

PATTERNS IN CHADIC (AND AFROASIATIC?) VERB BASE FORMATIONS

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1. Introduction

This presentation centers around the concept of "plurality" in the Chadic language family. A general study of expressions of plurality has to take into account the difference between at least two distinct sub-systems: "nominal plurality" on the one hand, and "verbal plurality" on the other. It of course also has to attempt to discover and establish the interrelationship between the two. In this paper, focus is on verbal plurality.

The study of the manifestations of <plural> within verbs could be organized in terms of at least four major areas:

- (1) "lexical plurality", i.e. expression of plural through choice of lexemes, e.g. Ron-Fyer *mot* : *bwaar* 'die (sg:pl)';
- (2) "base level plurality", i.e. expression of plural by modifications of the underlying ("base") form of the same lexeme, e.g. Migama *maat* : *matt* 'die (sg:pl)';
- (3) "stem level plurality", i.e. expression of plural by thematic derivation, e.g. Ron-Sha *ci* : *cy-an* 'eat (sg:pl)';
- (4) "aspectual plurality", based on a quantitative interpretation of verb aspects in a dichotomous system ("aspect I" : "aspect II").

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This is a slightly modified version of the draft which was distributed to the participants of the Colloquium. Some valuable comments put forward at the meeting and in subsequent discussions (especially with P. Newman) have been incorporated and are gratefully acknowledged. Certain modifications reflect the continuing effort to increase our knowledge and gain deeper insights into the complex problems raised in this paper.

Within this framework, this presentation is limited to the observation of manifestations of "base level plurality" and its interrelationship with "aspectual plurality".

In section 2 of this paper, I shall first attempt to outline a model utilizing the distinction between "root", "base", and "stem" which I have found to be useful for the comparative study of Chadic (and Afroasiatic) morphology. In sections 3-5, form, function, and distribution of a set of base-level formatives of verb and noun systems of 12 selected Chadic languages will be analyzed. Section 6 contains a summary and concludes with the formulation of a tentative hypothesis concerning the historical development of the synchronic patterning of related formatives in noun plurals, verb plurals, and aspect formations.

Three hypotheses are fundamental to this presentation:

- (1) the hypothesis of Chadic as a valid linguistic entity within the Afroasiatic (Hamito-Semitic) phylum;
- (2) the hypothesis of a fundamental dichotomy of aspect in Chadic (and Afroasiatic) verb systems;
- (3) the hypothesis of base formation being independent of and prior to word class subcategorization.

The first hypothesis rests on Greenberg's classification (1966) of African languages, which has remained unchallenged in any serious way ever since it was first proposed more than 20 years ago.

The second hypothesis is commonplace in at least one branch of Afroasiatic, Semitic, and has been well argued for in Chadic over the past 10 years, especially by H. Jungraithmayr. He assumes a semantic contrast of "perfective/imperfective" and maintains that "compared with the perfective aspect form the imperfective aspect form is, in general, marked; in other words, the ipf.asp. form appears as an extension of the pf.asp. base" (Jungraithmayr in press, section 3.1.2). For the purposes of this paper, I shall follow Jungraithmayr insofar as relating the semantic category of the non-imperfective aspect (henceforth referred to as the unmarked aspect A-I) to simple, and the imperfective aspect (henceforth referred to as the marked aspect A-II) to extended "base level" formations (see section 2 below).

The third hypothesis on which this presentation is based is one that C. Brockelmann introduced into Semitic studies at least as early as 1908 (see quotation in section 2 below), but which to my knowledge has not yet been made use of in comparative Chadic. It is this third hypothesis which allows us to compare similar or identical formations in the morphology of verbs and nouns and which does not a priori confine the concept of "plural" to nominals nor the concept of "intensity" as distinct from the former to verbals. Based on this hypothesis, I am arguing that a semantic relationship can be assumed to exist between nominal and verbal expressions of plural, and between these and the marked A-II ("imperfective/habitual/durative/frequentative/etc.") within the binary aspect system. (This A-II can be conceived of as being semantically marked in comparison with A-I in the same sense that "plural" is marked in opposition to "singular" in the nominal system.)¹

Accordingly, I have attempted in this paper (a) to adduce evidence for the wide distribution of obviously related formatives of plural/intensive verb formations, certain manifestations of aspect, and noun plurals; and (b) to verify the hypothesis of original semantic identity of verbo-nominal plurals and A-II aspect formations through observations of (i) syntacto-semantic "collisions" of these categories in verbal systems of modern Chadic languages, and (ii) obvious processes of restructuring of the verbal systems in order to avoid these collisions--such as neutralization of the sg:pl contrast in bases underlying A-II stems, shifting from segmental to suprasegmental aspect marking, A-II stem replacement by verbal noun stem, etc.

