorative sense. Some evidence suggests that feminine is becoming the grammatically unmarked gender.

1. Introduction

As citation forms, nearly all Maasai nouns carry a gender prefix.[1] However, for the vast majority of common nouns, one can choose either the masculine or the

[1] Maasai includes perhaps as many as 20 relatively unstudied regional varieties. Maasai has been described as a variant of the Maa language, along with the Samburu and Camus dialects [Vossen 1988]. Maa belongs to the Eastern Nilotic family, and is spoken in Kenya and Tanzania. An earlier version of this paper was presented at the 29th Annual Conference on African Linguistics, New Haven, Connecticut [1998]. I am indebted to Leonard Kotikash and Robert Carlson for collaborative work on the structure of a Maa lexicography data base which led to this study, and to Morompi Ole-Ronkei, Renoi, and Kimeli Ole-Naiyomah (IlWuasinkishu Maasai), Leonard Kotikash and Philip Koitelel (IlKeekonyokie Maasai), Jonathan Ololoso (IlPurko Maasai), and Alejandro Bacaro for collaboration relevant to this project. I am grateful to Robert Carlson, Duke Allen, Austin Bush, Mitsuyo Hamaya, and Cynthia Schneider for conversations about Maasai lexicography; and to participants in a University of Oregon colloquium and to Immanuel Barshi, Robert Botne, Greville Corbett, Chet Crider, Gerrit Dimmendaal, Colette Grinevald, Tom Payne and Cynthia Schneider for their thoughtful comments on this paper. This research was partially supported by NSF grant SBR-9616482, a Fulbright research grant, and under Kenyan research permit #OP/13/001/23C28.

feminine gender prefix. The degree of flexibility in gender choice is quite striking if the language learner has background in a language type where a given noun root or stem is (generally) assigned to a specific, immutable, gender class. This contrast raises the question of a *gender typology*; that is, what is a gender system, and, what differing kinds of principles can drive gender systems?

According to Hockett [1958:231] and Corbett ([1991:1], who follows Hockett's lead), "genders are classes of nouns reflected in the behavior of associated words." That is, gender is not necessarily revealed in a noun word itself, but in other words in the phrase or sentence that co-occur with the noun. By this definition, Maasai clearly has two robust nominal gender classes and a third marginal class, which Tucker and Mpaayei [1955] term masculine, feminine, and place. Apparently only one noun root *wwéjì* 'place' belongs to the place gender; consequently, most of the discussion here will focus on the feminine and masculine genders. Gender-agreeing forms—in plain text in (1)—occur in the order *feminine, masculine* and *place* (the last seen in 1e and f only).[2] Gender is manifested by prefixes on nouns (1a), but also in demonstratives which trigger omission of the nominal gender prefix (1b). It also surfaces in certain indefinite and possessive pronouns, relative clauses (1c), the genitive linker (which varies for gender of both possessor and possessed nouns; 1d), the singular interrogative pronouns for 'which' (1e), and agreement in certain numerals (1f; though adjectives do not show gender agreement) (cf. Tucker and Mpaayei [1955] from which most of the data in 1 are taken].

This paper seeks to determine the type of gender system found in Maasai. Although Corbett [1991] suggests that there are only two kinds of gender systems, "formal" and "semantic", I wish to investigate Maasai in terms of a richer typology of systems based on expansion of semantic subtypes, as in (2B, C, D). I will argue that the Maasai language generally is most accurately viewed

(1) a. en-*kíné* 'goat, female goat'
ol-*kíné* 'male goat'

b. ɛnâ *kíné* 'this (female) goat'
ɛlê *kíné* 'this male goat'
ɛlê *ayyónì* 'this boy'

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[2] The data appear in a modified form of Tucker and Mpaayei's [1955] orthography. Following Levergood [1987], I use *ww* and *yy* for the fortis or "strong" glides, rather than *wu* and *yi*; and *i, e, u, o* (+ATR) and *ɪ, ɛ, ʊ, ɔ* (-ATR), instead of TM's system of non-bold versus bold script. Examples in this paper come from IlWuasinkishu Maasai (marked with *IlW*) and from the dialect found in TM (not marked in any way; in all the research I have so-far done, TM's data correspond to IlKeekonyokie Maasai). For this short paper, it is worth noting that lexical tone varies among dialects. Abbreviations are: CL classifier, F feminine, *IlW* IlWuasinkishu dialect, M masculine, *pej* pejorative, PL plural, SG singular, TM Tucker and Mpaayei [1955].

c. *áíŋáí* ná-*ewwó* 'Who (F.SG) has come?
It is who that has come?' *(IlW)*

áíŋáí ó-*ewwó* 'Who (M.SG) has come?
It is who that has come?' *(IlW)*

áínɔ́ŋaɪ náa-*shɔmɔ̂* 'Who (F.PL) have gone?
They are who that have gone?' *(IlW)*

áílɔ́ŋaɪ ɔ́ɔ-shɔmɔ̂ 'Who (M.PL) have gone?
They are who that have gone?' *(IlW)*

d. en-*tókì* é n-*kɛráí* 'thing (F) of the child (F)'
en-*tókì* ɔ́ l-*ayyónì* 'thing (F) of the boy (M)'
ɔl-*cɔré* l-é n-*kéráí* 'friend (M) of the child (F)'
ɔl-*cɔré* l-ɔ́ l-*ayyónì* 'friend (M) of the boy (M)'

e. (k)álò 'which (M.SG)'
(k)áà 'which (F.SG)'
(k)ájì 'which (place)'

f. ɛnk-*ɔlɔ́ŋ nabô* 'one day'
ol-*tuŋánì obô* 'one man'
e-*wwéjì nebô* 'one place'

ɛnk-*ólòŋì aré* 'two days'
ɪl-*túŋáná aárè* 'two men'
i-*wwejítìn aré* 'two places'

(2) A. *Formal:* gender is primarily based on phonological or morphological declension patterns

B. *Lexical-semantic:* gender transparently depends on lexical meaning of the noun root or stem

C. *Referential-semantic:* gender depends on features of the noun's intended referent

D. *Cognitive-semantic:*[3] gender depends on speaker's construal of the intended referent

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[3] Or arguably *cognitive-pragmatic*; but as stated in Payne [1992:3], "In no way can a pragmatic account be usefully separated from a cognitive one, because the pragmatic acts are centrally concerned with ... the current cognitive status of information ..."

as a combination of Types B and D. This is because there are "splits" in the vocabulary, such that some stems are best characterized as of Type B, but many stems are of Type D. In the course of demonstrating where Maasai belongs typologically, we will also address what the Maasai gender system reveals about grammaticalization and human cognition generally.

The "problem" of Maasai gender became particularly salient in the course of developing a lexicographic data base. Native speakers (almost) never give a noun root as a citation form, but always include a *gender* prefix.[4] Thus, head-words in a dictionary for use by native speakers should be listed with some gender prefix.[5] Tucker and Mpaayei's [1955] vocabulary recognizes this psycholinguistic issue and consistently lists whole word forms with some prefix. For example, it lists the feminine form *en-kíné* for 'goat', and gives the masculine form *ol-ŋatúny* for 'lion'. However, both these roots can also occur with the opposite gender prefix: *ol-kíné* 'male goat' and *e-ŋatúny* 'female lion'.

2. Maasai gender within a typology of gender systems

As noted previously, Corbett [1991] presents a broad two-way typology of gender systems, distinguishing "formal" gender systems (corresponding to Type 2A) from "semantic" gender systems. In a completely formal system (Type A), determination of what gender class a noun belongs to depends on issues of form. This may be either morphological declension patterns, or phonological form. Corbett notes that even formal morphological systems always have some semantic core, but gender assignment does not depend on meaning in any reliable way. In contrast to Type A, Corbett defines a "strict semantic" gender system as one "in which the meaning of a noun determines its gender and in which, equally, given the gender of a noun we can infer something about its meaning" [allowing for very occasional exceptions; Corbett 1991: 8, 13]. As stated, this arguably describes a Type B gender system. Corbett offers Tamil and other Dravidian languages, Diyari (Australian), Dizi (Omotic), Defaka (Afakani from South Central Niger-Congo), and English pronouns as examples. A "predominantly semantic" gender system is one which allows even more exceptions, perhaps with a proliferation of gender subclasses and some "semantic residue" [Corbett 1991:13]; but the unpredictable assignment of a

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[4] There are a few exceptional roots which never take a gender prefix, such as the root *kʊlɛ́* 'milks' (collective *kúlíárêi*); that this root has lexically-specified feminine gender is shown by demon-strative and other agreement forms parallel to those given in (1). Other exceptions include some (primarily) vocative nouns like *yyeyyô* 'mother'. Gerrit Dimmendaal (personal communication) suggests that it may be something of a typological anomaly for the nouns to carry grammatical gender since Maasai personal pronouns do not distinguish gender.

[5] Dictionary entries for nouns are further complicated by the fact that Maa nouns have to be specified for one of 12 to 16 very irregular *singular-plural classes*, and for one of about 4 tone classes for tonal *case marking*.

noun to a gender is still very occasional, and often historically comprehensible. Here I suggest we can usefully expand the exploration of semantic types into three options, distinguishing what I have called Types B, C, and D in (2) above.

Gender Types A and B both assume, if not require, that the noun root is lexically-specified for specific features which determine gender. Around the world, the major semantic features that surface as bases for strictly or predominately semantic gender systems are listed in (3) [cf. Corbett 1991, de la Grasserie 1898]. Some languages rather transparently proliferate gender distinctions for insects, hunting tools, pets, edible items, liquids, etc. [and the systems concomitantly begin to approach what are termed "noun class" or "noun classifier" systems; cf. Craig 1986].

(3) Common features in semantic gender systems
animate—inanimate, human —non-human, rational —non-rational, male—female, male—other, female—other, strong—weak, augmentative —diminutive

In a formal system, Corbett notes that there is always a semantic core; but synchronically, assignment to a particular gender is often not semantically transparent. In a formal system (A), the lexical items would carry grammatical specification of gender features, like [+FEM gender]. If formal gender is predictable from phonological form, what the speaker memorizes for each form is, of course, the phonology, combined with the general rule of how to predict gender from the lexical phonological forms. In a lexical semantic system (B), by contrast, gender assignment is much more transparent, being dependent on lexical semantic features like [+biologically female], [+edible fruit] if edible fruits predictably all belonged to a certain gender; or [+small] if all items with the lexical feature of [+small] belonged to a certain gender. But in either case, the relevant features are indicated in the lexicon, i.e., they are part of what a speaker must simply memorize about the lexical form.

Types C and D, like Type B, are also semantically-grounded. However, Types C and D are of an opposite extreme in that gender assignment can be determined during "on line" processing while the speaker is accessing or conceptualizing potential *referents*. That is, noun roots or stems are not associated with any particular grammatical gender in the lexicon.

Indo-European gender systems are predominantly of Type A. In Spanish, for example, most noun roots or stems are *either* grammatically masculine or feminine, and a second-language learner must to a great extent simply memorize the gender of each word. The gender of a given word can be quite reasonably predicted by whether a noun ends in /a/ (typically feminine) versus /o/ (typically masculine), and a few other somewhat predictive morphophonological endings. But phonology is not a fool-proof determinant of Spanish gender. Rather, gender is decisively revealed by the agreement patterns found in co-occurring

articles, demonstratives, and adjectives. For a very small sample, observe the potential noun forms in (4). The feminine noun roots have no masculine counterpart (4a); while the masculine ones have no feminine counterpart (4b).[6] The forms in (5) appear to be simply homophones; that is, the roots in the two columns are instances of different roots. They thus do not compare to the Maasai situation which we will consider shortly.

(4) a.

GRAMMATICALLY FEMININE		GRAMMATICALLY MASCULINE
mujer	'woman'	*mujer/*mujero
		?mujer-ón
vaca	'cow'	*vaco
goma	'gum, rubber'	*gomo
mesa	'table'	*meso
		(but *mesón* 'very large table, inn')
luna	'moon'	*luno/lun
gramática	'grammar'	*gramático[7]
coronación	'coronation'	

b.

GRAMMATICALLY FEMININE	GRAMMATICALLY MASCULINE	
*rostra	*rostro*	'countenance, face'
*techa	*techo*	'roof'
*ciela	*cielo*	'sky, heavens'
*sola	*sol*	'sun'
*problemo	*problema*	'problem'
	corazón	'heart'
*tora	*toro*	'bull'

(5)

la papa	'potato'	*el Papa*	'pope'
la plaza	'plaza'	*el plazo*	'time, period of time'
la caballa	'mackerel'	*el caballo*	'horse'

The starred forms in (4) do not negate the fact that some Spanish roots can occur with either a feminine (typically *-a*) or a masculine (typically *-o*) ending. The alternation sometimes corresponds to biological gender, demonstrated in (6); these roots are thus arguably like those in Maasai examples (1a) and (8) below.

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[6] I am grateful to Alejandro Bacaro, a speaker of El Salvadorian Spanish, for the grammaticality judgments and meanings listed here. As is to be expected, there is some dialectal variation such that *mujerón* might be acceptable for speakers of some other dialects.

[7] The masculine Spanish word *gramático* occurs as an adjective, but not as a noun.

(6)

GRAMMATICALLY FEMININE		GRAMMATICALLY MASCULINE	
muchach-a	'little girl'	*muchach-o*	'little boy'
gat-a	'female cat'	*gat-o*	'male cat'
leon-a	'female lion'	*león*	'male lion'

One might thus argue that Spanish roots which refer to biologically animate items, as in (6), demonstrate a semantically-based Type C or D system where roots are not lexically-specified for gender. However, we have already seen that this is not entirely true, given immutably feminine roots like *mujer* 'woman', *vaca* 'cow', *yegua* 'mare', and strictly masculine roots like *toro* 'bull' and *caballo* 'horse.' These roots are rather clearly lexically specified for gender, arguably according to a Type B system.

There are yet other Spanish roots which can switch gender, where the grammatical gender specification cannot depend on biological reference (7). Here the grammatical gender alternation corresponds to a rather large meaning change, characteristic of derivational morphology. The alternation does not always have a predictable semantic correlate (e.g., biological gender or size), so it is still best to conclude that gender must be lexically marked at the stem, if not the root, level.

(7)

GRAMMATICALLY FEMININE		GRAMMATICALLY MASCULINE	
leñ-a	'firewood, sticks'	*leñ-o*	'log, timber'
cosech-a	'crop, harvest'	*cosech-ón*	'bumper crop'
grad-a	'stair step, row of seats'	*grad-o*	'degree, stage, measure; quality'
papeler-a	'waste bin'	*papeler-o*	'man who makes paper; mess of papers in office; *Mex:* 'paper-boy'
explosiv-a	'plosive consonant'	*explosiv-o*	'explosive (chemical)'
vinaza	'wine from the dregs'	*vinazo*	'strong wine'
pisa	'treading (of grapes)'	*piso*	'floor'
vid	'vine'	*vino*	'wine'
manzana	'apple (fruit)'	*manzano*	'apple tree'

Initial work on Maasai led to the impression that, in contrast to the Indo-European type, the vast majority of Maasai noun roots can occur with either a feminine or a masculine prefix. For roots of the type in (8a), one might initially assume that the gender-prefix depends generally on whether the entity referenced is biologically feminine or masculine, and that thus these data are exactly like the Spanish in (6) and (7). But this is not true throughout the lexicon, as seen in the (8b) roots *anáshè* 'sister', *títo* 'girl', and *aláshè* 'brother' where the gender prefix varies but the biological gender does not. (Some speakers reject the *ɛnkaláshɛ* variant in (8b) while others from the same region more flexibly

allow it).

(8) (all from *IlW*)

a. changes in biological gender

FEMININE PREFIX		MASCULINE PREFIX	
ɛnk-apʊtánì	'wife's female parent'	*ɔl-apʊtánì*	'wife's male parent'
ɛnk-aɪrrítànì	'herdswoman, small herdsman'	*ɔl-aɪrrítànì*	'herdsman'
en-kitók	'woman'	*ol-kitók*	'very respected man'
ɛnk-abáánì	'female or small doctor, quack'	*ɔl-abáánì*	'male doctor, healer'

b. changes in size and denigration

FEMININE PREFIX		MASCULINE PREFIX	
ɛnk-anáshɛ̀	'sister'	*ɔlk-anáshɛ̀*	'very large sister' *(pej)*
en-títo	'girl'	*ol-títo*	'large shapeless hulk of a woman' *(pej)*
ɛnk-aláshɛ̀	'weak brother' *(pej)*	*ɔl-aláshɛ̀*	'brother'
ɛnk-ámʊ̀yɛ̀	'wimpy male donkey'	*ɔl-ámʊ̀yɛ̀*	'male donkey'

The Maasai gender alternation extends beyond such roots to lexemes for inanimate entities that also fluidly occur in both feminine and masculine forms. As the data in (9) show, the feminine gender can also indicate items which are construed as diminutive or pejorative (e.g., degraded, worthless, obnoxious). The masculine gender can reference an item which is biologically masculine, or augmentative (and also sometimes pejorative, though this seems less frequent than with the feminine gender; cf. *ɔlk-anáshɛ̀* 'very large sister' in (8) above).[8]

The Maasai examples in (8-9) might initially suggest that Maasai gender combines the semantic features of *male+augmentative* and *female+diminutive* features into something like a Type B system (see 3), and that Maasai, at least, does not force any typological elaboration beyond a distinction between Types A and B. However, a careful examination of language use, plus careful reading of Corbett's own examples and discussion (cf. references to Mathiot and Roberts [1979]; Svartengren [1927]) suggest that even for a strictly or predominantly semantic system, Corbett does not literally, or only, intend that the inherent lexical semantic features of a noun, divorced from any particular context of use, are what always determine gender assignment. The possibility of different class (gender) assignments in different contexts has been argued for classifier choice

[8] A reviewer has suggested that although grammatical *gender* is explicitly marked in Maasai, there is no explicit marking of denigration; that is, denigration may be more pragmatic, or less completely "semanticized", than is gender.

(9) (all from *IlW*)

FEMININE PREFIX		MASCULINE PREFIX	
ɛn-dóínyó	'hill'	*ol-dóínyó*	'mountain'
ɛn-kalámù	'pen, pencil'	*ol-kalámù*	'large pen, pencil'
ɛnk-abobókì	'tree bark, small piece of bark'	*ɔl-kabobókì*	'huge piece of bark'
ɛn-kɛráí	'child' (either sex)	*ɔl-kɛráí*	'large, masc child'
ɛnk-álém	'knife'	*ɔl-álém*	'sword'
ɛnk-áré	'water, river'	*ɔl-áré*	'salt water'
ɛ-síłígí	'weak, vain? faith' *(humorous)*	*ɔ-síłígí*	'hope'
ɛm-báè	'arrow, matter, affair; tiny injury' (in right context)	*ɔl-báè*	'large arrow; opinion; wound, injury'

(which is typologically connected to gender) in many languages [Craig 1986; Denny 1976]. The data in (10) from Amarakaeri (Peru) illustrate the point, all involving a single root *siro* 'metal, glass, plastic, machete'. That is, if the lexical semantic features of noun roots determined classifier choice, we should expect that for any one (sense of a) noun, one and only one classifier should be grammatical with the root. However, depending on exactly what the speaker wants to reference (and not on the root itself), one classifier versus another can be chosen. Arguments that the suffixal morphemes in (10) are grammatically classifiers are based on their incorporability into verbs to reference absolutive arguments [Hart 1963, Payne 1987:37].

(10) Amarakaeri classifying morphemes

siro	'metal, glass, plastic, machete'
siro-pa (CL:rod)	'large nail, metal rod'
siro-pu' (CL:tube)	'glass bottle, metal tube'
siro-'in (CL:tooth)	'fishhook'
siro-pi (CL:stick)	'small nail, needle'
siro-po (CL:round)	'tin can'
siro-mih (CL:string-like)	'wire, plastic fish line'
siro-kmo (CL:seed-like)	'shotgun shot'

In sum, in a Type C referential-semantic system it would be the (set of) item(s) referred to within the universe of discourse—and not the particular noun used—that determines gender assignment. To see this with a specific Maasai example, consider the root *apʊtánì* which, in and of itself, means 'wife's parent' (see 8 above). No lexical semantic feature of this root enables us to

predict what gender assignment will surface. Rather, depending on whether the referent is the wife's mother or the wife's father, either *ɛnk-apʊtánì* or *ɔl-apʊtánì* will surface. We thus conclude that to completely account for gender assignment in Maasai (and in Spanish), assigning all roots or stems to either Type A or Type B would be insufficient; we must add Type C.

However, careful consideration of the Maasai gender system suggests that, ultimately, it is not even features of the referenced entity that determine gender (or classifier) choice in primarily semantic systems. Much more precisely, it is the speaker's cognitive construal of a referent (Type D). That is, whether an Amarakaeri speaker wishes to reference one and the same item as a *siro-pa* 'large nail, metal rod' versus a *siro-pi* 'small nail, needle' depends on how the speaker chooses to conceptualize or construe that item on any given occasion. This basis for gender assignment is also acknowledged in Corbett's discussion when he notes that the "straightforward semantic rules" governing use of English pronoun forms like *he, she, it* can be "overridden by emotive and affective factors" [p. 12]. Corbett does not particularly elaborate what "emotive and affective factors" are, but what I intend by a Type D system is that the speaker can, from one occasion to another, change the way even the same referent token is conceptualized relative to the features comprising the gender (or classifier) system — all the while still cognizing it as the same referent. As a consequence, the speaker may vary the choice of grammatical gender prefix. From this perspective, I suggest that Type C systems are in fact spurious and do not exist at all, as it is always the speaker's construal or cognitive conceptualization of a referent that matters—and not the ostensibly-objective referent in and of itself.[9] For Maasai, the pejorative sense that sometimes arises with one versus another gender choice also points to the fact that it is neither features inherent to the lexical meaning of the root (Type B), nor features of the referent (Type C) that are (always) determinative of gender specification because in referencing one and the same token item, a given speaker may sometimes intend derogation, but other times, not.

I hope to have thus established that a comprehensive gender typology must include languages (or lexical items within a language) that are of Type D. Turning now, however, to a comprehensive understanding of Maasai, there is good evidence that the language as a whole, i.e., lexical items within the language, are split between Types B and D. There are three types of evidence supporting the claim that some lexical items are of Type B. There are some noun stems whose only allowable lexical gender assignment is [+FEM]; many fewer are strictly [+MASC]. Others have a default assignment of [+FEM] or of [+MASC], but this can be over-ridden by Type D considerations. Finally, some

[9] With regard to a different domain of grammar, I have similarly reasoned elsewhere that constituent order is likely never based on pure semantic roles, but either on grammatical phenomena (e.g., grammatical relations) or on cognitive-pragmatic construal [Payne 1992:3].

roots may be genuinely neutral for lexical gender specification and their assignment on any occasion of use may be strictly based on Type D factors. We will consider each of these lexical subtypes in turn.

3. Maasai lexical subclasses

3.1 Immutable Type B lexemes. Despite the impression that Maasai vocabulary is highly "fluid" in terms of ability to take both feminine and masculine gender prefixes depending on cognitive construal of the referent, it turns out that there are some lexical stems which can only occur in feminine gender form. Some of these appear to be basic roots. The roots in (11a) apparently cannot take masculine prefixes under any possible construal. My current assessment is that such roots comprise a fairly small set.

(11) a. FIXED FEMININE GENDER
(ungrammatical if masculine prefix occurs; *IlW* & TM)

ɛnk-áí	'God'
en-kiriŋó	'meat'
kʊlé	'milks' (collective, which does not take a gender prefix but triggers feminine agreement in determiners, relative clauses, etc.)
ɛn-kímá	'fire' (compare *ɛnkímá sápók* 'big fire')

b. FIXED MASCULINE GENDER (for some *IlW* speakers; compare 8b)

ɔl-aláshɛ̀	'brother'; *ɛnk-aláshɛ̀

One might speculate that roots like those in (11a) evidence the beginning of a formal Type A lexical subset, because what inherent lexical semantic features might drive the feminine assignment are, to western conceptualizations, arguably opaque. That is, there is nothing like a [+diminutive] or obvious [+biologically feminine] lexical feature to drive feminine gender assignment. From an historical perspective, this is probably premature and the set merits examination from the perspective of African cultural models, and propositional or concept association, metonymic, metaphoric, important property, and image-schematic models as described by Lakoff [1986] and Corbett [1991]. For instance, in certain other African cultures such as Akan the concept of the supreme deity is feminine (cf. Osam [n.d.]); and concept association (or knowledge-network) association between feminine biological gender and milk is obvious.

Other items with fixed and immutable feminine gender are certain types of nominalizations. Though exploration of nominalizations is in its infancy, perusal of Tucker and Mpaayei's grammar and some elicitation suggests that the

nominalization types in (12-14) are strictly feminine; switching them to masculine gender results in ungrammaticality.

(12) Action nominalizations in *-ata (-oto)*

enk-írúkótó	'belief'	(from *a-irúk* 'to believe, obey, answer when addressed')
ɛm-búátá	'extraction'	(from *a-búá* 'to have incisor teeth taken out'; *a-bɔ́* 'to extract incisor teeth')

(13) Action nominalizations in *-arɛ (-ore)*

ɛ-míshírárè	'branding'	(from *a-mɪshír* 'to brand')
e-lómórè	'acting jealous'	(*a-lóm*'to be jealous' cf. 16 below)
en-jútórè	'erasing'	(*a-jút* 'to rub, wipe, erase')

(14) Stative nominalizations in *-an (-on)*

ɛ-rɔkán	'blackness'	(*a-rɔk* 'to be black')

(15) Other strictly feminine nominalizations

ɛn-dálà	'game'	(*ɛdálárɛ̀* 'he/she plays')
ɛnk-ányìt	'respect'	(*a-anyít* 'to respect')
ɛ-mɔdâì	'foolishness'	(*a-mɔdá* 'be dull-witted')
ɛn-kɪtɔríá	'rule'	(*a-ɪtɔré* 'to rule')
ɛ-nanâì	'softness, tenderness'	(*a-naná* 'to be soft')
ɛn-kɪbá/ʔɔl-kɪbá	'hate'	(*a-ɪbá* 'to hate')

For the most part, these are abstract nominalizations. The fact that such abstract terms are placed into the feminine category suggests that feminine is the unmarked gender in Maasai.[10] This still fits with Corbett's characterization of a primarily semantic gender system in that "other" or [+abstract] items are assigned to the default gender.

There are a few abstract nouns/nominalizations (16) which appear to be exclusively masculine in designation. An inherent semantic feature of the verb roots in (16) is that they designate negative concepts. Though it needs further investigation, we might speculate that an inherent negative feature is what partially obviates any motivation to switch them to a feminine form in order to yield a pejorative meaning. That is, "pejorative jealousy" or "pejorative con-

[10] The fact that feminine gender more frequently seems to convey denigration might argue against feminine as being somehow semantically unmarked. However, the fact that borrowings and most abstract nominalizations are placed in the feminine category suggest that feminine is grammatically unmarked.

tempt" is redundant if not meaningless. (As we will see below, there are some other abstract nominalizations which seem to have a default masculine form, but which can be over-ridden with the feminine form to derive a pejorative sense.)

(16)	*o-lôm*	'jealousy, envy'	*ʔɛ-lôm*[11]	(*a-lóm* 'to be jealous')
	ɔl-mɛná	'contempt'	**ɛ-mɛná*	(*a-mɛn* 'to despise')

3.2 Variable Type B lexemes. In Section 2, I appealed to the surfacing of pejorative meanings as evidence that Maasai has a Type D gender system. Without obviating the conclusion from that argument, it is simultaneously the case that the pejorative phenomenon also gives evidence that some Maasai stems are of Type B in having a default lexical gender assignment; it is just that for a certain class of Type B stems, the default assignment can be over-ridden by Type D factors.

We have seen that some speakers allow the feminine gender prefix with a sense of pejorativeness for nouns whose unmarked prefix (perhaps in a statistical sense) is masculine, particularly if the root references a biologically animate entity. Since most roots referencing such entities are not in themselves pejorative, it suggests that whatever gender prefix causes retention of the non-pejorative meaning is the unmarked gender assignation for the root in question; while a gender prefix giving rise to a pejorative sense is the marked choice for the root in question. It then further follows that at least for the class of roots where pejorative senses can arise with one gender choice, there is also a lexically-specified unmarked gender choice. Thus, at least these roots belong to a Type B gender system, which a Type D marked construal can override.

For specific examples, consider (17-18). The noun stems themselves (minus the prefixes) do not have any particularly pejorative lexical semantic feature. This lack of pejorative meaning is *retained* with one gender assignment, which must be the default lexical gender assignment for the stem in question. The fact that a pejorative meaning arises with the opposite gender designation suggests that opposite gender is the *marked* gender for the stem in question. This default/markedness difference must be part of the lexical information about the root or stem. Note that sometimes the unmarked gender is feminine, and sometimes masculine—to some extent (though not fully) predictable on the basis of lexical biological gender meaning features.

(17) Default feminine gender assignment

ɛnk-anáshɛ̀	'sister'	*ɔlk-anáshɛ̀*	'very large sister' *(pej)*
en-títo	'girl'	*ol-títo*	'large shapeless hulk of a woman' *(pej)*

[11] One IlWuasinkishu speaker suggests that *enk-óm* and *enk-ómórè* would be possible pejorative forms for 'jealousy', with the latter more likely than the former; *ɛlôm* was firmly rejected.

(18) Default masculine gender assignment

ɔl-aláshɛ̀	'brother'	*ɛnk-aláshɛ̀*	'weak brother' *(pej)*
ɔ-lɛ́ɛ	'man'	*ɛ-lɛ́ɛ*	'man' (*pej*)
ɔl-ɔ́rɔ̀	'he-goat, ram'	*ɛnk-ɔ́rɔ̀*	'small he-goat' (or *pej*)
ɔl-payyán	'elder' (only men past warriorhood)	*ɛm-payyán*	'elder' *(pej)*
ɔl-abáánì	'male doctor, healer' (from *a-bák* 'to heal')	*ɛnk-abáánì*	'female/small doctor, quack *(pej)*'
ɔ-rámátèì	'nurturing' (from *a-ramát* 'to nurture')[12]	*ɛ-rámátèì*	'nurturing *(pej)*
ɔl-mɪshírɛ́	'brand mark/iron' (from *a-mɪshír* 'to brand')	*ɛ-mɪshírɛ́*	'malfunctioning iron'
ɔl-dɛkét	'curse' (from *a-dɛ́k* 'to curse')	*ɛn-dɛkét*	'ineffectual curse'

While abstract concepts are generally fixed in their gender assignments, we note that some abstract nominalizations follow this "Default Type B" pattern. Nominalizations which refer to concrete objects more flexibly occur in either gender, though with pejorative meaning common for the feminine grammatical gender. Other times there is no particular pejorative sense to the feminine, as in the nominalization *en-jutét* 'eraser', *ol-jutét* 'big eraser' (from *a-jút* 'to rub, wipe, erase').[13] If the unmarked form is masculine and the lexemic concept is already inherently pejorative or negative, it appears that the feminine prefix cannot occur (16).

Work on gender of borrowings is in its infancy, but current information also suggests that the default gender assignment for borrowings is feminine: *em-búkù* 'book'. Since the term *em-búkù* 'book' refers to a concrete object, one can say *ol-búkù* to refer to a book that is construed as very large. However, the apparently default assignment of borrowings to the feminine category provides further support for the claim that feminine gender is unmarked in Maasai.[14]

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[12] TM list the nominalization as meaning 'cattle culture.' But for IlWuasinkishu, the nominalization appears to be better translated as 'take care of' (and can be applied to cattle, children, books, etc.)

[13] It might be argued that the default lexical specification for *jutét* is feminine because the masculine form has an extra [+augmented] feature (see also examples in 9). However, it is not entirely clear to me whether any sense of an "extra" feature is just an artifact of the English translation, and whether such stems should be best viewed as of Type D.

[14] In further support of the unmarked status of the feminine gender, Gerrit Dimmendaal (personal communication) has pointed out that in simple Maasai sentences like 'What is this?',

Like Maasai, Dizi (Omotic, Ethiopia) also has a two-class gender system combining *feminine + diminutive*, as opposed to *masculine* (or, we might suggest, *other*). But unlike Maasai, most nouns in Dizi end up in the masculine class as the default for anything that is not female or diminutive [Corbett 1992:11]; according to Corbett, gender assignment is still predictable according to the natural features of the referent.[15]

3.3 Neutral Type D lexemes. Finally, there are numerous roots and stems which can occur with either gender prefix, with no particular pejorative or extra marked features arising from either designation. To the extent that this is true, such roots/stems have no default lexical gender designation, and the root itself must be classified as strictly of Type D. Agent nominalizations in *-anì* are typically included in this category (though see *ɔl-abáánì* 'male doctor, healer' versus *ɛnk-abáánì* 'female/small doctor, quack *(pej)*' above).

(19) (tone from *IlW*)

ɛnk-apʊtánì	'wife's fm. parent'	*ɔl-apʊtánì*	'wife's male parent'
ɛ-mɔdáí	'a female fool'	*ɔl-mɔ́dáí*	'a male fool' (from *a-mɔdá* 'be dull-witted')
en-kér	'sheep'	*ol-kér*	'castrated ram'[16]
ɛn-kɪ́tɛ́ŋ	'cow, head of cattle'	*ɔl-kɪ́tɛ́ŋ*	'ox'

4. Conclusions

Corbett suggests that despite the seeming naturalness of pure semantic gender systems, they are not particularly common. Languages quickly develop idiosyncrasies via conceptual analogies, metaphorical extension, borrowing, and encroaching lexicalization, and eventually gender of noun roots must simply be learned. I have suggested there may be more than one type of "strict" or "predominately semantic" gender system: Types B and D. (Type C is obviated by D on general philosophical and cognitive grounds.) At present, many (perhaps most) Maasai roots display a Type D system. This likely goes hand-in-hand with the fact that Maasai inflectional gender is relatively new in a historical

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the correct demonstrative to use is the feminine one. Dimmendaal also notes that Vossen [1988] reconstructs approximately twice as many feminine gender nouns than as masculine gender nouns for Proto-Teso-Turkana-Lotuxo-Maa.

15 Though Dizi is a predominantly semantic system, Corbett says "It is worth noting that feminine nouns [in Dizi] can also be identified formally, since they have the suffix *-e* or *-in*": *dade* 'girl,' *kuocin* 'woman,' *wete* 'cow,' *kieme* 'small pot,' *orce* 'small broom.' Compare: *dad* 'boy,' *yaaba* 'man,' *kiemu* 'pot,' *orca* 'broom.' Halkomelem (Salish) is also similar to Dizi and Maasai in grouping feminine and diminutives into one class.

16 'Ram' itself is expressed by either *ɔl-ɔ́rɔ̀* or *ol-mérègèsh*.

sense. Inflectional gender is not found in Nilotic generally, but does occur within the Eastern Nilotic sub-branch.

Nevertheless, for at least some Maasai roots (or stems) there is a specific, or unmarked lexical specification of either masculine gender (e.g., those roots which by their inherent lexical features normally reference biologically masculine entities, some abstract nominalizations) or feminine gender (e.g., those roots which by their inherent lexical features normally reference biologically feminine entities, many abstract nominalizations). Whenever a pejorative sense arises with a gender choice for a root, it gives evidence that the non-pejorative gender is lexically unmarked for that root. Such roots display a Type B system. However, Maasai gender is not fully lexicalized because to a very great extent speakers are free to over-ride the lexically unmarked gender under a Type D construal.

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Department of Linguistics
University of Oregon
Eugene, OR 97403
dlpayne@oregon.uoregon.edu

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THE MARKING OF GRAMMATICAL RELATIONS IN SWAHILI

Mayrene Bentley
Michigan State University

This paper investigates the place of Swahili within a typological classification based on the morphological marking of grammatical relations as proposed by Nichols [1986]. Within Nichols' classification, Bantu languages are considered to be "split-marked" because the grammatical marking of a member of a clausal constituent is on the head while, in a phrase, the marking is on the dependent member. Although select clauses and phrases from Swahili support Nichols' claim, a closer examination of the data reveals an interesting variety of morpho-syntactic marking in Swahili as well as in two other Bantu languages, Kikuyu and Chewa. Function words play a key role in marking genitive, instrumental, and locative relations in these languages. Function words also regularly occur as markers of object noun phrases with animate referents. Moreover, instrumental, locative, applicative, and some accusative relations in Swahili show considerable flexibility with respect to head- and non-head-marking.

1. Introduction

In Nichols' [1986] important typological study of the principal strategies for marking grammatical relations in the languages of the world, she has identified two tendencies: head-marking and dependent-marking. A given construction is considered head-marked if the syntactic dependence between the head and its argument is morphologically realized on the head. Likewise, a construction is considered dependent-marked if the syntactic dependence between the head and its dependent is morphologically realized on the dependent element. Although languages typically favor one strategy over another, both tendencies may occur independently in one language. Bantu languages, according to Nichols, incorporate both types of marking, that is, they are split-marked languages.

The goal of this paper is to reexamine the classification of Bantu languages as split-marked. Evidence suggests that the marking of grammatical relations in Swahili (an Eastern Bantu language) is not an unambiguous split between head-marked clauses and dependent-marked phrases. The marking of clausal and

phrasal relations in Swahili is mixed with some relations having more than one means of marking. In addition to reexamining the place of Bantu languages within the two principal marking strategies, I will also address the nature of the dependent marker.

With respect to the nature of grammatical marking in Bantu, Nichols implies, through her examples from Tonga, that head and dependent-marking are affixal in Bantu. While head-marking is often affixal, dependent-marking is affixal in only limited cases. Furthermore, some pronominal forms in Bantu appear to be dependent-marked because they carry the gender of a corresponding noun; for example, possessive pronouns are bound stems and necessarily occur with a prefix. Hence, what appears to be dependent-marking may, in fact, be head-marking.

Finally, when Nichols [1986:64] classifies "familiar morphological categories and processes as either head-marked or dependent-marked", she provides no entry for *inflected adpositions which govern cases*. Instead, she lists under the rubric, *dependent-marked*, "uninflected adpositions which govern cases", and under *head-marked*, "inflected adpositions". The omission of the category *inflected adpositions which govern cases* is problematic if a comprehensive classification of the morphological processes in Bantu langauges is to be achieved. In addition, to what extent does a language qualify as split-marked if function words play an important role in marking grammatical relations in the language?

The organization of this paper is as follows: section 2 illustrates the morphosyntactic marking of two semantically equivalent clauses in which the presence of an object noun phrase (NP) that bears the semantic role of beneficiary or source may be marked in some instances by word order, by a free morpheme or phrasal expression, or by an affix on the head; section 3 argues that genitive phrases are not unambiguously dependent-marked in Bantu; section 4 illustrates examples of locative relations which are consistently marked by free morphemes in Swahili; section 5 concludes with data from Swahili illustrating complementary patterns (head-marked and non-head-marked) for instrumental and some locative relations at the clausal level; and section 6 summarizes the implications of the description put forth in this study.

2. Head-marking versus dependent-marking

In Bantu languages, the syntactic relation between a verb and a dependent noun such as the subject is marked on the tensed verb stem or head. The marking of arguments on a head within a clause qualifies the Bantu family as head-marked. In contrast to head-marked clauses, as Nichols [1986] points out, certain noun phrases in Bantu mark the relation between a noun and its modifier on the modifier or dependent. Because Bantu nouns mark their gender on a corresponding modifier, such as an adjective, phrases in Bantu are considered dependent-

marked. While this split between head-marked clauses and dependent-marked phrases is appealing for its straightforward simplicity, the situation in Bantu is more complex than that suggested by Nichols. Nichols' split-marking classification was previously shown to be too constrained when describing the marking of object NPs functioning as goals in Swahili, Kikuyu, and Chewa [Bentley, in press]. An NP functioning as goal may be marked by an affix on the verb or by a free morpheme for a restricted set of verbs in these languages.