A quick glance at languages of the other branches of Afroasiatic suggests that the hypothesis of the plural/A-II relationship may be

¹ Only after the first version of this paper had been drafted did I see W. Dressler's excellent study (1968) on verbal plurality. In his general introduction, Dressler argues in favour of a basic identity of nominal and verbal plurality and an affinity between verbal plurality and imperfective aspect. His results are based on a typological comparison of more than 40 languages from all over the world. It contains a sketch of verbal plurality in Hausa (pp. 95-101), which is based on Frajzyngier (1965) and his own informant work in Paris in 1965/66.

supported by Semitic and Berber evidence too. We are possibly dealing with structural traits of Proto-Afroasiatic which could be interpreted as reflecting cognitive processes in the early history of syntacto-semantic category development in this language family.

The languages selected for illustration have been drawn from each of the three recognized branches of Chadic (cf. Hoffmann 1971, Newman 1977):

- (1) Migama represents the Eastern branch of the family on which only very little material is available so far;
- (2) Lamang, which is spoken along the Nigeria-Cameroon border in the southeastern part of Nigeria's Borno State, is the main representative of the Central ("Biu-Mandara") branch. Reference will be made to some other Central branch languages, such as Ga'anda, Kapsiki, and Bachama.
- (3) The Ron languages (Fyer, Bokkos, Daffo-Butura, Sha, Kulere) of the Jos Plateau of central Nigeria represent the Western branch of Chadic, supplemented by some contrastive data from Kanakuru and Hausa.

2. Methodological preliminaries²

Before discussing the interrelationship of base level and aspectual plurality, a few preliminary remarks may be appropriate with regard to the model that I have found to be useful for comparative studies of Chadic (and Afroasiatic) morphology. The units of this model shall be defined as follows:

- (1) "Root" shall denote the unit which contains only the indispensable elements of a lexeme. For comparative Afroasiatic, the root is assumed to contain no vowels. There is only one root for each lexeme.

The term root as it is used here reflects its usage in Semitics. Whether the root as traditionally conceived of in Semitic languages really merits the status of a unit within the morphology of the languages or whether--as non-Semitic studies have suggested--we ought to start

²This section has greatly profited from an exchange of ideas with Bernhard Pelzl (Graz) in general, and also with specific regard to its applicability to Semitic languages.

with vocalized roots, i.e. "bases", at the very bottom of the system is a question for further comparative Afroasiatic studies. As long as the root is not eliminated as a unit and still serves descriptive purposes in at least one branch of Afroasiatic, it will add to clarification in comparative Afroasiatic study to distinguish between "roots" and "bases" in the way suggested here.

(2) "Bases" shall be all vocalized manifestations of roots, i.e. all possible shapes of roots after rules of vocalization and (optional) augmentation (see below) have been applied. Vocalized roots without any modification of their radical structure are referred to as "simple" bases. Vocalized roots with simultaneous modifications of radical structure, i.e. augmented by consonant or vowel lengthening, segment addition, reduplication, etc., are called "extended" or "augmented" bases. As each root may form several bases, each base may underly more than one stem.

The term base as it is used here is not a newly coined term. The triple hierarchy of root-base-stem had already been introduced into Semitics by Brockelmann at the beginning of this century:

"Already in Proto-Semitic most word forms displayed a stable foundation of 3 consonants, which one calls the root following the practice of the Jewish grammarians. But the only value of such a root is for the systematic artificial ordering of the vocabulary in a dictionary. It is an abstraction, and the assumption that the historical word forms have grown out of these roots dangles entirely in the air. The analysis of the nouns as well as the verbs leads us rather to certain simple basic forms, in all cases already furnished with vowels, which in contrast to those abstract roots we are calling bases. Such bases serve...as nouns as well as verbs, and are presumably older than these grammatical categories" (Brockelmann 1908:137-38, translation mine).

(3) "Stems" are word-level manifestations of bases in the sense of syntactically free forms. So-called "simple stems" carry no additional extension or modification; their morphological shape is identical to that of the postulated underlying base whether the latter is "simple" or "extended". The terminological distinction between "base" and "simple stem" is merely a question of descriptive focus, so that we say that bases may "function" as simple stems. So-called "extended stems" are derived from underlying bases through affixation of further morphemes.