It is well known that in Bantu languages, the presence of a third argument is marked on the verb by an affix known as the applicative (APP). The applicative covers all the functions associated with the dative case, such as beneficiary, recipient, goal, source, and instrument. In addition to the applicative marker, a second verbal affix (object marker) indexes the features of the coreferential NP in the case of animate object NPs in Swahili. All pronominal expressions functioning as objects are also indexed on the head in Swahili. The presence of a single object-marking slot in Swahili favors the marking of animate objects in the case of double-object constructions [Bentley 1994, Vitale 1981:44]. Swahili neces-sarily selects the animate object NP. This is shown in (1) where an animate NP functioning as beneficiary is illustrated using a lexical NP in (1a), an interrogative in (1b), and a pronoun in (1c).[1]

(1) Swahili

a. *Mama a-li-wa-pik-i-a watoto chakula.*
mama 3S-PST-3P-cook-APP-FV children food
'Mama cooked the children some food.'

b. *Mama a-li-m-pik-i-a nani chakula?*
mama 3S-PST-3S-cook-APP-FV who food
'For whom did Mama cook some food?'

c. *Mama a-li-wa-pik-i-a (wao) chakula.*
mama 3S-PST-3P-cook-APP-FV them food
'Mama cooked them some food.'

In addition to the head-marked clauses in (1), there exists a corresponding non-head-marked pattern in which the beneficiary NP occurs after the phrasal expression, *kwa ajili ya*. In (2c), the pronominal form or possessive, *-ao*, is a bound stem. It necessarily attaches to *ya-*.

[1] Unattributed examples are from my own data or from my informants: Alwiya Omar, Ahmed Shariff, Zamzam Mohammed Seif, Sanura Amour Azeez, Chege Githiora, Mungai Mutonya, Alice Nkungula, Lisungu Kamkando, and Wilson Ndovi.

(2) Swahili

a. *Mama a-li-pika chakula kwa ajili ya watoto.*
mama 3S-PST-cook food on behalf of children
'Mama cooked food on behalf of the children.'

b. *Mama a-li-pika chakula kwa ajili ya nani?*
mama 3S-PST-cook food on behalf of who
'On behalf of whom did Mama cook food?'

c. *Mama a-li-pika chakula kwa ajili yao.*
mama 3S-PST-cook food on behalf of.their
'Mama cooked food on behalf of them.'

Comparable constructions exist in Kikuyu. The examples in (3) illustrate the applicative construction, while those in (4) illustrate equivalent sentences with the corresponding phrasal expression, *nĩ ũndũ wa.*

Kikuyu

(3) a. *Nda-rug-ĩ-ire ciana irio.*
1S-cook-APP-PST children food
'I cooked the children food.'

b. *Wa-rug-ĩ-ire ũ (*i*)rio?*
2S-cook-APP-PST who food
'Who did you cook food for?'

c. *(Cio) ni-nda-ci-rug-ĩ-ire (*i*)rio.*
3P FOC-1S-3P-cook-APP-PST food
'I cooked them food.'

(4) a. *Nda-rug-ire irio nĩ ũndũ wa ciana.*
1S-cook-PST food because of children
'I cooked food because of the children.'

b. *Wa-rug-ire irio nĩ ũndũ wa ũ?*
2S-cook-PST food because of who
'Because of whom did you cook food?'

c. *Nĩ-nda-rug-ire irio nĩ ũndũ wa cio.*
FOC-1S-cook-PST food because of them
'I cooked food because of them.'

Although Swahili and Kikuyu have phrasal strategies to accomodate a non-head-marked object NP functioning as beneficiary, Chewa has only the head-marked strategy as illustrated in example (5a). Example (5b) uses the expression

kwa, which is not acceptable here. Its meaning in normal usage would be, 'The fool bought a gift *from* the girls.'

(5) Chewa

a. *Chitsîru chi-na-gúl-ír-a atsíkána mphâtso.*
7-fool 7-PST-buy-APP-FV 2-girls 9-gift
'The fool bought a gift for the girls.'
[Alsina & Mchombo 1993:18]

b. **Chitsîru chi-na-gúl-a mphâtso kwa atsíkána*
7-fool 7-PST-buy-FV 9-gift 2-girls

In addition to the beneficiary relation,[2] Swahili has another clausal relation with the potential for both head and non-head-marking. In the head-marked examples in (6), the animate object NP functioning as source is cross-referenced on the verb. In these examples, the verb phrase, *-omba samahani* 'beg forgiveness', occurs without an applicative suffix.[3]

(6) Swahili

a. *A-li-mw-omba mwalimu samahani.*
3S-PST-3S-beg teacher forgiveness
'He asked the teacher for forgiveness.

b. *A-li-mw-omba nani samahani?*
3S-PST-3S-beg who forgiveness
'Whom did he ask for forgiveness?

c. *A-li-mw-omba (yeye) samahani.*
3S-PST-3S-beg (him) forgiveness
'He asked him for forgiveness.'

In the complementary non-head-marked patterns in (7), the animate object NP is not cross-referenced on the verb but occurs after the function word, *kwa*. (*Kwa* is derived from the prefix *ku* -, a locative marker, and the relational stem *-a* to make *kw+a*.) In the case of the pronominal stem, *-ake*, the stem always attaches to the head, *kwa*.

(7) Swahili

a. *A-li-omba samahani kwa mwalimu.*
3S-PST-beg forgiveness from teacher
'He asked forgiveness from the teacher.'

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2 See Bentley [in press] for the recipient/goal relation.

3 Related expressions in Swahili use this same pattern. For example: *-omba kazi* 'beg for work', and *-omba ruhusa* 'take leave'.

b. *A-li-omba samahani kwa nani?*
3S-PST-beg forgiveness from who
'From whom did he ask forgiveness?'

c. *A-li-omba samahani kwake.*
3S-PST-beg forgiveness from.his
'He asked forgiveness from him.'

A comparable construction occurs in Kikuyu with the verb phrase, *-hoya rutha* 'beg permission'. Unlike Swahili, Kikuyu does not cross-reference the animate object NP. However, the animate object NP occurs before the inanimate NP in post-verbal word order. This is illustrated by the examples in (8).

(8) Kikuyu

a. *Nĩ-a-ho-ire mwarimu rũtha.*
FOC-3S-beg-PST teacher permission
'He asked the teacher for permission.'

b. *A-ho-ire ũ rũtha?*
3S-beg-PST who permission
'Whom did he ask for permission?'

c. *Nĩ-a-mũ-ho-ire rũtha.*
FOC-3S-3S-beg-PST permission
'He asked him for permission.'

Like Swahili, Kikuyu has an alternative means for marking the animate object. The object is marked by the free form, *kũrĩ*, and follows the NP, *rũtha*, 'permission', illustrated by the examples in (9).

(9) Kikuyu

a. *Nĩ-a-ho-ire rũtha kũrĩ mwarimu.*
FOC-3S-beg-PST permission from teacher
'He asked permission from the teacher.'

b. *A-ho-ire rũtha kũrĩ ũ?*
3S-beg-PST permission from whom
'Whom did he ask for permission?'

c. *Nĩ-a-ho-ire rũtha kũrĩ we.*
FOC-3S-beg-PST permission from him
'He asked permission from him.'

Chewa, unlike Swahili and Kikuyu, has only one possibility for marking the arguments of the verb phrase, *-funsa chilolezo* 'beg permission'. This strategy marks the animate object NP with the free form, *kwa*, as shown in (10).

(10) Chewa

a. *Ndi-na-funsa chilolezo (kuchokela) kwa aphunzitsi.*
1S-PST-ask permission from teacher
'I asked permission from the teacher.'

b. *U-na-funsa chilolezo kwa ndani?*
2S-PST-ask permission from who
'Whom did you ask permission from?'

c. *Ndi-na-funsa chilolezo (kuchokela) kwa iye*
1S-PST-ask permission from him
'I asked permission from him.'

The possibilites for marking beneficiary and source NPs in Swahili, Kikuyu, and Chewa are summarized below.[4]

Beneficiary

Swahili	-Verb-APP-FV $N_{[ben]}$ $N_{[pat]}$	-Verb-FV $N_{[pat]}$ *kwa ajili ya* $N_{[ben]}$
Kikuyu	-Verb-APP-FV $N_{[ben]}N_{[pat]}$	-Verb-FV $N_{[pat]}$ *nĩ ũndũ wa* $N_{[ben]}$
Chewa	-Verb-APP-FV $N_{[ben]}N_{[pat]}$	

Source

Swahili	-Verb-FV $N_{[source]}$ $N_{[pat]}$	-Verb-FV $N_{[pat]}$ *kwa* $N_{[source]}$
Kikuyu	-Verb-FV $N_{[source]}$ $N_{[pat]}$	-Verb-FV $N_{[pat]}$ *kũrĩ* $N_{[source]}$
Chewa		-Verb-FV $N_{[pat]}$ *kwa* $N_{[source]}$

These data suggest that certain clausal relations in Bantu are not restricted to head-marking as proposed by Nichols. Certain dependency relations in Bantu clauses may be marked either on the head or by a free morpheme in Swahili and Kikuyu. In Chewa, the beneficary relation is head-marked and the source relation non-head-marked.

In this section, the examples of grammatical relations marked by free morphemes have been clausal. In the following two sections, I will show that two phrasal relations in Bantu, genitive and locative, use free morphemes to mark grammatical relations.

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[4] AGR=agreement, APP=applicative, FV=final vowel, N=noun, ben=benefactive, pat=patient.

3. Genitive relations

Natural languages typically rely on a combination of strategies for encoding relations other than subject and object. These strategies often include prepositions and postpositions [Blake 1994:161]. In Swahili, a function word marks the relation genitive. This functional word is derived from the relational stem, *-a*, plus a noun class prefix.[5] The possessed noun head governs the class prefix on the relational stem, *-a*. This derived preposition, in turn, governs the possessor dependent noun. If the possessor is a pronominal, the genitive case is used and not the nominative. Since the genitive pronoun is a stem in Bantu, it necessarily attaches to its prepositional head. The resulting form is an inflected adposition which governs case, the case being the genitive. This is illustrated in (11a-c). Comparable constructions exist in Kikuyu (12) and in Chewa (13).

(11) Swahili

a. *m-fuko wa Ahmed*
3-bag 3.ASC Ahmed
'Ahmed's bag'

b. *m-fuko wa nani*
3-bag 3.ASC who
'whose bag'

c. *m-fuko wake* /*wa yeye
3-bag 3.ASC.his / 3.ASC 3S
'his bag'

(12) Kikuyu

a. *mwana wa Mũthũngũ*
child 1.ASC European
'child of a European'

b. *mwana wa ũ*
child 1.ASC who
'whose child'

c. *mwana wake* /*wa *we*
child 1.ASC.his / 1.ASC 3S
'his child'

---

[5] The stem *-a* has traditionally been labeled an associative marker. Hence, I use here the label ASC for glossing purposes.

(13) Chewa

a. *njingá yá mw-ána w-á-m-ng'óono*
9.bicycle 9.ASC 1-child 1-ASC-1-small
'bicycle of a small child'
[Kanerva 1990:12]

b. *njingá yá ndani*
9.bicycle 9.ASC who
'whose bicycle'

c. *njingá yáke /*yá iye*
9.bicycle 9.ASC.his / 9.ASC 3S
'his bicycle'

From these examples, we see that the genitive marker appears as an affix only on the possessive pronominal stem and not on lexical and interrogative NPs in Swahili, Kikuyu, and Chewa. In contrast to these languages, Nichols shows that in Tonga, the genitive marker appears as an affix on the lexical NP. Because of its morphological dependence, Nichols claims that the genitive relation in Bantu is a dependent-marked relation. Nichols' example is repeated here in (14).

(14) Tonga [Carter 1963 quoted in Nichols 1986:72]
í-kú-bòkò í-kú-á-mú-kàìntù
DEF-15-arm DEF-15-ASC-1-woman
'the woman's arm'

According to Vicki Carstens [p.c.], when the dependent is a phrase as in example (14), then the noun head of the dependent phrase marks the dependent for gender. Hence, the dependent or possessor NP in example (14), *mú-kàìntù*, bears the gender of the possessed noun head, *í-kú-bòkò*. However, because the dependent possessor argument is a phrase, *í-kú-á-mú-kàìntù*, the dependent marking is carried by the dependent head, *-a-*. Thus, the genitive marker, *kú-á-*, functions simultaneously as a head and a dependent.

Further evidence for the claim that *-a-* functions as a head comes from Tswana. In Tswana the genitive marker, *wa-*, appears as an affix on the dependent lexical NP, *motsomi*, as shown in (15). Although written as an affix on the lexical NP in Tswana and, therefore, understood by Nichols to be a dependent-marked relation, the genitive marker is an inflected adposition which governs the genitive case in pronominals, as illustrated in (16).

Tswana

(15) *mo-sadi w-a-mo-tsomi*
1S-woman 1S-ASC-1S-hunter
'the wife of the hunter'
[Cole 1955:166]

(16) *n-tlo y-a-me /*ya nna*
5.house 5-ASC-my / 5.ASC1S
'my house'
[Cole 1955:162]

Because lexical NPs and interrogatives are not marked for case in Tswana, Swahili, Kikuyu, or Chewa, the pronominal form provides evidence that the genitive marker is a head, although simultaneously marked as a dependent.

Further evidence that the genitive in Bantu is not a simple marker of dependency is seen in an example from Swahili. In response to the question *Ni mtoto wa nani*? 'Whose child is this?', example (17b) shows that a determiner/ demonstrative may occur between the genitive marker and the dependent lexical NP. The genitive marker never attaches to the demonstrative in Swahili (**wa-yule*).

(17) Swahili
a. *Ni m-toto wa nani*?
is 1-child 1.ASC who
'Whose child is this?'

b. *Ni m-toto wa yu-le mama hodari.*
is 1-child 1.ASC 1-the mother clever
'It's the child of the clever mother'

Although Swahili permits a determiner/demonstrative to appear between the genitive and its possessor NP, Kikuyu finds this order of elements acceptable only if a "comma intonation" occurs before the possessor NP [Mugane 1998]. The same holds true for Chewa, where a pause occurs after the demonstrative, *uyo*, as in (18).

(18) Chewa
a. *Ndi mwana wa ndani*?
is 1.child 1.ASC who
'Whose child is this?'

b. *Ndi mwana wa uyo, mayi wo-kongola.*
is 1.child 1.ASC that mother 1-beautiful
'It's the child of that one, the beautiful mother.'

The data in this section highlight the ambiguity of Nichols' claim that genitive phrases are dependent-marked in Bantu. Although the dependent or possessor NP is marked by an inflected adposition, the marker itself functions as a head since it governs case. This is especially evident in the case of pronominals. As to morphological affixing, we have seen that the genitive marker necessarily attaches to the possessive stem in Swahili, Kikuyu, Chewa, and Tswana. Written tradition separates the genitive marker from lexical and interrogative NPs in Swahili, Kikuyu and Chewa. It remains for future research to determine a hierarchy of NP types—from pronouns to proper names—that captures the likelihood of an NP to affix the genitive marker.[6]

4. Locative relations

Like the genitive, certain locative relations in Bantu are marked by free morphemes. In Swahili, the derived form *kwa* is used to show movement to or from a person [Adam 1993:168]. This is illustrated in example (19a) with the lexical NP, *rafiki yangu*. In (19b) *kwa* occurs before the interrogative *nani* 'who', and in (19c) it combines with a possessive pronominal stem to mean at someone's dwelling.

(19) Swahili

a. *Ni-na-kwenda kwa rafiki yangu.*
1S-PR-go to friend my
'I am going to my friend.'
[Adam 1993:169]

b. *U-ta-kwenda kwa nani?*
2S-FUT-go to who
'Whose house will you go to?'

c. *Ni-ta-kwenda kw-ake / *kwa yeye.*
1S-FUT-go to-ASC.his / to 3S
'I will go to his home.'

Kwa is invariable; it bears no dependency marker. It occurs as a free morpheme before lexical and interrogative NPs but as a prefix on the possessive stem in Swahili. In Kikuyu and Chewa, the forms *gwī/kwī* and *kwa*, respectively, occur independently of the NPs which they mark.[7] Unlike Swahili, Kikuyu

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[6] It is possible that the genitive marker in Bantu manifests characteristics similar to the function word *of* in English. Although *of* is clearly a free morpheme, it shows affixal properties in phrases such as "full astuff" and "chest adrawers".

[7] According to Mugane [1997:22], gender in Kikuyu does not determine "the morphological shape of prepositions".

and Chewa permit an independent pronominal to appear after *gwĩ/kwĩ* and *kwa*, as illustrated in (20a-c) for Kikuyu and in (21a-c) for Chewa.

(20) Kikuyu

a. *A-thi-ire kwĩ Mũthũngũ.*
3S-go-PST to European
'He went to the European.'

b. *A-thi-ire gwĩ ũ?*
3S-go-PST to whom
'Whom did he go to?'

c. *A-thi-ire gw-ake / gwĩ we.*
3S-go-PST to.Asc.his (place) / to him
'He went to his home / to him.'

(21) Chewa

a. *A-na-bwera kwa Joni.*
3P-PST-come to John
'They came to John'

b. *A-na-bwera kwa ndani?*
3P-PST-come to who
'Whom did they come to?'

c. *A-na-bwera *kw-ake / kwa iye*
3p-TNS-come to-his (place) / to him
'They came to his place / to him' [Hullquist 1988:66]

In contrast to the marking by a preposition of destinations involving people, Swahili marks inanimates or general place names by a postposition. The suffix *-ni*, which denotes 'to, at, in', is illustrated in (22a). Proper place names do not carry the suffix, as illustrated in (22b).

(22) Swahili

a. *A-na-kwenda nyumba-ni.*
3S-PR-go house-to
'He is going home.'

b. *A-na-kwenda Dar es Salaam /*-ni.*
3S-PR-go Dar es Salaam
'He is going to Dar es Salaam.'

Like Swahili, Kikuyu uses a postposition, *-ini* 'at, near to, among, into', to mark certain locative relations [Mugane 1997:31, Barlow 1951:199]. Use of this

form is illustrated in (23). Although "any noun" has the potential to become a locative [Mugane 1997:32], both common nouns and proper names may go unmarked for destination in Kikuyu, as shown in (24a-b).

Kikuyu

(23) *nyũngũ-inĩ.*
9.pot-POSTP(LOC)
'on/at/in/by the pot'
[Mugane 1997:31]

(24) a. *Twara ng'ombe rũũĩ.*
take cattle river
'Take the cattle to the river.'

b. *Tũ-gĩkinya Kĩnjabi.*
1P-arrive Kijabe
'We arrived at Kijabe.' [Barlow 1951:198]

In Chewa, the locative *ku* is used before both proper and common names. However, it is written separately from the proper name, as shown in (25a), and as an prefix for common nouns, as shown in (25b) [Orr and Myers-Scotton 1980:86, vol. 1].

(25) Chewa [Orr and Myers-Scotton 1980:227, Book 1]

a. *A-ku-pita ku Lilongwe.*
3S-PR-go to Lilongwe
'He's going to Lilongwe.'

b. *Ti-ku-pita pansi ku-sukulu.*
1P-PR-walk to-school
'We're walking to school.'

The marking of locatives denoting 'to, at, in' in Swahili, Kikuyu, and Chewa is summarized below.

Locative	**with Person**	**with Place**
Swahili	-Verb-FV *kwa* $N_{[animate]}$	-Verb-FV $N_{[place]}$ *-ni*
Kikuyu	-Verb-FV *gwĩ/kwĩ* $N_{[animate]}$	-Verb-FV $N_{[place]}$ *-ini*
Chewa	-Verb-FV *kwa* $N_{[animate]}$	-Verb-FV *ku*-$N_{[place]}$

In addition to prepositional and postpositional markers of locatives in these three languages, there are comparable phrasal expressions. These expressions

are equivalent to the English phrases 'inside of', 'on top of', 'underneath', etc. Structurally these phrases consist of a noun (in Chewa, this is a derived noun which bears a prefix) plus the relational stem *-a*. The relational stem *-a* bears one of the class prefixes. In Swahili, it is the class 9 prefix *y-*. In Kikuyu, it is either the prefix *y-* or *w-*, and in Chewa, it is one of the locative prefixes: *p-, ku-, mu-*. Examples (26)-(28) illustrate some of these phrasal locatives for Swahili, Kikuyu, and Chewa.

(26) Swahili [Erickson and Gustafsson 1989:138]

a. *Wa-ko ndani ya nyumba.*
3P-LOC inside 9.ASC house
'They are inside of the house.'

b. *Acha mi-zigo mbele ya nyumba.*
leave 4-load in front 9.ASC house
'Leave the loads in front of the house.'

(27) Kikuyu

a. *Kwĩ ũũki thĩnĩ wa mwatũ.*
there honey inside of.ASC beehive
'Is there any honey inside the beehive?' [Barlow 1951:203]

b. *A-thi-ire mbere ya nyũmba.*
3P-go-PST in front 9.ASC house
'They went in front of the house'

(28) Chewa [Orr and Scotton 1980:224-6, Book 1]

a. *Ma-buku anga ali pa-nsi pa tebulo.*
PL-book my are 16-under 16.ASC table
'My books are under the table.'

b. *Anawo ali pa-tsogolo pa ine.*
children are 16-in front 16.ASC me
'Those children are in front of me.'

These same phrasal locatives govern the genitive case for pronominal NPs in Swahili and Kikuyu. These NPs may be either animate or inanimate, as shown in (29) and (30). In Chewa, however, only pronominals with inanimate referents occur in the genitive case, as shown by the example in (31).

(29) Swahili

Wa-ko mbele yake.
3P-LOC in front 9.ASC.its/his/her
'They are in front of it/him/her.'

(30) Kikuyu

A-thi-ire mbere yake.
3P-go-PST in front 9.ASC.its/his/her
'They went in front of it/him/her.'

(31) Chewa

Ma-buku anga ali pa-nsi pake / pa iye.
6-book my are 16-under 16.ASC.its / under him/her
'My books are under it/him/her.'

In summarizing the data observed so far with respect to clausal relations in sections 2-4, we have seen that subject marking correlates with head-marking in Swahili, Kikuyu, and Chewa. Object relations are also head-marked in the case of applicative NPs. Non-applicative object NPs are morphologically unmarked in double-object constructions.[8] Lexical object NPs in simple transitive clauses are often cross-referenced on the verb in Swahili if the NP referent is animate. This is generally not true for Kikuyu and Chewa. Alternative patterns exist for some head-marked patterns in which a third argument co-occurs with the independent morpheme, *kwa/kwĩ/gwĩ/kũrĩ*.

As for phrasal relations, the genitive marker is an inflected adposition that functions as both a dependent and head. In some Bantu languages (e.g., Tonga and Tswana), the genitive marker occurs as an affix on the dependent lexical NP; in other Bantu languages (Swahili, Kikuyu, Chewa), it occurs as a free morpheme. However, for pronominals, the genitive marker is an obligatory prefix on the possessive stem in Tswana, Swahili, Kikuyu, and Chewa.

Another phrasal relation, the locative, is marked by a preposition and/or postposition. Locatives denoting 'to' or 'towards' mark their destination with *kwa/kwĩ/kũrĩ* if it is a person, while destinations which are places having proper names are either left unmarked, as in Swahili and Kikuyu, or appear after *ku*, as in Chewa. Common place names either bear a suffix (Swahili and Kikuyu), occur after *ku* (Chewa), or go unmarked (Kikuyu). Pronominal locatives are marked identical to lexical nouns exept the possessive stem is used in all cases in Swahili and the independent forms for persons in Chewa and Kikuyu. Inanimates also take the possessive pronominal stem in Swahili, Kikuyu, and Chewa.

The strategies for marking grammatical relations in the Bantu languages examined here are dependent on three factors: 1) the type of dependency or the grammatical relation itself (subject, object, instrumental, etc.); 2) the NP type (lexical—common vs. proper nouns; interrogative; or pronoun); and 3) the animacy of the NP referent.

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[8] In lieu of overt morphological marking, word ordering and context serve to distinguish object NPs in Swahili, Kikuyu, and Chewa.

In the next section I reconsider two relations—instrumental and locative—with respect to their potential for both head and non-head-marking.

5. Complementary patterns

The first complementary pattern of head and non-head-marking in Swahili is the instrumental relation. Examples in (32) and (33) illustrate, respectively, the head-marked and non-head-marked patterns for Swahili.

Swahili

(32) a. *A-li-kat-i-a kisu.*
3S-PST-cut-APP-FV 7.knife
'I cut with a knife.'

b. *A-li-kat-i-a nini?*
3S-PST-cut-APP-FV what
'What did he cut with?'

c. *A-li-ki-kat-i-a.*
3S-PST-7-cut-APP-FV
'He cut with it.'

(33) a. *A-li-kata kwa kisu.*
1S-PST-cut with 7.knife
'I cut with a knife.'

b. *A-li-kata kwa kitu gani?*
3S-PST-cut with thing which
'What did he cut with?'

c. *A-li-kat-a na-cho.*
3S-PST-cut with-7
'He cut with it.'

This complementary pattern does not exist in Kikuyu. Interestingly, Kikuyu uses both markings such that the applicative and the free form co-occur, as shown in (34).

(34) Kikuyu
A-tin-ir-ie na kahiũ.
3S-cut -APP-PST with knife
'He cut with a knife'

Chewa, like Swahili, has both a head-marked and non-head-marked pattern, as illustrated in examples (35a) and (35b), respectively. It also has the double-marked pattern like Kikuyu, as illustrated in (36).

Chewa

(35) a. *A-ku-dula ndi mpeni.*
3S-PR-cut with knife
'He cut with a knife.'

b. *A-ku-dul-ir-a mpeni.*
3S-PR-cut-APP-FV knife
'He cut with a knife'

(36) *A-ku-dul-ir-a ndi mpeni.*
3S-PR-cut-APP-FV with knife
'He cut with a knife'

These patterns are summarized in the schemas below.

Instrument

Swahili	-Verb-APP-FV $N_{[instr]}$	-Verb-FV *kwa* $N_{[instr]}$
Kikuyu	-Verb-APP-TNS *na* $N_{[instr]}$	
Chewa	-Verb-APP-FV (*ndi*) $N_{[instr]}$	-Verb-FV *ndi* $N_{[instr]}$

Another relation which allows both head and non-head-marking in Swahili is the locative denoting 'at' or 'in a place'. In the Swahili example in (37a), the locative is marked on the verb by an applicative suffix and by the locative suffix *-ni* on the dependent noun. In contrast to the head-marked locative in (37a), the same relation is marked by the uninflected morpheme *katika* 'in' in (37b).

(37) Swahili [Ngonyani 1995:2, fn4]

a. *A-li-l-i-a chakula ofisi-ni.*
3S-PST-eat-APP-FV food office-LOC
'He ate in the office.'

b. *A-li-kula chakula katika ofisi.*
3S-PST-ate food in office
'He ate food in the office.'

The chart in Figure 1 summarizes the grammatical relations having complementary structures—head-marked and non-head-marked—in Swahili. It shows that Swahili has the potential to mark four relations—accusative, applied, instrumental, and locative—either on the head, i.e. the verb, or with a function word/phrase. These four relatively elastic grammatical relations contrast with the subject and genitive relations, which are confined to one strategy: the subject is cross-referenced on the verb and the genitive is marked by a derived preposition.

Figure 1. Grammatical relations in Swahili

Grammatical relation	Head-marked	Non-head-marked
Accusative (source)	x	x (animate)
Applied Goal/recipient (see Bentley [in press]) Beneficiary	 x x	 x [9](animate) x (animate)
Instrumental	x	x
Locative	x	x

The potential of the various grammatical relations in Swahili to have more than one possible means of grammatical marking is represented in the schema in Figure 2 below. The two poles correspond to the restricted head-marked (subject) and non-head-marked (genitive, etc.) relations while the center corresponds to those relations (accusative, applied object, instrumental, and locative) having more than one possibility for marking. The head-marked and non-head-marked patterns offer competing options for encoding grammatical relations in Swahili. Some speakers of Swahili as a second language prefer the non-head-marked option for marking the instrumental case.

Figure 2. Marking potential of grammatical relations in Swahili

Head-marked		Nonhead-marked
<------ - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - -	- - - - ------>
Subject	Accusative (animate) Applied object Instrumental Locative	Genitive Phrasal locative

In the following pairs of sentences, the [*kwa* + NP] examples were preferred to the head-marked ones by Kenyan Swahili speakers, whereas both patterns were considered acceptable by my Zanzibari informants (first-speakers of Swahili). These alternations do not occur in Kikuyu or Chewa.

Swahili

(38) a. N*i-ta-kwend-e-a* *basi.*
1S-FUT-go-APP-FV bus
'I will go by bus.'[10] [Zawawi 1971:141]

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[9] Some speakers find the non-head-marking acceptable only in the context of 'at someone's dwelling' and not in the directional sense of 'to someone'.

[10] Some speakers interpret this variation to mean "go towards the bus". [A.S.A. Nchimbi, p.c.]

b. *Ni-ta-kwenda kwa basi.*
1S-FUT-go by bus
'I will go by bus.'

(39) a. *Ni-li-kat-i-a kisu.*
1S-PST-cut-APP-FV knife
'I cut with a knife.'

b. *Ni-li-kata kwa kisu.*
1S-PST-cut with knife
'I cut with a knife.'

(40) a. *A-li-end-e-a njia ipi?*
3S-PST-go-APP-FV way which
'By which way did he go?'

b. *A-li-enda kwa njia ipi?*
3S-PST-go by way which
'By which way did he go?'

These examples illustrate the variety of morphosyntactic marking available to speakers of Swahili. They also point to the fact that function words play a significant role in marking grammatical relations in Swahili.

6. Conclusion

Even though Nichols' head-/dependent-marking distinction is an insightful measure for classifying languages according to their tendency for using affixal morphology in marking select clausal and phrasal relations, the distinction necessarily precludes the compensating role of function words. Moreover, the place of inflected adpositions which govern case is left unresolved within this schema of head- and dependent-marking.

The data in this study have shown that the marking of grammatical relations in Swahili is not a straightforward split between head-marked clauses and dependent-marked phrases. Swahili has the potential to mark both clausal and phrasal relations on the verb.[11] Furthermore, animacy and NP type (lexical, interrogative, pronominal) affect the morphosyntax of grammatical relations in Swahili. For example, NPs with animate referents are marked distinctly from inanimates and pronominals primarily occur as bound forms.

The failure of Nichols' head-/dependent-marked distinction to include functional words ignores the significant role these words play in marking important relations in Swahili. Function words are subject to many of the same generaliza-

[11]Although not discussed in this paper, Swahili has the potential to mark relative clauses on the verb or on the independent morpheme, *amba-*.

tions as case markers [Croft 1988:174, fn 6). In fact, some Swahili speakers prefer to mark instrumentals with a function word rather than an applicative suffix. Thus, Nichols' description of the marking of grammatical relations in Bantu languages from the basis of the occurrence of affixal morphology on the head or dependent member of a constituent is ultimately too constrained to provide a felicitous account of the marking of grammatical relations in Swahili.

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Department of Linguistics and Languages
Michigan State University
East Lansing, MI 48824
bentle16@pilot.msu.edu

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RESTRICTIVE VS NON-RESTRICTIVE RELATIVE CLAUSES IN HAUSA: WHERE MORPHOSYNTAX AND SEMANTICS MEET*

Philip J. Jaggar
SOAS, University of London

Restrictive and non-restrictive relative clauses in Hausa are characterized by morphosyntactic properties which are in (near) complementary distribution. Restrictives are introduced by one of two relative markers—either complex HL(L) tone *wandà/waddà/wad'àndà* (MSG/FSG/PL) 'the one(s) who(m), which, that etc', or simplex *dà* 'who(m), which, that, etc.'—and (normally) require a focus (*sukà*, *sukè*, etc.) form of the inflectional (perfective/imperfective) agreement-aspect paradigms. Non-restrictives, in contrast, are (for many speakers) distinguished from restrictives as follows: (1) they are introduced by a distinctive *all L tone* allomorph of the explicit relativizing pronoun *wàndà/wàddà/wàd'àndà*; and (2) some speakers also allow *either* the same focus form of the INFL as occurs in restrictives, *or* use the neutral non-focus (*sun*, *sunà*, etc.) form as a possible alternative. This tense-aspect variation is attributable to the fact that non-restrictive relative clauses are (coordinate-like) appositional constructions which do not uniquely restrict/define/identify, etc. their antecedents.

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1. Introduction

My purpose in this paper is to characterize the major differences between restrictive and non-restrictive relative clauses in Hausa (Chadic/Afroasiatic). Section 2 provides information on the data sources and speakers. In Section 3, I describe the core morphosyntactic properties of (the still poorly-understood class of) restrictive relative clauses, including restrictives with definite (§3.1), proform (§3.2), and indefinite (§3.3) external heads, and elucidate some previously unreported correlations and patterns. Section 3.4 examines specifiable contexts in which the usual focus tense-aspect marking rule in restrictive relative clauses (RRCs) can be overridden (contrary to accepted wisdom). The descriptive analysis in Section 3 serves not only to clarify some of the key design-features of RRCs, but also provides a comparative baseline for the subsequent account of the even more under-researched class of non-restrictive RCs. In Section 4 I show that there are important differences in the distribution and internal properties of the two RC structures. Following some background comments in Section 4.1, Section 4.2 examines the form and function of non-restrictive relative clauses (NRRCs) in Hausa, with special reference to two morphosyntactic properties which are in (partial) complementary distribution with RRCs—the form (tone) of the relative pronoun (§4.2.1), and the greater flexibility in tense-aspect and mood (TAM) selection (§4.2.2). This tense-aspect (INFL) variability is shown to be both syntactically and semantically motivated, and is attributable to the fact that appositional NRRCs, in contrast to intersecting RRCs, are loose, coordinate-like structures which do not narrowly restrict/define/identify, etc. their antecedents (a variable which has interesting implications for current theoretical approaches to syntactic problems like relative clause formation). The paper concludes (§4.2.3) by demonstrating that head-NRRC constructions have properties similar to topic-comment structures.

2. Data sources

My database of NRRCs derives from a variety of published and unpublished sources (see Appendix for full details of published works). Many of the naturally-occurring NRRC tokens come from two (media) sources (where I first became aware of the existence and nature of NRRCs)—*An Advanced Hausa Reader* (*AHR*, 1992) and *Hausa Newspaper Reader* (*HNR*, 1996). For each of these corpora, a (different) speaker read aloud scripted Hausa materials from BBC World Service Hausa radio broadcasts [= *AHR*], and selections from modern Hausa newspaper articles [= *HNR*]. All the readings were recorded on accompanying cassette-tapes by two speakers—Usman Muhammed (male, 50, from Kano) read the *AHR* materials, and Malami Buba (male, early 30s, from Sokoto) read the *HNR* selections. Additional naturalistic non-restrictive tokens were taken from *Hausar Yau da Kullum* (*HYDK*, 1991), a commercially

available video presentation of Hausa cultural materials (speaker = Abdullahi Bature, male, 30s, Kano; examples identified by time-point on *HYDK* tape). Finally, there are a number of made-up tokens in the corpus which were devised with and accepted by native-speakers in the course of elicitation sessions (plus a few examples from earlier works such as Imam 1970 [1939]). In the text, no identification indicates constructed (interview) examples. Other speakers consulted (all young males in a 20-40 age range) include (dialect areas added in parentheses): Mahamane Lawali Abdoulaye (Maradi/Katsina), Mustapha Ahmad (Kano), Mahaman Bachir Attouman (Zinder/Damagaram), Aliyu Bunza (Birnin Kebbi/Sokoto), Pascal de Campos (Matamaye/Damagaram), Abdulkadir Mansur Funtua (Funtuwa), Muhammadu Mustafa Gwadabe (Kano), Lawan Danladi Yalwa (Kano).

3. General properties of (restrictive) relative clauses in Hausa

For purposes of this background profile, we restrict our discussion to (clarification of) the core features of restrictives. Although this subtype is by far the most productive, restrictives remain to be adequately described, and there is still confusion and inconsistency in many grammars, teaching manuals and dictionaries. We shall see in due course that, although some of the restrictive properties do generalize to non-restrictives (§4), there are important differences in morphosyntax which are directly relatable to differences in both structure and meaning. (For extensive cross-language discussion of RC types in general, see Peranteau et al. [1972], Keenan & Comrie [1977], Comrie [1981:131ff], Keenan [1985:168-170], Lehmann [1986], and Kayne [1994].)

3.1. Restrictives with definite heads. Postnominal relative clauses in Hausa are embedded subordinate constructions (complex NPs) which intersect via predication with a coreferential argument in the top clause (see Gouffé [1964], McConvell [1973, 1977], Schachter [1973], Parsons [1981:46ff], Rufa'i [1983], Tuller [1985, 1986:80ff], Haïk [1990], and Attouman [1996] for various descriptions). To date, treatments of Hausa RCs have concentrated almost exclusively on the more productive restrictive RC formations [bracketed off] with definite NP heads of the type exemplified in (1).[1]

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[1] Transcription system: *à/ǎ* = L(ow) tone, *â* = F(alling) tone, H(igh) tone is unmarked. A macron over a vowel indicates length, e.g. *ā*, *ī* are long, *a*, *i* are short, and *a(a)* = either long *ā* or short *a*; *ɓ* and *ɗ* (*Ɗ*) = laryngealized stops, *ƙ* (*Ƙ*) and the digraph *ts* = ejectives, *'y* = glottalized semivowel, *r̃* = apical tap/roll, *c* and *j* = palato-alveolar affricates.

Abbreviations:

COP	copula	F	feminine	HAB	habitual
DD	definite determiner	FOC-IMPF	focus imperfective	IMP	imperative
DEM	demonstrative	FOC-PF	focus perfective	IMPF	imperfective
EXIST	existential	FUT	future	KH	(Standard) Kano Hausa

continued on next page...

(1) *gà mōtà-r̃* RC[*dà mukà sàyā jiyà*]
PRES car-DD(FSG) REL 1PL.FOC-PF buy yesterday
'here's the car that we bought yesterday'

In (1) the external NP head *mōtàr̃* 'the car' in the matrix clause is uniquely identified via the presupposed information entailed by the intersecting RRC [*dà mukà sàyā jiyà*] 'that we bought yesterday'. The head argument of the relativized predicate takes the enclitic definite determiner if [+definite], followed by the relative marker (REL) *dà* which marks/derives the relative predicate (see below). The antecedent head NP (typically a common noun plus any determiners) is inserted at the front of the postmodifying, externally-headed RC, and (depending upon its syntactic role) leaves either a gap or an overt resumptive pronoun in the base position. (See the works cited above for extensive discussion of the extraction facts and relativizable positions, the details of which will not concern us here.)

Within the affirmative perfective and imperfective tense-aspects (only),[2] there is a formal distinction between what I here refer to as the FOCUS and NON-FOCUS agreement-aspect paradigms,[3] and an important characteristic of Hausa RCs is that they generally require the same focus (INFL) form of the perfective (= 3PL *sukà*, etc.) and imperfective (= 3PL *sukè*, etc.) as other WH-movement operations which also bring a constituent to the left periphery focus site (see below and §§3.4, 4.2, however, for interesting exceptions in both restrictive and non-restrictive RCs). Sentences (2-5) further illustrate (and

M	masculine	PRES	presentative	SID	specific indefinite
NEG	negative	RC	relative clause		determiner
NRRC	non-restrictive RC	REL	relative marker	SUBJ	subjunctive
PF	perfective	RELPRO	relative pronoun	TAM	tense/aspect/mood
PL	plural	RRC	restrictive RC	VN	verbal noun
POT	potential	SG	singular		

1/2/3/4 = first/second/third/fourth person
* = ungrammatical in the given context, ? = marginally acceptable

2 The inflectional categories of subject-agreement and tense-aspect and modality in Hausa are represented in a 2nd-position string of affixes and clitics (= INFL). The preverbal subject-agreement pronouns read the semantic features of person, gender, and number off their coreferential subject-controllers which may be overtly expressed, e.g., as lexical nouns or independent pronouns, or are null arguments (= 'small pro', licensed by INFL).