The relevance of the distinction of simple vs. extended at the stem level in Chadic was first recognized by Hoffmann (1963). For our pur-

poses, the following classification of stems is suggested:

- (i) "simple stems": unaffixed "lexical" stems, unmarked for aspect/mood/tense/etc.;
- (ii) "extended stems":
 - (a) inflexional stems (e.g. aspect/mood/tense stems, verbal noun stems, participial stems, etc.);
 - (b) derivational/thematic stems (applicatives, causatives, totality/intensives, conatives, benefactives, reflexives, partitives, various locatives, etc.).

Obviously, a simple stem may serve in a given language as an inflexional unit. Within a binary aspect system, it may serve as the unmarked opposition to the marked stem.

The model allows the "base"/"stem" distinction to be used to distinguish lexicon-internal formations (bases) from syntactic formations (stems). For morphological analysis, it helps to separate two kinds of formational processes: apophony and augmentation at a base level, and affixation at a stem level.

2.1. Summary. More for comparative purposes within Afroasiatic than for the synchronic description of modern Chadic languages, I am suggesting that one should keep distinct the following formational process types and their resulting morphological categories:

Formational Processes

U N I T S

	ROOT	
(i) Vocalization (+ apophony)	Simple BASES	Simple STEMS
(ii) Augmentation (+ apophony)	Extended BASES	
(iii) Affixation	Extended STEMS	

- A. Base formation, with the formational processes of
1. Vocalization which forms bases from underlying roots;
 2. Augmentation which forms extended/augmented bases from non-extended, i.e. simple, bases;
 3. Apophony which derives or accompanies the derivation of

bases from each other.

B. Stem formation, with the formative process of

4. Affixation which derives extended stems from underlying (simple and extended) bases.

3. Evidence from the Eastern branch: Migama

In Migama, (cf. Jungraithmayr 1975), a subset of biradical verbs displays number-differentiation (Wolff 1976). These verbs show four bases, each with related vocalization patterns:

- (1) a simple base which is used in A-II "imperfective" stems, e.g. for the verb 'die': *mat
 (2) a number-sensitive <-pl> base with long internal vowel: *maat<-pl>
 (3) a number-sensitive <+pl> base with reduplicated final radical consonant: *matt<+pl>

Both these number-sensitive bases are used in the verbal noun and in the A-I "perfective" stem.

- (4) a disyllabic base used in A-II stems which is characterized by a reduplicated augmented third radical consonant /k/, sequence of identical vowels, and apophonic change of all [+high] vowels to [-high]: *matak

(These are characteristics of this type of A-II base which is shared by all biradical verbs whether they display number-sensitive verb base differentiation in A-I or not.)

All other verbs have only two bases and must be considered number-insensitive:

	<u>Simple base</u>	<u>Augmented base</u>	
1-radical verbs	*ti	*tee	'eat'
2-radical verbs	*pan	*panakk	'build'
3-radical verbs	*lipid	*lepedd	'mould'
	*rawt	*rawatt	'forget'
4-radical verbs	*garkiy	*garkayy	'teach'

These number-insensitive verbs of Migama show very regular formations of verbal noun and "perfective" stems derived from the simple base, and

"imperfective" stems derived from the augmented base.

As regards the number-sensitive subset of biradical verbs, we observe that the plural base is formed by reduplication of the final radical: $C_2 \rightarrow C_2C_2$, which obviously can be interpreted as a marker of plurality. Yet, reduplication of the final radical is also one of the several markers used in bases which underly imperfective stems, only that the final radical there is necessarily C_3 .³ The regular pattern for these imperfective stems of "polyverbs" (as opposed to "monoverbs"--terminology taken from Newman 1975) also includes a common suffix -a, e.g.

	<u>Bases</u>		<u>A-II stem</u>	
monoverbs	*ti	*tee	tee-wa	(with epenthetic glide)
polyverbs	*mat	*matakk	matakk-a	
	*pan	*panakk	panakk-a	
	*lipid	*lepedd	lepedd-a	
	*rawt	*rawatt	rawatt-a	
	*kekki ^d	*kekkedd	kekkedd-a	'tickle'
	*garkiy	*garkayy	garkayy-a	
	*turguw	*torgoww	torgoww-a	'travel'

What, may we ask, has become of the number-differentiation of the bases of the number-sensitive subset of biradical verbs, such as *maat/*matt? Should we not expect two instances of radical consonant reduplication when a plural base is used in the imperfective, i.e. cooccurrence of $-C_2C_2-$ marking $\langle +\text{plural} \rangle$ and $-C_3C_3-$ to mark $\langle +\text{imperfective} \rangle$? The formation we expect ought to look like **mattakk-a. But this form does not exist, and obviously not because of any phonological restriction against two long consonants within a single stem (cf. kekkedd-a).