3 My choice of the (semantic) cover-term FOCUS (= FOCUS-PERFECTIVE, FOCUS-IMPERFECTIVE) is at variance with the traditional (but wholly misleading) labels "Relative Perfective" and "Relative Imperfective", so called because of their widespread distribution in (restrictive) relative clauses. Use of the unitary term focus (in preference to "relative") avoids potential confusion with the notion "relative tense" and also captures a specific semantic property which generalizes to a range of related focus operations. Non-focus is a catch-all category used here for convenience, and covers contexts where no such narrow semantic focus is entailed.

clarify) the normative configuration for restrictive RCs dominated by referentially definite NP heads.

RESTRICTIVE RCS WITH DEFINITE HEADS

(2) *kā ga bàkî-n* RC[*dà sukà isō jiyà*]?
2MSG.PF see guests-DD(PL) REL 3PL.FOC-PF arrive yesterday
'did you see the guests who/that arrived yesterday?'

(3) *yârâ-n* (*-nan*) RC[*dà sukà ga haɗ'àrîn*]
boys-DD(PL) (-DEM) REL 3PL.FOC-PF see accident.DD(MSG)

sun gayà wà 'yan sàndā kōmē
3PL.PF tell to police everything
'the (those) boys who/that saw the accident told the police everything'

(4) *yārò-n* RC[*dà kè nan à lōkàcîn*] *yā ga kōmē*
boy-DD(MSG) REL FOC-IMPF there at time.DD(MSG) 3MSG.PF see everything
'the boy who/that was there at the time saw everything'

(5) *ɗ'àlìbâ-n* RC[*dà sukà gamà aikìnsù*] *sun tàfi*
students-DD(PL) REL 3PL.FOC-PF finish work.of.3PL 3PL.PF leave
'the students who/that have finished their work have left'

The NP-DD RC[*dà* INFL [+ focus] VP...] structures in (1-5) consist of an external NP head with a gender/number-sensitive D(efinite) D(eterminer) suffix. The enclitic DD has a floating L tone (MSG/PL -`*n*, FSG -`*r̃* < * -`*t*) which docks onto a preceding H tone syllable and produces a F (exx. 2, 3, 5). (Speakers of Western Hausa dialects in particular usually adjust this F to H before the L tone REL *dà*, this F → H / ___ L *dà* tonal simplification rule (also gaining ground in other dialects) being the mirror-image of the F → L / H ___ mechanism discovered by Newman [1995:766-767].) The NP-DD formation is then postmodified by a restrictive RC introduced by the morphologically invariant (non-enclitic) relative marker *dà* 'who(m), which, that, etc.' (*dà* also functions as a clause-initial complementizer of subordinate propositional clauses, e.g., sentential objects of COMMAND-verbs). In contrast to NRRCs which are typically postpausal (§4.2.1), (*dà*-introduced) RRCs are usually linked prosodically to their antecedents, with which they form a constituent. Example (3) also shows that the same REL *dà* is present if the definite NP is further postmodified by a demonstrative determiner (here enclitic *nan*). It is also the strongly preferred choice if the head NP is determined by an explicit (pre-head) demonstrative.

(6) *wànnan àlƙalàmī/àlƙalàmî-n dà kɛ̀ ƙàrshen tēbùr̃*
DEM(SG) pen/pen-DD(MSG) REL FOC-IMPF end.of table

bɑ̀ nɑ̀wa ba nɛ̀?
NEG of.1SG NEG COP(MSG)
'isn't that pen which is at the end of the table mine?'

Rufa'i [1983: 422] presents examples of head NPS with demonstrative enclitics followed by RRCs introduced by the explicit HL *wandà*, etc. relative pronoun (see §3.2), for example, (tones and vowel length supplied) *?yārò-n-nan wandà ya kwântā à asìbitì yā ràsu* 'that boy who was hospitalized has died'. However, the speakers I consulted, whilst requiring this maximal coding in postpausal non-restrictives (§4.2), adjudged the double-marking of a lexical NP head with two gender/number-marking deictic morphemes to be an awkward overspecification, in the same way that a complex relative pronoun would be semantically redundant with an independent pronoun head, for example, *nī dà (?wandà) na cɛ̀* ... 'I who said ...'.

As noted above, a core (deictic) characteristic of RRCs like those in (1-6) is the selection of the focus form of the (affirmative perfective, imperfective only) agreement-aspect INFL, a requirement they share with other (WH-)fronting operations whereby constituents are similarly extracted and moved to the clause-initial informational focus position, i.e., focus-fronting (including clefting for present purposes), WH-interrogation, and WH-ever expressions (Hausa is a 'discourse configurational' language in the sense of Kiss [1995]). All these operations thus involve the same functional category (see Haïk [1990] and Bearth [1993] for discussion of comparable phenomena in other African languages, and Tuller [1992] on related Chadic languages). (In current theoretical formulations, the landing-site for WH-movement is the specifier of CP [Chomsky 1986], with WH and focus phrases acting as local operators; see also Bresnan & Mchombo [1987], Horvath [1995], and Kiss [1995] for claims that WH-elements are inherently foci.) The semantic correlate common to all these (narrow focus entailing) movement rules is that the identification of the left-dislocated element is highly constrained, i.e., it is uniquely specified as the one (and only) constituent over which the predicate has scope. (Stated formally, restrictives denote sets which intersect with the set designated by some nominal projection, i.e., the head noun.) This key interpretive factor takes on added significance when we come to consider the interaction between (non-identifying) NRRCs and TAM (§4.2).[4]

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[4] One advantage of a semantically-motivated account which refers to notions of specificity, restrictiveness, etc. is that it can be extended to explain the functional distribution of the focus-perfective in narrative discourse, where individualized, punctual event sequences are iconically represented by a linear string of focus-perfective verbs. In a similar vein, Schuh (p.c. 1996,

continued on next page...

Although proper nouns normally only admit non-restrictive postmodification (because they are independently identifiable via their assumed uniqueness), they can, when functioning as common nouns, occur as the antecedents of RRCs (with the definite determiner), as in (7-8).

(7) *wȁtɔ̀ Mūsâ-n dà ya zō yànzü*
that is Musa-DD(MSG) REL 3MSG.FOC-PF come now
'you mean the Musa who came now?'

(8) *wȁtɔ̀ Bĭrnin Kudù-n dà kȅ Jihàr̃ Kanɔ̀?*
that is Birnin Kudu-DD(MSG) REL FOC-IMPF State.of Kano
'you mean the Birnin Kudu (town) that is in Kano State?'

3.2. Proform-headed restrictive RCs. RRCs may also be headed by substitutive PROFORMS—relativizing pronominal elements which move from the basic argument position and replace an (antecedent) NP head (where the lexical head could be felicitously copied into the site occupied by the proform). There are two (semantically-conditioned) gender/number-sensitive proforms, minimally distinguished by the tone on the initial syllable. Of the two occurring allomorphs, the most widespread (used by all speakers as far as we know) is a relative pronoun (RELPRO) with HL(L) tones—HL tone *wandà* (MSG), *waddà* = *waccè* (FSG), HLL *waɗàndà* (PL) (also LHL *wàɗandà*) 'the one(s) who(m), which, that etc.'[5] Alongside the HL(L) RELPRO, some speakers also have an all L tone variant *wàndà* (MSG), *wàddà* = *wàccè* (FSG), *wàɗàndà* (PL)—a well-established allomorph first noted by Bargery [1934:1078], but largely ignored in standard descriptions of RCs (see §4.1). Speakers who use both the heterotonic HL *wandà*, etc. *and* monotonic all L *wàndà*, etc. forms are henceforth referred to as 2-RELPRO speakers, and those with only the HL variant are

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refining some earlier proposals [1985:14]) has suggested that another (related) way of looking at this phenomenon is to say that a common semantic characteristic of all WH-constructions is that the INFL itself is contained within a presupposed proposition. According to this analysis, the choice of the specific/presuppositional, etc. focus-perfective in narrative discourse is attributable to the (interpretive) fact that the speaker has a specific time and/or place in mind when the realized event took place, and also presupposes that the hearer shares this assumption (much like the 'Definite Past' in English—cf. McConvell's [1977] use of the term 'Definite Perfect'). Use of the definite/specific focus-perfective thus acts to narrow down the temporality of the single, actualized events of the historical narrative, all of which have a clear and specific end result (= telic). The widespread co-occurrence of deictic time-ordering connectors like *sai* and *sànnan* 'then, after that' in focus-perfective narrative sequences is another manifestation of this semantic specificity. (See also Tuller [1986], Abdoulaye [1992:60ff].)

[5] Although the LHL *wàɗandà* plural variant is in fact quite common (like its LHL plural demonstrative counterpart *wàɗannàn* 'these'), for the sake of consistency I cite the more familiar HLL *waɗàndà* in examples.

labelled 1-RELPRO speakers (henceforth I use (MSG) *wandà* and *wàndà* to represent the two respective RELPRO sets).[6]

These complex RELPROs are compounds made up of a generalized (basically deictic) formative *wa(a)-* which also occurs independently in various interrogative and demonstrative determiners/pronouns, specific indefinite determiners/pronouns (§3.3), and (possibly?) the deictic appositional conjunct *wàtɔ̀* 'that is, namely', plus the definite determiner (MSG/PL -`*n*, FSG -`*C* < * -`*t*, where -C = copy of following consonant) which produces a Fall on the *wâ-*, followed by the simplex REL *dà*, for example, (MSG) *wa(a)* + `*n* + *dà* → *wândà*. The widespread (cross-dialectal) surface HL forms *wandà* (MSG), *waddà* = *waccè* (FSG) are generated as follows: FL (MSG) *wândà* → HL *wandà*, following simplification of the F to H before the REL *dà*, and to simplify the discussion, I will use this HL (*wandà*) variant for illustrative purposes. (Although the [underlying/ historically original] FL *wândà* RELPROs are recorded in grammars and dictionaries, their synchronic status and distribution are uncertain.) The feminine singular variant *waccè* (?also FL *wâccè*) is anomalous in suffixing what is probably an allomorph (*-cè*) of the *cɛ̀* feminine copula (with no REL *dà*). (The plural pronoun also contains the *-ɗàn-* pluralizer.) The segmentally identical all L (MSG, FSG, PL) *wàndà, wàddà = wàccè, wàɗàndà* variants are (minimally) distinct in having a L tone on the initial syllable.

For many of the 2-RELPRO speakers with the HL (*wandà*) vs. all L (*wàndà*) distinction in their grammars, the distribution of the two variants in restrictive RCs seems to be largely determined by the [±identifiable] features of the referent, and the following form-meaning correlations hold:[7] (a) if the referent of the RELPRO is hearer-*new* (assumed not to be hearer-identifiable, non-presupposed), then HL *wandà* is strongly preferred (the same form used with indefinite heads, §3.3); (b) if the referent of the RELPRO is hearer-*old* (assumed to be hearer-identifiable, presupposed), then there is a discernible bias towards

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[6] 2-RELPRO speakers include (dialect areas repeated for convenience): Mahamane Lawali Abdoulaye (Maradi/Katsina), Mahaman Bachir Attouman (Zinder/Damagaram), Abdullahi Bature (Kano, = *HYDK* speaker), Malami Buba (Sokoto, = *HNR* speaker), Aliyu Bunza (Birnin Kebbi/Sokoto), Pascal de Campos (Matamaye/Damagaram), Abdulkadir Mansur Funtua (Funtuwa), Muhammadu Mustafa Gwadabe (Kano), and Usman Muhammed (Kano, = *AHR* speaker). Mustapha Ahmad (Kano) and Lawan Danladi Yalwa (Kano) are 1-RELPRO speakers [p.c., 1997].

[7] This is possibly one area of the grammar of RC formation where the form-meaning correlation in question is more consistent and stable for some (2-RELPRO) speakers than for others, i.e., where the system is scalar rather than discrete (perhaps a sign of language change in progress)—compare, too, the focus vs. non-focus TAM variation in non-restrictives (§4.2.2). It is still possible, however, to extrapolate from the attested data and capture key form-function correlations which are valid for a significant number of speakers, in the same way that important generalizations about RCs in English remain available despite inter- and intra-speaker variation [Quirk et al. 1985: 1239ff].

RELATIVE PRONOUNS	REFERENT = NEW	REFERENT = OLD
2-RELPRO speakers = HL(L) *wandà* (MSG) *waddà* (= *waccè*) (FSG) *wad'àndà* (= *wàd'andà*) (PL) + all L *wàndà* (MSG) *wàddà* (= *wàccè*) (FSG), *wàd'àndà* (PL) 'the one(s) who(m), which, that, etc.'	HL *wandà*, etc. (? all L *wàndà*, etc.)	all L *wàndà*, etc. (? HL *wandà*, etc.)
1-RELPRO speakers = only HL(L) *wandà* (MSG) *waddà* (= *waccè*) (FSG) *wad'àndà* (= *wàd'andà*) (PL) 'the one(s) who(m), which, that, etc.'	HL *wandà*, etc.	HL *wandà*, etc.

Table 1: Proforms in Restrictive Relative Clauses.

the all L tone *wàndà* variant.[8] (As we shall see below (§4.2), a previously unknown but key function of the all L tone *wàndà* allomorph is also to act as the marker of NRRCs for 2-RELPRO speakers.) Table 1 above summarizes the distributional RELPRO facts.

3.2.1. Hearer-new referent = HL *wandà* proform. Examples (9-15) contain RELPROs which replace NP heads (referents) which are hearer-new in the sense that the speaker assumes they do not exist within the hearer's knowledge store; with such nonpresupposed (first mention) referents, HL *wandà* is the strongly preferred proform choice for 2-RELPRO speakers.

[8] The correlation between morphology (syntax) and the cognitive status of referents is also a feature of the demonstrative system [Buba 1997a], where the posthead and prehead demonstrative determiners typically encode identifiable and non-identifiable referents respectively, e.g., *gà littāfin-nân* 'here is this/the book' (= hearer-old, prementioned, e.g., you asked me to bring it) vs. *gà wannàn littāfì* 'here is this book' (= hearer-new, no prior mention).

HEARER-NEW RELATIVE PROFORMS

(9) *tồ àmmā duk dà hakà, àkwai waɗàndà kè ganin cêwā ...*
OK but nevertheless EXIST RELPRO(PL) FOC-IMPF see.VN.of that
'OK but nevertheless, there are those who feel that ...' [*AHR*: 3]

(10) *à wajen indà ya kàmātà à řubůtà*
in place.of where 3MSG.FOC-PF be appropriate 4PL.SUBJ write

wandà ya aikå̀ dà àkwå̀tìn ... [*AHR*: 1]
RELPRO(MSG) 3MSG.FOC-PF send crate.DD(MSG)
'and where the name of the one (MSG) that sent the crate should have been written ...'

(11) *bàri nà gayå̀ makà lå̀bāřìn*
let.IMP 1SG.SUBJ tell to.2MSG news.of

waccè na ganī jiyà
RELPRO(FSG) 1SG.FOC-PF see yesterday
'let me tell you about the one (FSG) that I saw yesterday'

The same HL *wandà* RELPRO cooccurs with the universal determiner *duk* 'all, every' to introduce concessive-conditional constructions with indefinite, non-referring (personal) 'anyone who, whoever, etc.' readings (12-13), in addition to other non-specific generic constructions. It is also used in relative constructions following a negative existential marker (= 'no-one, etc.', lit. 'there is not the one that'), as in (15).

(12) *duk wandà* (= *wandà duk*) *ya yi hakà wāwā nè*
all RELPRO(MSG) 3MSG.FOC-PF do this fool COP(MSG)
'anyone who did this is a fool'

(13) *duk wandà* (= *wandà duk*) *ya san asalin*
all RELPRO(MSG) 3MSG.FOC-PF know origin.of

wannàn rìkicī ...
DEM(SG) conflict
'anyone who knows the origin of this conflict ...'

(14) *irìn wannàn aikì, sai wandà ya ganī*
kind.of DEM(SG) work, only RELPRO(MSG) 3MSG.FOC-PF see

dà idònsà
with eye.of.3MSG
'this kind of work has to be seen to be believed'
[lit. only the one who has seen with his eye]

(15) *bābù wandà ya san asalin wannàn rìkicī*
NEG EXIST RELPRO(MSG) 3MSG.FOC-PF know origin.of DEM(SG) conflict
'no-one knows the origin of this conflict'

3.2.2. Hearer-old referent = all L *wàndà* proform. If the referent is hearer-old—assumed to be either identifiable from the preceding discourse (anaphoric) or context-inferrable—then most 2-RELPRO speakers favour the monotonic all L *wàndà* proforms, i.e., where the initial syllable (*wàn*) has an unstressed L tone (as opposed to the initial stressed H tone of the heterotonic HL *wandà* variant). This correspondence between the all L tone anaphor and the [+ identifiable] cognitive status of the referent is not accidental; it is also a feature of the Hausa pronominal system, another deictic-anaphoric domain where weak direct object, possessive and indirect pronoun clitics carry a lexically specific L tone, for example, (3PL) *-sù* 'them', *-n-sù* 'their', *mu-sù* 'to them'. Given the available choice between a strongly stressed and weakly stressed form, it is not surprising (all other things being equal) that these speakers exploit the relatively unstressed all L variant to code situationally given/old information (consider, too, the fact that presupposed information in English carries weak stress within the tone unit [Quirk et al. 1985:1360ff]). Use of the weak all L RELPRO thus acts to reflect the reduced semantic weight and "communicative dynamism" of the presupposed referent [Firbas 1971]. Examples in (16-19) illustrate the use of all L anaphoric *wàndà* to coindex an overtly expressed antecedent. Notice the use in (18-19) of the additional (definite) markers

HEARER-OLD RELATIVE PROFORMS

(16) *ita cè wàddà nakè sô*
3FSG COP(FSG) RELPRO(FSG) 1SG.FOC-IMPF love.VN
'SHE is the one I love'

(17) *in ya jē wancàn gidā*
if 3MSG.FOC-PF go to DEM(MSG) house

ya gānà dà wàddà kè can ...
3MSG.FOC-PF talk with RELPRO(FSG) FOC-IMPF there
'if he goes to that house and talks with the one who (FSG) is there ...'
[Katsina 1982:11, transcribed in Buba 1997a:242]

(18) *làbārìn yā ci gàba dà cêwā wàɗàndà*
story.DD(MSG) 3MSG.PF continue with say.VN RELPRO(PL)

sukà mutù ɗîn ...
3PL.FOC-PF die DIN
'the story added that those who had died ...'

(19) *wàndà* *ya* *ɓatà-n* ...
RELPRO(MSG) 3MSG.FOC-PF get lost-DD(MSG)
'the one that got lost ...' [Buba 1997a:173, taken from Parsons 1981:42]

in RC clause-final position—deictic-anaphoric *ɗ'în* 'the one(s) referred to' in (18) (see also Buba [1997b]), and a (default MSG -`*n*) definite determiner therefore, the [+identifiable] status of the referents in examples like (18-19) is expressed by a combination of an all L RELPRO plus a definite marker.

Examples (20-21) nicely illustrate the all L *wàndà* [+identifiable] vs. HL *wandà* [-identifiable] form-meaning contrast using the HLL *waɗàndà* (PL) RELPRO to index a new referent (20), but switching to the all L *wàɗàndà* RELPRO to anaphorize now pre-established (hearer-old) discourse-referents (21).

(20) [A policeman arrives at the scene of an accident and asks]
àkwai waɗàndà *sukà* *ga haɗàřîn*?
EXIST RELPRO(PL) 3PL.FOC-PF see accident.DD(MSG)
'are there any who saw the accident?'

(21) [Sometime later the same policeman returns and asks the same people]
ìnā *wàɗàndà* *sukà* *ga haɗàřîn*?
where RELPRO(PL) 3PL.FOC-PF see accident.DD(MSG)
'where are the ones that saw the accident?'

Fragments (22-23) illustrate the use of all L *wàndà* to express entities which have no overt linguistic antecedent but are assumed to be recoverable from context (= discourse-new definite referents).

(22) a. *bāyan shèkarà gùdā nè* *kuma*
after year one COP(MSG) and

b. *àl'amàřîn* *na* *Ùmařù Dikkò ya* *kai* *gà*
case.DD(MSG) of(MSG) Umaru Dikko 3MSG.FOC-PF reach to

wani *sābon matsayī*
SID(MSG) new.of position

c. *bāyân dà akà* *sācè* *shi* *à Ingìlà.*
after 4PL.FOC-PF kidnap 3MSG in England

d. *Wàɗàndà* *sukà* *yi niyyàř* *sācè* *shîn* ... [*AHR*:1]
RELPRO(PL) 3PL.FOC-PF do intention.of kidnap 3MSG.DD(MSG)

'One year later Umaru Dikko's situation reached a new turning-point after he was kidnapped in England. Those who planned to kidnap him ...

(23) a. *... aràngamà dà zub dà jinī ... tsàkānin ɗ'àlìbai dà kuma 'yan sàndā.*
clash and spill blood between students and also policemen

b. *Wàɗ'àndà sukà ràsu ...* [*AHR*:99]
RELPRO(PL) 3PL.FOC-PF die
'... the bloody clashes between students and police. Those who died ...'

For 2-RELPRO speakers, all L *wàndà* also introduces proverbs used to illustrate a particular action/event, and it is selected in this context because the hearer is assumed to share the (old) knowledge and beliefs expressed in the proverb, for example, (said in reference to someone who has committed a senseless act regardless of the consequences).

(24) *wàndà bài ji 'bàri' ba,*
RELPRO(MSG) NEG PF.3MSG hear stop.IMP NEG

yâ ji 'ồhō'
3MSG.POT hear it's not my concern
'better safe than sorry'
[lit. 'the one who doesn't hear "stop" will hear "it's not my concern"']

3.3. Restrictives with indefinite heads. In cases where the RRC functions to characterize or describe a hearer-new indefinite head NP, the RRC can be introduced either by the same simplex REL *dà* used to code definite heads (§3.2), or by the complex coreferential RELPRO which reads the gender-number features off the indefinite head. If a complex RELPRO is used to postmodify an indefinite antecedent, 2-RELPRO speakers strongly prefer the HL *wandà* variant (the same form which substitutes as a proform for hearer-new NP referents, §3.2.1). (Rufa'i [1983:421-22] records only explicit RELPROs with indefinite antecedents, but the *dà* REL is, in fact, commonly used; see below.) If the indefinite head is referentially specific, it is premodified by an appropriate form of the gender/number-inflected specific indefinite determiner (SID) *wani/wata/wa(ɗ'an)su* (MSG/FSG/PL) 'a (certain), some', yielding a SID NP $_{RC}$[*dà/wandà* INFL (Focus) VP...] configuration, as examples (25-30) illustrate. Example (30) illustrates the same phenomenon with a nonverbal predicate.

SPECIFIC INDEFINITE HEAD

(25) *wasu yârā dà/waɗ'àndà sukà ga haɗ'àrîn*
SID(PL) boys REL/RELPRO(PL) 3PL.FOC-PF see accident.DD(MSG)

sun gayà wà 'yan sàndā kōmē
3PL.PF tell to police everything
'some [specific] boys that saw the accident told the police everything'

(26) *wani* *yārò̀* *dà*/*wandà* *kɛ̀* *nan* *à* *lōkàcîn*
SID(MSG) boy REL/RELPRO(MSG) FOC-IMPF there at time.DD(MSG)

yā *ga* *kōmē*
3MSG.PF see everything
'a [specific] boy that was there at the time saw everything'

(27) *nā* *hàd'u* *dà* *wata* *yārinyà̀* *dà*/*waddà* *akɛ̀*
1SG.PF meet with SID(FSG) girl REL/RELPRO(FSG) 4PL.FOC-IMPF

kiràntà *Dɛ̀lu*
call.VN.of.3FSG Delu
'I met a [specific] girl who's called Delu'

(28) *dà* *ya* *shìga* *cikin* *d'ākì̀* *sai* *ya* *îskē*
when 3MSG.FOC-PF enter in room then 3MSG.FOC-PF find

wasu *mutà̀nē* *dà*/*wad'àndà* *sukà* *rà̀yu*
SID(PL) people REL/RELPRO(PL) 3PL.FOC-PF survive
'when he entered the room he found some [specific] people who'd survived'

(29) *inà̀* *nēman* *wani* *māgànī* *dà*/*wandà*
1SG.IMPF look for.VN.of SID(MSG) medicine REL/RELPRO(MSG)

zâi *warkaf̌* *dà* *nī*
FUT.3MSG cure 1SG
'I'm looking for a [specific] medicine that will cure me'

(30) *àkwai* *wasu* *mutà̀nē* *dà*/*wad'àndà* *aikìnsù* *kawài* *rɔ̀kō*
EXIST SID(PL) men REL/RELPRO(PL) job.of.3PL only begging
'there are some men whose only job is begging'

The presence of the prehead SID with a specific-indefinite NP is required independently of RC formation [Jaggar 1988], and the SID can in fact function as a lexical head in its own right, as illustrated, for example, in (31).

(31) *wani* *dà*/*wandà* *akà* *yi* *had'àřîn*
SID(MSG) REL/RELPRO(MSG) 4PL.FOC-PF do accident.DD(MSG)

à *idònsà* *yā* *cê* ...
in eye.of.3MSG 3MSG.PF say
'an eyewitness to the accident said that ... [lit. a certain one who...]'

To signal an additive-incremental 'another X, some other Xs, etc.' reading, the head NP also suffixes the definite determiner (which then licenses only simplex REL *dà*), as in (32).

(32) *wasu yârâ-n dà sukà ga haɗàřîn ...* (cf. ex. 25)
SID(PL) boys-DD(PL) REL 3PL.FOC-PF see accident.DD(MSG)
'some other boys who saw the accident ...'

If the indefinite head NP is non-specific, it appears as a bare nominal (again this is an independently-occurring feature not limited to RC formation), and either the inflected RELPRO or basic REL are possible in the RC, as in (33-36).

NON-SPECIFIC INDEFINITE HEAD

(33) *sun ɗ'àuki ma'àikàtā waɗàndà/dà sukà ƙwarɛ̀ sòsai*
3PL.PF take workers RELPRO(PL)/REL 3PL.FOC-PF be experienced really
'they've taken on workers that have a lot of experience'

(34) *mutầnē waɗàndà/dà kɛ̀ cikin ɗ'ākunànsù sun gudù*
people RELPRO(PL)/REL FOC-IMPF in huts.of.3PL 3pl.PF run away
don tsòrō
because of fear
'people who were in their huts ran away in fear'

(35) *àkwai kāyā waɗàndà/dà akɛ̀ sâwā lōkàcin zāfī*
EXIST clothes RELPRO(PL)/REL 4PL.FOC-IMPF put on.VN time.of heat
'there are clothes that are worn during warm weather'

(36) *àkwai mutầnē waɗàndà/dà bā sầ sôn irìn wannàn*
EXIST people RELPRO(PL)/REL NEG 3PL.IMPF like.VN.of kind.of DEM(SG)
'there are people who don't like this kind of thing'

Non-count mass nouns usually appear in the bare form (SID-determination of mass nouns in general is unusual, except in the additive-incremental 'another, some other' sense), and speakers seem to have no strong preference with regard to RELPRO *wandà* or REL *dà* in the postnominal RC.

(37) *nā sayō dāwầ waccɛ̀/dà zân yi tuwō dà ita*
1SG.PF buy guineacorn RELPRO(FSG)/REL FUT.1SG make tuwo with 3FSG
'I've bought (some) guineacorn that I'll make *tuwo* (food) with'

3.4. Use of non-focus (*sun, sunà*, etc.) INFL in restrictive RCs. Although it is generally held that RRCs behave categorically with regard to selection of the focus INFL form from within the perfective and imperfective paradigms, scrutiny of a larger corpus of RC data reveals that this "rule" can (for some speakers) be overridden in favour of a non-focus INFL, though only if the following syntactic condition (there could be others) is satisfied—the REL *dà* (or RELPRO *wandà*) is separated from the following INFL by some element. The intervening material typically consists of a time adverb (simple or complex), for example, *kullum* 'always, every day', *kōyàushē* 'always', *tun tùni* '(since) long ago'; a quantifier, for example, *duk(à)* 'all, every'; or a full adverbial clause; and the preference for a non-focus INFL increases in proportion to the complexity (length) of the interposed adverbial constituent (= distance between REL(PRO) and INFL). For convenience, we shall use the cover-term "adverbial-insertion" to refer to this apparently structure-dependent behaviour, and note also that it seems to be considered more acceptable among speakers of (Standard) Kano Hausa. (Abraham [1940:86] had in fact already remarked on the phenomenon ("when *dà* is separated from its verb"), citing the (restrictive) example *yā tunà dà màganàř ùbansà dà kullum yanà cêwā* ... 'he remembered the words of his father who always used to say ...', but the significance of his observation was overlooked.) Examples (38-42) illustrate (with definite NP, indefinite NP and proform heads).

NON-FOCUS INFL IN RESTRICTIVES WITH ADVERBIAL-INSERTION

(38) a. *wàkīlìnmù yā yi hīřa dà*
reporter.of.1PL 3MSG.PF do talk with

b. *wasu mutànē dà tun tùni sukà* (= *sun*) *san*
SID(PL) people REL since long ago 3PL.FOC-PF (= 3PL.PF) know

àbîn dà ya tā dà rìkicîn
thing.DD(MSG) REL 3MSG.FOC-PF raise crisis.DD(MSG)
'our reporter talked with some people who long ago knew what had triggered the crisis'

(39) *sun ɗàuki ma'àikàtā waɗàndà dâ mā sukà* (= *sun*)
3PL.PF take workers RELPRO(PL) all along 3PL.FOC-PF (= 3PL.PF)

ƙwarè wajen aikìnsù
be expert place.of job.of.3PL
'they've taken on workers who all along have been experts in their jobs'

(40) a. *wàkīlìnmù yā yi hīřa dà*
reporter.of.1PL 3MSG.PF do talk with

b. *wasu àlhàzai dà duk shèkarà sukè* (= *sunà*) *zuwà*
SID(PL) pilgrims REL every year 3PL.FOC-IMPF (= 3PL.IMPF) go.VN

aikìn hajì
work.of pilgrimage

'our reporter talked with some pilgrims who annually go on pilgrimage [to Mecca]'

(41) *ìnā ɗàlìbân nan dà kōyàushē sukè* (= *sunà*)
where students.DD(PL) DEM REL always 3PL.FOC-IMPF (= 3pl.IMPF)

zuwà ajìn nân?
come.VN class.DD(MSG) DEM

'where are those students who always come to this class?'

(42) *fāsinjōjîn dà duk(k)ànsù/dà dāmařsù/dà yawànsù*
passengers.DD(PL) REL all.of.3PL/many.of.3PL/most.of.3PL

sukà (= *sun*) *ji ràunī an kwantař dà sū*
3PL.FOC-PF (= 3PL.PF) feel injury 4PL.PF lay down 3PL

'all/many/most of the passengers who were injured have been admitted to hospital'

In examples (38-42) selection of the non-focus TAM (as a second-choice alternative to the focus TAM) is licensed by the intrusion of the temporal adverbs *tun tùni* 'for some time, since long ago' (38), *dâ mā* 'all along, from the start' (39), *duk shèkarà* 'annually, every year' (40b), *kōyàushē* 'always, regularly' (41), and the quantifiers *duk(k)ànsù* 'all of them', *dà dāmařsù/dà yawànsù* 'many/most of them' (42), between REL and INFL.[9] A possible explanation for this phenomenon derives from the fact that (universal) quantifiers and non-punctual, time-duration adverbs would normally be positioned in (S-initial) pre-INFL position in the related independent sentences (minus any focal elements), without triggering a focus INFL, and that speakers who allow the non-focus INFL in such as (38-42) are simply generalizing this rule to (restrictive) RC environments.

[9] I leave aside (for further research) the interesting question of why adverbial-insertion apparently does not license a non-focus INFL following left periphery WH-movement of interrogative and focus phrases (which target the same clause-initial position).

Although the above examples illustrate the TAM variation with both perfective (38-39, 42) and imperfective (40-41) INFLs, speakers are generally more willing to accept a non-focus form with the imperfective, a preference which extends to subordinate adverbial clauses introduced by temporal conjunctions such as *lōkàcîn dà/yǎyîn dà* 'when', which are lexicalized adnominal (restrictive) relative formations (lit. 'the time that'), as in (43), for example. (For some speakers, use of the focus INFL *nakè* in the time-clause in (43) would introduce a slightly more specific reading.). In (44) only the focus perfective INFL (*sukà*) is considered grammatical.

(43) *lōkàcîn dà/yǎyîn dà nakè (= inǎ) yārǒ*
time.DD(MSG) REL/time.DD(MSG) REL 1SG.FOC-IMPF (= 1SG.IMPF) boy

bǎbānā yā shā gayǎ mîn ...
father.of.1SG 3MSG.PF do often tell to.1SG
'when I was a boy my father often told me ...'

(44) *lōkàcîn dà/yǎyîn dà sukà (*sun) kai gidā*
time.DD(MSG) REL/time.DD(MSG) REL 3PL.FOC-PF (*3PL.PF) reach home

sai sukà tarař dà shī nan
then 3PL.FOC-PF find 3MSG there
'when they reached home they found him there'

This variability across tense-aspect has a natural explanation: the focus perfective is required in contexts like (44) because its main (deictic) narrative function is to narrow down the temporal and locational properties of core punctual events, thereby framing specific time-positions in strict narrative sequence (see also fn. 4). The imperfective, on the other hand, serves only to encode supportive, nonpunctual background information which is external to the event-line narrative structure, and so can take the non-focus form as in (43) where there is a temporal overlap of the two (simultaneous) situations in the root and subordinate clauses. (See also Abraham [1959:163] and Abdoulaye [1992:66].)

Whereas speakers are sometimes uncertain about the inflectional focus:non-focus choice in contexts such as (38-42) (the choice is not equally determinate in all contexts), non-focus forms become increasingly felicitous for all speakers when the adverbial material inserted between the REL and INFL is morpho-syntactically complex. A "heavy" adverbial clause, for example, increases the distance between the REL and INFL, and so enhances the acceptability of a non-focus INFL (for some speakers clause-intervention actually rules out (or marginalizes) use of a focus form, as in (46c)).

(45) a. *ai, mutànên nan dà tun sunà yârā*
well people.DD(PL) DEM REL since 3PL.IMPF children

sukè (= *sunà*) *yîn hakà,*
3PL.FOC-IMPF (= 3pl.IMPF) do.VN.of this

b. *bà zâi yìwu sù gyārà halinsù ba*
NEG FUT.3MSG be possible 3PL.SUBJ repair character.of.3PL NEG
'well, those people who since childhood have been doing this, will never mend their ways'

(46) a. *sū nè sākàřkařûn nan dà,*
3PL COP(PL) fools.DD(PL) DEM REL

b. *kōdàyakè nā shā gayà musù sù dainà,*
although 1SG.PF do often tell to.3PL 3PL.SUBJ stop

c. *àmmā sun* (?*sukà*) *ci gàba dà sākařcìnsù*
but 3PL.PF (?3PL.FOC-PF) continue with foolishness.of.3PL
'they are those fools who, even though I kept on telling them to stop, continued with their foolishness'

Table 2 summarizes our explication of the grammar of restrictive RCs with definite and indefinite head NPs and proforms.

MORPHOSYNTAX	DEFINITE HEAD (hearer-old)	INDEFINITE HEAD (hearer-new)
DEFINITE DETERMINER/DEMONSTRATIVE	√	
INDEFINITE DETERMINER (SPECIFIC)		√
REL *dà*	√	√
RELPRO/PROFORM = HL *wandà* etc. 1-RELPRO speakers	√ *wandà* etc.	√ *wandà* etc.
2-RELPRO speakers	(? *wandà* etc.)	√ *wandà* etc.
RELPRO/PROFORM = all L *wàndà* etc. (= 2-RELPRO speakers only)	√ *wàndà* etc.	(? *wàndà* etc.)
FOCUS INFL (Perfective/Imperfective)	√	√
NONFOCUS INFL (Perfective/Imperfective) [with REL ↓ INFL adverbial-insertion]	√	√

Table 2. Morphosyntax of restrictive RCs with definite and indefinite heads (NPs and proforms).

4. Non-restrictive relative clauses

4.1. Background. Although non-restrictives are a well-established and identifiable feature of the grammar of relative clause formation in present-day Hausa, they have received surprisingly little attention in standard reference works (e.g., grammars, dictionaries), and conventional descriptions of RCs have concentrated on the more productive restrictive type (§3). Parsons [1981:46ff (original paper presented in 1972)] was, to my knowledge, the first to recognize the significant fact that Hausa *does* make a formal distinction between ("is pretty hot on") restrictive and non-restrictive RCs (see also Kraft & Kirk-Greene [1973:106, fn. 4]). Apart from orthographically marking off NRRCs with commas in the Hausa examples and English glosses, indicating that he was aware of the diagnostic pre-NRRC pause (a prosodic feature also noted by Gouffé [1964:46]), Parsons proposed [p. 48] that the one (syntactic) property distinguishing the two RC-types was that the rule requiring the focus form of the (perfective/imperfective) TAM could be overridden in non-restrictive (but not restrictive) RCs. Parsons illustrated this feature with two NRRC examples in which the RELPRO is separated from the INFL either by a sequence of subordinate adverbial clauses, for example, (tones [all L for 2-RELPRO speakers] and vowel length added, RELPROs and INFLs underlined) *gà madàkā ƙâttī bìye dà sarkī, <u>wàɗ'àndà</u>, kō wutā sarkī ya cè sù fāɗ'à, kàfin yà rufà bàkī, <u>sun</u> kai* 'there were stalwart henchmen in the king's train, who, were the king to order them to jump into fire, before he had closed his lips they would be in it', or a simple temporal adverb, for example, ... *kō dājì mā bà yâ yàřda yà fitō ba, <u>wàndà</u> kullum <u>yanà</u> can ƁÒye cikin gàrī* '... he [the he-goat] would never even dare to come out into the bush, [a creature] who is skulking back in the town all the time'. Parsons' intuitions in this regard were (as usual!) basically on the right track—the non-focus paradigm can indeed be exploited in non-restrictives—but the structural conditions for selection of the non-focus INFL can in fact be explicitly extended as follows: (1) as already observed in §3.4, selection of a non-focus INFL is also felicitous in RRCs when adverbial material has been interposed between the REL(PRO) and INFL; (2) as we shall see in §4.2, an intriguing and unique feature of NRRC formation is that (for many speakers) adverbial-insertion is not a necessary precondition for selection of a non-focus INFL.

McConvell [1973: 109ff] chose to describe and analyze NRRCs in Hausa as "right-dislocated topic NP's which are marked off from the rest of the sentence by a pause", and correctly observed that the "relative clause [topic]...must begin with the full relative forms *wàndà/wàddà/wàɗ'àndà*, etc., and not simply with the relativizer *dà*" (tones provided).

Rufa'i [1983] divided Hausa RCs into "defining" (= restrictive) and "non-defining" (= non-restrictive) types on the basis of whether the head NP is "definite" or "indefinite". Rufa'i's definitions are sometimes mutually incon-

sistent, however, and it is by no means clear from his analysis how the above categories are meant to interact. (As we shall see in due course, whereas the external antecedents of RRCs may be definite or indefinite (§§3.1, 3.3), NRRC heads are overwhelmingly definite (§4.2).)

In Jaggar [1992], in the course of transcribing the texts read out aloud by a Kano Hausa speaker (and recorded on the accompanying cassette-tapes), I encountered what at the time seemed a surprising number of explicit RELPROs with distinctive *ALL L TONES*, i.e., (MSG, FSG, PL) *wàndà*, *wàddà* = *wàccè*, *wàd'àndà* vs. HL(L) *wandà*, *waddà* = *waccè*, *wad'àndà* (a number of which are cited in this paper). Several Hausa dictionaries and grammars had in fact already identified these all L tone RELPROs, beginning over 60 years ago with Bargery [1934:1078], who included the following tonally distinct variants: HL(L) *wandà*, *waddà* = *waccè*, *wad'àndà* (MSG, FSG, PL), FL/HLL *wândà*, *wâddà* = *wâccè*, *wad'àndà*, and all L *wàndà*, *wàddà* = *wàccè*, *wàd'àndà*. This information was repeated in Abraham [1940:87, 1962:920], Kraft & Kraft [1973:301], and more recently, the all L (FSG) form *wàccè* is cited in Newman [1990:304]. However, none of these distinctive all L *wàndà* variants have ever been systematically exemplified in any kind of naturally-occurring context (and were presumably thought to be in free variation with the HL *wandà* forms). Because I felt that the all L variants would prove to be of some functional-distributional significance, I decided to flag them in the texts and offered a tentative explanation of their occurrence [Jaggar 1992]. However, my proposal that the choice between HL *wandà* and all L *wàndà* might be controlled by the syntactic role of the antecedent head—if it is the subject of the RC then HL *wandà* is selected, if nonsubject then all L *wàndà* occurs (p. xi, fn. 3)—was just plain wrong. It turns out that these allomorphs *are* indeed in (near) complementary distribution with each other, but the key (semantic) determinant—which I completely missed at the time but which is now so obvious—is whether the RC they introduce is restrictive or non-restrictive.

It is clear from this background that the defining features of non-restrictive RCs have been available in isolation for some time, but no one had recognized their collective significance and attempted to integrate them into a coherent and principled system (the facts are old but the discovery of their function and systematic co-patterning is new). Each of the above writers independently presented a piece of (mainly morphosyntactic) evidence critical to our overall understanding of the problem, but what was needed was an empirically-based study which could draw together the various strands and provide a unified account of the attested facts. This paper demonstrates that the restrictive:non-restrictive RC dichotomy is indeed a valid one for Hausa, and that the two subtypes are differentiated by non-trivial constraints on form and meaning.

4.2. Form and function of non-restrictives. Unlike RRCs, NRRCs do not function to narrowly limit the domain of relativization, but simply add non-essential, parenthetical information about the antecedent head. (The information contained in the NRRC can be pertinent, but it does not affect the designational properties of the head.)[10] The head itself is almost always definite and is construed either as unique or as a member of an independently identifiable set. NRRCs have the following defining formal (and intonational) properties:

A. They are introduced (= 2-RELPRO speakers) by the *ALL L TONE* allomorph of the complex RELPRO (MSG/FSG/PL) *wàndà/wàddà* = *wàccè/wàd'àndà* (§4.2.1).

B. Because they do not have the specifying power of restrictive RCs, non-restrictives license a wider range of TAM options (§4.2.2). In NRRCs, many speakers permit *either* the same focus (*sukà*, *sukè*, etc.) form of the INFL as occurs in RRCs, *or* use the (neutral) non-focus (*sun*, *sunà*, etc.) paradigm of the INFL as a possible alternative.

C. NRRCs have an identifiable prosodic composition. Intonationally, the appositional ("afterthought") status of the NRRC is often represented by a distinct tone unit, initiated (and completed) by a discernible break in the sentence prosody (= orthographic commas), and there is an audible key-shift to a lower overall pitch.

In addition to these distinctive morphosyntactic and prosodic properties, which are in (near) complementary distribution with RRCs,[11] NRRCs are also genre-specific in that they are characteristic of more formal planned discourse (e.g., modern journalistic Hausa, product advertizing), and so are not as productive and dominant as RRCs.[12]

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[10] Although the information they provide is typically non-essential, there are contexts where NRRCs may convey supplementive information which can assume a explanatory/causal role, as for example in (i) below.

(i) *yāròn, wàndà yakè tsòron cidà, yā kāsà barcī*
boy.DD(MSG) RELPRO(MSG) 3MSG.FOC-IMPF fear.of thunder 3MSG.PF be unable sleep
'the boy, who was afraid of the sound of thunder, couldn't sleep'

[11] The examples in this paper have been deliberately selected to illustrate clearcut tokens of prototypical non-restrictives in an instructive and unambiguous way. This does not preclude the possibility, however, that difficulties may sometimes arise in distinguishing between restrictive and non-restrictive RCs in Hausa, e.g., due to confusion in on-line processing. (Cf. Quirk et al. [1985:1259n] on similar discrimination problems in English.)

[12] The corpus contains no tokens of non-restrictives in spontaneous, casual conversations. (Fox & Thompson [1990:297, fn. 2] report a similar distribution for their English corpus, finding "on

continued on next page...

Examples (47-55) illustrate the formal properties of NRRCs with INFLs[13] and independently-identifiable definite heads,[14] for example, with a restrictive RC (47, 53), with an NP + possessive pronoun (48, 49), with a proper name (51), with an NP + definite determiner (52, 55).

Notice the discrepancy in number between the (masculine) singular RELPRO *wàndà* (47b) and the coreferential plural count NP *irìn kāyàyyakîn* 'the kinds of crops' (47a) which triggers 3PL grammatical agreement on the following INFL *sun* in (47b) (the 'normal' rule requires the RELPRO to copy the number (and gender) features of the head). An equally common number-concord "mismatch" is also attested with (other deictic) NPs containing pre-head demonstrative determiners (see also Parsons [1960:129, fn. 2]).[15]

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intonational grounds...no clear cases of nonrestrictive relative clauses" in their conversational data base.)

[13] NRRCs can occur without a verb and INFL constituent, for example, (existential, equational):

(i) *akà yi wani sarkī,*
4PL.FOC-PF do SID(MSG) emir

wàndà duk ƙasâř bābù mài ařzìkī kàmařsà [Imam 1970:8]
RELPRO(MSG) whole country.DD(FSG) NEG EXIST one with riches like.of.3MSG

'there was an emir, who was the richest person in the whole country'

(ii) *waɗànnân yârân, wàɗàndà dukkànsù matàsā nề,*
DEM(PL) boys.DD(PL) RELPRO(PL) all.of.3PL adolescents COP(PL)

sun zō kàsuwā ...
3PL.PF come to market

'these boys, who were all adolescents, had come to the market ...'

[14] Although definite heads are by far the overwhelming norm in NRRCs, indefinite antecedents are occasionally encountered, for example:

(i) *dâ an yi wani sarkī,*
formerly 4PL.PF do SID(MSG) emir

wàndà akề sônsà ƙwařai
RELPRO(MSG) 4PL.FOC-IMPF like.VN.of.3MSG extremely

'there was once an emir, who was extremely well liked'

[15] Examples:

(i) *wannàn (= waɗànnân) tagwầyen hanyōyîn dà sukà tāshì*
DEM(SG) (= DEM(PL)) twins.of roads.DD(PL) REL 3PL.FOC-PF start

tun dàgà Tītìn Mando [*HNR*:18]
right from Street.of Mando

'this divided highway [lit. this twins of roads] which starts right from Mando Street'

(ii) *kàmař yaddà kukề ganī à wannàn (= waɗànnân) hōtunầ*
like how 2PL.FOC-IMPF see.VN in DEM(SG) (= DEM(PL)) photos

'as you see in these [lit. this] shots (photos)' [*HYDK*: SAKA, 52min:50sec]

In examples (i-ii), the singular demonstrative *wannàn* 'this' is used to determine the grammatically plural head NPs *tagwầyen hanyōyī* 'divided highways' and *hōtunầ* 'shots (photos)'.

Notice, too, that because the proform-headed RC in (47c) is semantically restrictive, the RELPRO appears as HLL *waɗàndà* (not all L **wàɗàndà*), and the (imperfective) INFL must take the focus (*akè*) form, not the non-focus (**anà*) form.

NON-RESTRICTIVES WITH ALL L RELPROS + FOCUS OR NON-FOCUS INFLS

(47) a. *yànzu kun ga irìn kāyàyyakîn*
now 2PL.PF see kind.of crops.DD(PL)

dà Bàhaushè yakè nōmǎwā,
REL Hausaman 3MSG.FOC-IMPF farm.VN

b. *wàndà sun* (= *sukà*) *haɗà dà kàmař su dāwà ...*
RELPRO(MSG) 3PL.PF (= 3PL.FOC-PF) join with like 3PL guineacorn

c. *dà kuma waɗàndà akè* (**anà*) *haƙôwā,*
and also RELPRO(PL) 4PL.FOC-IMPF (*4PL.IMPF) dig up.VN

irìn su rōgō ...
kind.of 3PL cassava

[*HYDK*: Noma, 32min:40sec]

'now you've seen the kinds of crops that a Hausaman farms, which include the likes of guineacorn ... and also those that are dug up, like cassava ...'

(48) a. *dà ya tàfi Amìřkà sai ya ga iyǎyensà,*
when 3MSG.FOC-PF go USA then 3MSG.FOC-PF see parents.of.3MSG

b. *wàɗàndà sun* (= *sukà*) *jimà can*
RELPRO(PL) 3PL.PF (= 3PL.FOC-PF) spend time there
'when he went to the USA he saw his parents, who'd been there for some time'

(49) a. *bāyan zàngà-zangàř sai ya kōmà*
after demonstrations.DD(FSG) then 3MSG.FOC-PF return

ƙauyèn iyǎyensà,
village.of parents.of.3MSG

b. *wàndà nà* (= *kè*) *can kudancin ƙasâř*
RELPRO(MSG) IMPF (= FOC-IMPF) there south.of country.DD(FSG)
'after the demonstrations he returned to his parents' village, which was down there in the south of the country'

(50) a. *tồ zā à cikà wurin tàrôn dà* [*HNR*:63]
well FUT 4PL fill place.of meeting.DD(MSG) with

b. *mutầnên dà zā sù dingà yîn màganàř sồkakken*
people.DD(PL) REL FUT 3PL keep on do.VN.of talk.of annulled.of

zầben 12 gà Yūnì,
election.of 12 of June

c. *wàndà (hakàn) nầ (= kề) iyà kāwō*
RELPRO(MSG) (this.DD(MSG)) IMPF (= FOC-IMPF) can bring

tầshe-tầshen hankàlī
disturbances
'well, the meeting will be filled with people who will keep going on about the annulled election of June 12, which could lead to disturbances'

(51) a. *hakà mā Luke d'ālìbinkà,*
so also Luke student.of.2MSG

b. *wàndà à yànzu yanầ (= yakè) jāmi'àř*
RELPRO(MSG) at now 3MSG.IMPF (= 3MSG.FOC-IMPF) university.of

Sakkwato
Sokoto

c. *yanầ (= yakề) kồyon Sakkwatancī,*
3MSG.IMPF (= 3MSG.FOC-IMPF) learn.VN.of Sokoto Hausa

d. *mài yìwuwā mā yā řubūtō makà* [e-mail, 10/94]
with possibility also 3MSG.PF write to.2MSG
'Also your student Luke, who's at Sokoto University now learning Sokoto Hausa, maybe he's also written to you'

(52) a. *nā nūnầ wà Būbà hōtunàn,*
1SG.PF show to Buba photos.DD(PL)

b. *wàndà yā (= ya) nūnầ wà Mànsûř,*
RELPRO(MSG) 3MSG.PF (= 3MSG.FOC-PF) show to Mansur

c. *wàndà kuma yā (= ya) nūnầ wà Bàlā*
RELPRO(MSG) and 3MSG.PF (= 3MSG.FOC-PF) show to Bala
'I showed the photos to Buba, who showed them to Mansur, who showed them to Bala'

(Notice that NRRCs [52b, c], like RRCs, can stack recursively.)

(53) a. *nāmàn macìjîn dà waɗànnân mutânē sukà cînyē,*
meat.of snake.DD(MSG) REL DEM(PL) people 3PL.FOC-PF eat

b. *wàndà kuma yā* (= *ya*) *kusa zamā*
RELPRO(MSG) and 3MSG.PF (= 3MSG.FOC-PF) be near become.VN

sanàdin ajàlinsù ... [AHR:44]
cause.of death.of.3PL
'the snake meat that these people had eaten, and which nearly caused their death ...'

(54) a. *tô, sànā'àř ginìn tukunyā tsōhuwař sànā'à cē,*
well profession.of making.VN.of pot old.of profession COP(FSG)

b. *wàccè tā* (= *ta*) *daɗè*
RELPRO(FSG) 3FSG.PF (= 3FSG.FOC-PF) last long

c. *anà yîntà à ƙasař Hausa*
4PL.IMPF do.VN.of.3FSG in country.of Hausa

[*HYDK*: Ginin Tukwane, 1hr:28min:40sec]

'well, potmaking is an ancient profession, which has been practised for a long time in Hausaland'

(55) a. *ɗàlìbân, wàɗàndà sun* (= *sukà*) *gamà aikìnsù,*
students.DD(PL) RELPRO(PL) 3PL.PF (= 3PL.FOC-PF) finish work.of.3PL

b. *duk sun tàfi*
all 3PL.PF go

'the students, who have finished their work, have all gone'

The above extracts (most of them produced by different speakers in naturalistic, spontaneous contexts and adjudged acceptable by other speakers) illustrate the most interesting cases for present purposes—all L *wàndà*-introduced non-restrictives with non-focus forms of the perfective (*sun*, etc.) and imperfective (*sunà*, etc.) TAMs. Although the corresponding focus (*sukà*, *sukè*, etc.) forms are often encountered in such contexts, and are certainly substitutable in (47-55) with little or no meaning difference (so are added in

parentheses),[16] the fact remains that what we have here are genuine counter-examples to the conventional view that Hausa RCs require a focus INFL, a perceived constraint which has been assumed to follow from exclusively structural considerations.[17] As I will demonstrate below, however (§4.2.2), any explanation of the distribution and increased acceptability of the inflectional non-focus paradigms in NRRCs must refer to semantic (and not simply formal) factors.

Not surprisingly, the same (all L) tone-meaning correlation is also characteristic of non-restrictive adverbial (relative) clauses expressing place, time and manner, which are typically introduced by all L tone RELPROs *ìndà* 'where, when' (non-restrictive *ìndà* is spatial or temporal), and causal *yàddà* 'in such a way that, such that, just as' (variants not recorded by Bargery [1934]). (Elsewhere both HL *indà* 'where' (?also FL *îndà*) and *yaddà* (?also FL *yâddà*) occur in addition to the all L forms.) These compound RELPROs are made up of a WH-element (cf. *ìnā* 'where?', *yầyầ* 'how?') + definite determiner -`*n* + REL *dà* (details of the assimilation and reduction need not concern us here). Examples (56-58) illustrate this.

(56) *à cikin Kàmàřu dà Nầjēřiyầ, ìndà sabồdà yanàyin*
at in Cameroon and Nigeria RELPRO because of climate.of

duwầtsun wurîn ...
mountains.of area.DD(MSG) [*AHR*:69]
'in Cameroon and Nigeria, where because of the climate in the mountains of the area...'

(57) a. *jūyìn mulkìn dà sōjà sukà yi ...*
change.of rule.DD(MSG) REL soldiers 3PL.FOC-PF do

b. *ìndà akà hamɓařař dà gwamnatìn ...* [*AHR*:1]
RELPRO 4PL.FOC-PF overthrow government.DD(MSG)
'the coup which the military pulled off ... when the government was overthrown ...'

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16 Some speakers consider choice of the focus form to be more specific-contrastive, e.g., the use of the focus-perfective INFL *sukà* in (55a), for example, could imply a contrast with other students (who have not finished their work).

17 I am (taking the liberty of) assuming that even though the existence and behaviour of non-restrictives in Hausa have been largely overlooked or ignored, (most) Hausaists would generalize the conditions on their formation and assume that because they entail the same syn-tactic (WH-movement) properties as their better-known restrictive counterparts (§3), they would necessarily be subject to identical tense-aspect restrictions, i.e., the generalization would remain equally secure throughout both domains of application.

(58) a. *gidan fuřsùnàn Kǐřikǐři yā ɓācì,* [*AHR*:113]
house.of prisoner.of Kirikiri 3MSG.PF deteriorate

b. *ta yàddà hař 'yan fuřsùnàn sukàn yi barcī nɛ̀*
via RELPRO even prisoners.DD(PL) 3PL.HAB do sleeping COP(MSG)

kāmǔ-kāmǔ
in shifts
'Kirikiri prison has deteriorated, such that the prisoners sleep in shifts'

(59) a. *ya tāshì ya màngàrē shì*
3MSG.FOC-PF get up 3MSG.FOC-PF hit 3MSG

b. *yàddà ya ga mutɛ̂nên can nɛ̂ yi wà*
RELPRO 3MSG.FOC-PF see people.DD(PL) DEM IMPF do to

'yā'yɛ̂yensù
children.of.3PL
'he got up and hit him, like he saw those people doing to their children'
[Imam 1970:7, transcribed in Buba 1997a:238]

4.2.1. All L tone (*wàndà*) RELPRO and lower overall register. For those (2-RELPRO) speakers with the additional all L tone RELPRO in their grammars, a diagnostic (and previously unreported) property of appositional NRRCs is that they are introduced by the same all L tone *wàndà/wàddà/wàd'àndà* (MSG/FSG/PL) variant that substitutes as a proform (head) for presupposed, identifiable ('the one(s) who, etc.') referents (§3.2.2). In the corpus examined, neither HL *wandà* nor simplex REL *dà* were attested in NRRCs, and attempts to substitute them for the actually occurring all L *wàndà* forms were consistently rejected by a significant number of 2-RELPRO speakers (representing various dialects).[18] This [all L *wàndà* ↔ NRRC] form-meaning correlation has a natural explanation moreover, since, all other things being equal, we would predict that a definite referent-coding RELPRO (head) would be manipulated as an anaphoric (relative) pronoun in NRRCs where the antecedent head is also typically identifiable (e.g., NP + definite determiner, demonstrative, proper noun, etc.), i.e., as opposed to the other available candidate (for 2-RELPRO

[18] Cf. comparable morphosemantic facts in English [Quirk et al. 1985:1257ff], where loosely connected non-restrictives usually invite only the complex *wh*-series RELPROs 'who(m), which, etc.' (not the simplex 'that' (or zero form) used in restrictives).

speakers)—the HL RELPRO *wandà* used to index first-mention indefinites (§3.2.1).[19]

Given the basically anaphoric function of the all L tone RELPROs, moreover, one would expect them to co-occur (for 2-RELPRO speakers) with non-restrictive appositional conjuncts such as *wàtò* 'that is, namely, in other words, etc.' indicating equivalence, and this prediction is straightforwardly borne out in NRRCs, as illustrated in (60).

(60) a. *d'an'uwānā, wàtò wàndà zâi yi kàřàtū à Amìřkà,*
brother.of.1SG that is RELPRO(MSG) FUT.3MSG do studying in USA

b. *yā isō Landàn jiyà*
3MSG.PF arrive London yesterday
'my brother, that is the one who's going to study in the USA, arrived in London yesterday'

Parallel to the [all L *wàndà* ↔ NRRC] tone-function correspondence moreover, there is also a relationship between the information status of the NRRC and its prosodic composition. The NRRCs in our corpus are intonationally segregated with a prosodic boundary and pause at the beginning and end of the clause itself (denoted with commas in written Hausa), and have a lower overall register than their RRC counterparts. Like the comment component of topicalized structures therefore (§4.2.3), appositional NRRCs constitute separate illocutionary units or discourse chunks, with coordinate clause-like status (a point we shall return to below, §4.2.2). As in English (Quirk et al. [1985:1355ff]), the lower overall prominence thus correlates with, and directly reflects, the nonessential ("afterthought") information value of NRRCs, in the same way that the weakly stressed all L RELPRO codes the least "marked" [+identifiable] referents.

4.2.2. Tense-aspect (non-focus) in NRRCs. An equally striking feature of NRRCs is the variability in the form of the INFL in position before the main verb—for some speakers it either takes the same focus (perfective/imperfective) TAM generally required in RRCs (§3, but see also §3.4), *or* the (neutral) non-focus TAM used in simple declarative sentences. This indeterminacy cuts across

[19] From a historical perspective, my guess would be that the original (deictic) function of the all L tone RELPRO (heard and recorded by Bargery [1934:1078]) would have been to index hearer-old (or inferrable) information, and that its innovative use to introduce NRRCs, where the antecedent head is usually hearer-old/identifiable, represents an analogical extension to a new environment. NRRCs probably became established through the gradual spread of newspaper writing and radio broadcasting in Hausa (media which were possibly influenced by the stylistic use of NRRCs in the English journalistic genre).

both 1- and 2-RELPRO speakers moreover. Although inter- and intra-speaker judgements are not always consistent in this regard (another variable which might reflect a syntactic change in progress), the overall form-function generalization is that whereas restrictives only license a non-focus INFL if adverbial-insertion has applied between REL and INFL (§3.4, exx. 38-42), examples (47-55) above demonstrate that no such structural input is necessary for a non-focus form in non-restrictives (especially for KH-speakers).[20] Previous analyses have attributed the distribution of the inflectional focus paradigms in WH-movement operations (including RRCs) exclusively to formal factors (Tuller [1986:474], for example, relates the triggering of a focus form to "the presence or absence of a local S-structure operator"), but I would argue that the focus:non-focus INFL variation in NRRCs can also be linked to related differences in semantic function between the two RC-types.

In structural terms, appositional NRRCs differ from (subordinate intersecting) RRCs in that they are not syntactically part of the external NP or superordinate sentence, a fact which has lead some linguists to propose that the relationship is in fact discourse-derived and not a consequence of WH-movement to left periphery (see Fabb [1990] and references therein). In some ways, therefore, juxtaposed NRRCs are very similar to coordinate (main) clauses, where the NRRC (complex NP, clause) is a linguistic unit at the same level of constituent structure as the other elements (see also Quirk et al. [1985:1258-59] and Emonds [1979:232ff] on the equivalence between coordination and NRRCs in English). One syntactic feature of coordinately conjoined (verbal) clauses in Hausa which is directly relevant to the NRRC = coordinate clause equivalence is that they are not subject to any tense-aspect (non-focus → focus) replacement rules—compare *mun jē mun (kuma) gan tà* 'we've been and seen her' (1PL.PF

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20 Non-KH speakers again appear to be stricter in this regard than their more liberal KH counterparts (as with restrictives, §3.4), and normally only allow a non-focus INFL if material (e.g., quantifier phrase, adverbial) has been inserted. Examples (*(X) = unacceptable if X is omitted):

(i) *Mūsā yanà dà fìye dà 'yā'yā àshìřin,*
Musa 3MSG.IMPF with more than children twenty

*wàd'àndà *(dà yawànsù) sun rìgā sun yi aurē*
RELPRO(PL) *(with many.of.3PL) 3PL.PF already do 3PL.PF do marriage

'Musa has over 20 children, many of whom have already got married'

(ii) *à Landàn nē na sàdu dà màtātā,*
in London COP(MSG) 1SG.FOC-PF meet with wife.of.1SG

*wàddà *(à lōkàcîn) tanà aikì à can*
RELPRO(FSG) *(at time.DD(MSG)) 3FSG.IMPF work at there

'it was in London that I met my wife, who was working there at the time'

1PL.PF (and) see 3FSG), *sun ròkē tà àmmā tā ki* 'they begged her but she refused' (3PL.PF beg 3FSG but 3FSG.PF refuse), *munà nan munà kàřàtū* 'we're t/here (and) we're studying away' (1PL.IMPF t/here 1PL.IMPF studying), where the non-focus perfective and imperfective TAMs are simply copied in the non-initial coordinate clauses. Because paratactic NRRCs are similar to coordinate structures, they are not constrained by the same focus tense-aspect requirements as tightly intersecting RRCs which form a constituent with the head, and so they can include a non-focus INFL. The following paraphrases show that non-restrictives (61b) and corresponding coordinate clauses (61d) are of equivalent syntactic and semantic status.

(61) a. *yā kàmu dà kansà̀,*
3MSG.PF be taken with cancer

b. *wàddà (kuma) tā (= ta) zama ajàlinsà*
RELPRO(FSG) (and) 3FSG.PF (= 3FSG.FOC-PF) be death.of.3MSG

'he went down with cancer, which proved fatal'

=

c. *yā kàmu dà kansà̀,*
3MSG.PF be taken with cancer

d. *kuma tā zama ajàlinsà*
and 3FSG.PF be death.of.3MSG

'he went down with cancer, and it proved fatal'

(The essentially coordinative role of the NRRC in (61b) is further demonstrated by the possibility of inserting the core coordinator *kuma* 'and, also' after the RELPRO.)

A key semantic correlate of this coordinative (main clause) status—which also helps explain the INFL variation—is that appositional NRRCs (unlike RRCs which are subordinate units in a hierarchy) do not function to uniquely restrict/define/identify, etc. their antecedents, since the decisive interpretation of the head is external to the loosely connected NRRC. The possibility of using a non-focus INFL is related, therefore, to the semantic fact that NRRCs do not narrowly restrict the domain of relativization, but add largely non-essential parenthetical information which makes only an indirect contribution to the discourse.

This interpretive explanation is independently-motivated, moreover, and is validated by the distribution of the quasi-modal potential (*sâ*, etc.) TAM—whereas it can occur in NRRCs (62b), it is considered unacceptable (or mar-

ginal) in RRCs and other (semantically restrictive, narrow focus) WH-constructions (see also Tuller [1986:70, 94], Abdoulaye [1992:50ff, 1997:9ff], and Attouman [1996]), as in (63-64)).

POTENTIAL IN NON-RESTRICTIVES

(62) a. *à nân nē yawancī akà fi sākàr̃ ... kātòn*
at here COP(MSG) mainly 4PL.FOC-PF exceed weave.VN.of long.of

zanè̀,
cloth

b. *wàndà â iyà yîn mayāfī dà shī*
RELPRO(MSG) 4PL.POT can make.VN.of shawl with 3MSG
[*HYDK*: SAKA, 50min:50sec]
'it's mainly here that the long cloth is woven, from which a shawl can be made'

When converted to a restrictive, (almost all) speakers expressed a strong preference for the less modal, more definite future, as in (63).

?POTENTIAL IN RESTRICTIVES

(63) *gà̀ kātòn zanèn dà zā à (?= â) iyà yîn*
PRES long.of cloth.DD(MSG) REL FUT 4PL (?= 4PL.POT) can make.VN.of

mayāfī dà shī
shawl with 3MSG
'here is the long cloth from which a shawl can be made'

Compare, too, the same (dis)preference illustrated in (64).

(64) *gà̀ irìn mōtàr̃ dà zân (?= nâ) sàyā*
PRES kind.of car.DD(FSG) REL FUT.1SG (?= 1SG.POT) buy
'here's the kind of car that I'll (probably) buy'

The reason why the potential is dispreferred in restrictives but permissible in non-restrictives is entirely consistent with (and supportive of) our interpretive account of the distribution of the non-focus INFLs in these same RC environments—because the potential is essentially a (non-focus) modal category, expressing such attitudes as uncertainty, doubt, indefiniteness, probability, vagueness, etc. as to the future realization of an action/event, is it semantically incompatible with the type of strict identificational focus entailed by a RRC. The

same semantic constraints also explain the prohibition on the use of the potential in related WH-expressions (where again the future is substituted).

*POTENTIAL IN OTHER WH-CONSTRUCTIONS

(65) *wà̀* *zâi* (*yâ) *yi wannàn aikì*? (= WH-question)
who(3MSG) FUT.3MSG (*3MSG.POT) do DEM(SG) work
'who will do this work?'

(66) *Audù nē* *zâi* (*yâ) *yi* (= Focus-clefting)
Audu COP(MSG) FUT.3MSG (*3MSG.POT) do
'AUDU will do (it)'

(67) *nī kaďai nè̀* *zân* (*nâ) *zō* (= Focus-clefting)
1SG only COP(MSG) FUT.1SG (*1SG.POT) come
'ONLY I will come'

(68) *kōmè̀* *zā* *kà* (*kâ) *yi, bàn dà̀mu ba*
whatever FUT 2MSG (*2MSG.POT) do NEG.1SG.PF be bothered NEG
'whatever (it is) you're going to do, I'm not bothered' (= WH-ever)

(The modal subjunctive is also ruled out in all the above contexts, including non-restrictives in this case.)

We are now in a position to expand the relevant part of Table 2 to accommodate the NRRC facts (Table 3).

4.2.3. [Head-NRRC] structures have [topic-comment] properties. Finally, by way of summarizing the design-features of Hausa non-restrictives, it is instructive to point out that many of the diagnostic properties of non-restrictives are also present in topic-comment structures (shared characteristics which distinguish them operationally from both restrictives and other WH-movement operations involving focus). Thus: (a) both non-restrictives and comment structures are postpausal; (b) the clause-initial topicalized constituent and non-restrictive antecedent are independently defined (= presupposed/definite); (c) the comment S´ selects (only) a non-focus INFL, and appositional (coordinate-like) non-restrictives may also take a non-focus INFL (restrictives trigger the focus INFL); (d) topic NPs are anaphorized with a resumptive pronoun in the comment (especially if the topic is personal), and some speakers will also allow a resumptive pronoun in non-restrictives, coreferential with the antecedent (as a secondary alternative to a null pronoun). Restrictives, on the other hand, only allow a zero pronominal; (e) both structures are base-generated (restrictives entail displacement). (See Jaggar [1978], Junaidu [1987, 1989], and Tuller [1986] for various treatments of topicalization.) Examples (69-71) illustrate.

MORPHOSYNTAX	RESTRICTIVE RC		NON-RESTRICTIVE RC	
	1-RELPRO speakers	2-RELPRO speakers	1-RELPRO speakers	2-RELPRO speakers
REL *dà*	√	√		
RELPRO (HL *wandà* etc.)	√	√ = hearer-*new* referent	√	
RELPRO (all L *wàndà* etc.)		√ = hearer-*old* referent		√
FOCUS INFL (Pf/Impf)	√	√	√	√
NON-FOCUS INFL	only with REL ↓ INFL adverbial-insertion	only with REL ↓ INFL adverbial-insertion	√	√

Table 3: Morphosyntax of restrictive and non-restrictive RCs.

TOPIC-COMMENT

(69) *'yan tāwāyèn kùwa, an nūnà musù shirìn jiyà*
rebels.DD(PL) as for 4PL.PF show to.3PL plan.DD(MSG) yesterday
'as for the rebels, they were shown the plan yesterday'

NON-RESTRICTIVE RC

(70) a. *'yan tāwāyèn, wàd'àndà an (= akà) nūnà wà Ø (= musù)*
rebels.DD(PL) RELPRO(PL) 4PL.PF (= 4PL.FOC-PF) show to Ø (= to.3PL)
shirìn jiyà,
plan.DD(MSG) yesterday

b. *duk sun amìncē dà shī*
all 3PL.PF agree with 3MSG
'the rebels, who were shown the plan yesterday, have all accepted it'

RESTRICTIVE RC

(71) a. *'yan tāwāyèn dà akà nūnà wà Ø shirìn jiyà*
rebels.DD(PL) REL 4PL.FOC-PF show to Ø plan.DD(MSG) yesterday

b. *duk sun amìncē dà shī*
all 3PL.PF agree with 3MSG
'the rebels who were shown the plan yesterday have all accepted it'

5. Summary

This paper has contrasted the core properties of restrictive and non-restrictive RCs and has demonstrated that, although subject to similar constraints, the two RC-types are characterized by significant and interesting differences in their morphosyntax and semantics. From a universal grammar perspective, the most striking syntactic difference is the ability of non-restrictives to occur with a wider range of tense-aspects (focus/non-focus) and moods, and I have argued that related formal and interpretive factors combine to determine and explain this variability. Although the system is not organized into discrete, homogeneous categories, and the distinctions are sometimes fine (with partial overlapping depending on the speaker/dialect and register), the variation is systematic enough to be of real linguistic significance.

Given the current interest in relative clause constructions and the general insights they provide into wider issues of linguistic theory and language universals, this expanded and unified account of Hausa restrictive and non-restrictive RCs adds to the body of core, cross-language data relating to the organization of grammar, and offers a potentially rich domain for further research.

APPENDIX: DATA SOURCES

AHR = *An Advanced Hausa Reader with Grammatical Notes and Exercises*, Philip J. Jaggar, 1992, London: SOAS.

HNR = *Hausa Newspaper Reader*, Philip J. Jaggar, 1996, Kensington, Maryland: Dunwoody Press.

HYDK = *Hausar Yau Da Kullum* (Intermediate and Advanced Lessons in Hausa Language and Culture, Parts 1, 2), William Leben et al., 1991, Stanford University: CSLI Publications.

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Department of Africa
SOAS
University of London
Thornhaugh Street, Russell Square
London WC1H 0XG
England
pj@soas.ac.uk

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Maddieson, Ian and Thomas J. Hinnebusch (eds.). *Language History and Linguistic Description in Africa* (Trends in African Lingusitcs 2). Trenton, NJ: Africa World Press. 1998. Pp. x, 316. Cl. $89.95; Pbk. $29.95

This volume represents a selection of papers presented at the 26th Annual Conference on African Linguistics, sponsored by the University of California, Los Angeles and held in Santa Monica, California, on the 23-25 March 1995. A special theme of the conference—and a focus of this volume—was African language classification, marking the 40th anniversary of the publication of J. H. Greenberg's *Studies in African Lainguistic Classification.* Of the thirty papers presented, ten concern language classification and language history in Africa (section 1). The remaining papers are divided into three sections: Phonetics, Phonology, and Morphology—nine papers; Syntax and Semantics—eight papers; and Language and Society—three papers. With two exceptions, papers are all 10 pages in length.

Schuh, Russell G. *A Grammar of Miya.* (University of California Publications in Linguistics, 130.) 1998. Berkeley & Los Angeles: University of California Press. Pp. xxiii, 414. Pbk. $45.00

This volume by Russell Schuh, a widely esteemed Chadicist, is a grammar of Miya, a small (West) Chadic language (approximately 5,000 speakers) spoken in northern Nigeria. The grammar is characterized by extensiveness in scope and fullness of exemplification. It is presented in an atheoretical format and thus should be fully accessible to all African linguists whatever their background and training.

A brief introduction is followed by a chapter setting out the segmental phonology. Particularly interesting is the reduction of the many surface vowels to three phonemic vowels, namely **ə**, **a**, and **aa**. Chapter 3 describes the tonal phonology, with careful attention to morpho-tonological rules and lexical restrictions. (Miya has a terraced level tone system with high and low plus downstep.) Chapter 4 presents verb classes and related verbal nouns, including gerunds and derived nominals. Chapters 5 and 6 present the tense, aspect, mood (TAM) system, detailing the form, as manifested *inter alia* in the shape of the verb, and the function in discourse structure. As is common in African languages, the TAM correspondences between the affirmative and negative are far from straightforward and thus are given careful attention. Chapter 7 includes a description of verbal extensions (which, curiously, Schuh says that Miya does not have!) and other derivations, such as "pluractional" (i.e. plural action) verbs. Chadicists will be particularly interested in the description of Intransitive Copy Pronouns (ICP's) and in the cognate accusative/complement construction. Chapter 8 introduces nominals and adjectives, with detailed treatment of gender and plurality. Chapter 9 includes information on reference, definiteness, universals, and reflexives. Word order within the noun phrase (Chapter 10) is typical of Chadic, namely Noun + adjective (or relative clause), Noun plus numeral, Noun plus definite article (but indefinite demonstrative + Noun), and two types of Noun of Noun constructions, a "direct" genitive construction (often "inalienable") and a "linked" genitive (often "alienable"). Miya has two alternative word orders: SVX (where X =

objects and locatives) and VXS. The essence of Chapter 11 (the syntax of simplex clauses) is a presentation of the morphosyntactic and discourse factors accounting for the different word orders. Chapter 12 treats questions, focus, and topicalization. Here the detailed similarities between Q-word questions and focus, so common in Chadic languages, are spelled out. After a chapter on clausal complements, the grammar con-cludes with Chapter 14 on adverbial clauses and phrases, including simple and counterfactual conditionals. The book does not have an index, but it does have a detailed table of contents with sections and subsections of each chapter carefully labeled.

This is a superb work: it qualifies as one of the truly outstanding grammars of a Chadic language ever published.

[Paul Newman, Indiana University]

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1999

January 25-28
IDEOPHONES SYMPOSIUM. Universität zu Köln, Germany. (Contact: Erhard Voeltz, Institut für Afrikanistik, Universität zu Köln, Meister-Ekkehart Strasse 7, D-50923, Köln, Germany; Tel: 49.221.470.4741; Fax: 49.221.470.5158; e-mail: erhard.voeltz@uni-koeln.de)

February 26-28
ARABIC LINGUISTICS SYMPOSIUM, 13th. Stanford University, Stanford, California. (Contact: Tessa Hauglid, 759 W. 1800 North, West Bountiful, UT; Tel: 801-298-3621; e-mail: tessa.hauglid@m.cc.utah.edu)

March 15-17
MORPHO-SYNTAX OF CHAMITO-SEMITIC LANGUAGES. University of Fez, Morocco. (Contact: estry@fesnet.net.ma)

March 29 - April 1
COLLOQUIUM ON GUR LANGUAGES, 2nd. Cotonou, Benin. (Contact: Prof. Dr. B. Reineke, Seminar für Afrikawissenschaften, Humboldt Universität zu Berlin, Unter den Linden 6, D-10099 Berlin [until February 10, 1999]; Tel: <0049>-<0>30-2093 6670; Fax: <0049>-<0>30-2093 6666; e-mail: brigitte=reineke@rz.hu-berlin.de; or Prof. Mathieu Mawani, Phil. Fak. III, CE.BE.LA.E., 02 B.P. 8120, Cotonou, Benin; Tel: <00229> 30 25 76; Fax: <00229> 30 36 95; e-mail: cebelae@syfed.bj.refer.org)

May 14-15
SWAHILI COLLOQUIUM, 12th. Universität Bayreuth. (Contact: Gerlind Scheckenbach, Afrikanistik I, Universität Bayreuth, D-95440 Bayreuth, Germany; e-mail: Gerlind.Scheckenbach@uni-bayreuth.de)

June 15-24
AGAINST ALL ODDS: AFRICAN LANGUAGES AND LITERATURES INTO THE 21ST CENTURY. Asmara, Eritrea. (Contact: Charles Cantalupo, e-mail: cxc8@psu.edu)

July 2-5
ANNUAL CONFERENCE ON AFRICAN LINGUISTICS (ACAL), 30TH. University of Illinois, Champaign, Illinois. Held in conjunction with the 60th Summer Institute of the Linguistic Society of America. (Contact: Prof. Eyamba G. Bokamba, Dept. of Linguistics, 4088 Foreign Languages Building, 707 South Mathews Street, University of Illinois, Urbana, IL 61801; Tel: (217) 333-3563/244-3051; Fax: (217) 333-3466; e-mail: bokamba@uiuc.edu)

July 7-9
INTERNATIONAL BIENNIAL CONFERENCE OF THE AFRICAN LANGUAGE ASSOCIATION OF SOUTH AFRICA, 10TH. University of South Africa. (Contact: Sonja Bosch; e-mail: boschse@alpha.unisa.ac.za; website: www.unisa.ac.za/alasa/index.html)

August 30 - September 1
COLLOQUIUM ON AFRICAN LANGUAGES AND LINGUISTICS (CALL), 29TH. Leiden University, The Netherlands. (Contact: The Organizers, CALL 29, Afrikaanse Taalkunde, Rijksuniversiteit te Leiden, P.O. Box 9515, 2300 RA Leiden, The Netherlands; Tel: +31-71-527-2245; e-mail: schaberg @rulcri.leidenuniv.nl)

September 7-11
INTERNATIONAL CONFERENCE ON THE LANGUAGES OF THE FAR EAST, SOUTHEAST ASIA AND WEST AFRICA, 5TH. St. Petersburg, Russia. (Contact: Prof. Dr. Rudolf Yanson, Chair, Department of China, SEA, and Korea, University of St. Petersburg, Russia; Fax: +7-812-328-7861; e-mail: yanson@RY1703.spb.edu)

2000

June
CONFERENCE ON AFRO-ASIATIC LANGUAGES, 5TH. Paris.

August 21-26
WORLD CONGRESS OF AFRICAN LINGUISTICS, 3RD. Lome, Togo. (Contact: Kezie Lebikaza; e-mail: lebikaza@syfed.tg.refer.org)

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