³This requirement of triradical structure in the imperfective affects biradical verbs as well since they are--irrespective of number-sensitivity--augmented by a consonant /k/ in C_3 position before the final radical reduplication rule is applied. Monoverbs are excepted from augmentation and reduplication, but display (compensatory?) vowel lengthening instead.

⁴This is probably an assimilated form of a completely reduplicative base of the type also observed in, e.g. cepcip 'crush'.

Apparently verb base plurality and imperfective aspect are in some way incompatible because we have reason to assume that the imperfective stems of the type matak-k-a serve for the plural verb base *matt, since the singular verb bases form their own imperfective aspect stems. They do this without augmentation by C₃ radical and without subsequent reduplication, but with lengthening of the suffix vowel instead. Thus for 'die', for example, we find two imperfective aspect stems: (i) matak-k-a corresponding to *matt, and (ii) mat-aa corresponding to *maat. I have concluded and argued (Wolff 1976) that the imperfective aspect inherently has a plural-like semantic feature, possibly the feature <plural> itself, marked by final radical reduplication. (This feature of A-II of the proto-language is traditionally described by terms such as "linear/durative/frequentative/habitual/etc." in opposition to a non-plural-like "punctual" connotation of A-I.) Following this line of argument, an "imperfective + plural stem" which maintained the plural base formatives would be rejected as a pleonastic formation. Modern Migama's differentiation of sg:pl in the imperfective stems may thus be the result of restructuring the system in analogy to the perfective and verbal noun stems, cf.

ROOT	B A S E S			S T E M S		
	---	AUX _{<+imp>}	VN	AUX _{<-imp>}	AUX _{<+imp>}	
p-n	<-num>	pan-	panakk-	pán-áw	pan-é	panakk-á
m-t	<+pi>	matt-	matak-k-	mátt-ó	mátt-é	máttákk-á
	<-pl>	maat-	mat-	máat-ó	máat-é	mát-áa

Unfortunately, no data on Migama noun plural formation are available to me. It would be interesting to know whether some or all of the formatives used in base and stem formation of AUX_{<+imp>}, such as final radical reduplication, vowel lowering and vowel copying, base augmentation by consonant addition, and possibly even suffix -a, are also used in the formation of noun plural bases and stems.

4. Evidence from the Central (Biu-Mandara) branch: Lamang, Ga'anda, Krasiki, Buchama

We now turn our attention to the Central branch of Chadic (also known as Biu-Mandara).

4.1. Lamang. In Lamang, verbs are not just simply marked + or - for the feature <intensive>, but rather have various verb bases which mark different degrees of intensity.⁵ The aspectual dichotomy is marked in several ways: by opposition of simple vs. extended stems, shift from verb bases (for A-I) to verbal noun bases (for A-II) accompanied in some cases by tonal changes (Hi tone pattern for A-I vs. Lo tone pattern for A-II). If we work on the assumption that in Lamang the proto-language's A-II stem has been substituted by or merged with the verbal noun stem (as presumably in Hausa and a number of other Chadic languages), we are left to compare the formation of the different intensity-sensitive verb bases with the reflexes of A-II stem and noun plural formations in other languages of the family.⁶

In Lamang, as in Migama, not all verbs share the same base extension potential. Whereas monoverbs and polyverbs that are primarily vocalized with *ə* in their first syllable display four degrees of intensity, some polyverbs seem to use as their "normal" degree a base primarily vocalized with *a* in their first syllable, which corresponds to Degree II of verbs with first syllable *ɔ* vocalization. Similarly, a subset of biradical verbs with first syllable high vowel *i/u* lack the possibility of forming intensive bases by means of internal

⁵Under the label <intensive>, various functional variants are subsumed of what I consider to be a single semantic feature. It is manifested in optional number agreement with subject or object, or in the indication of repeated, frequentative, or even habitual action. Form and function are discussed for the first time for Lamang in Wolff (1970: 25-40) where "intensity grades" have been interpreted as extensions of the "root" (= "bases" in the terminology advocated in this paper).

⁶Since Lamang regularly forms its noun plurals with a suffix *-xa*, nothing of comparative value can be gained by cross-word class comparison within the language. This is also true for the small set of "internal" and "replacive" noun plurals which have been observed.

vowel change alone, and thus also appear to use Degree II as their "normal" degree. (As seen from examples such as ghili 'theft' and xini 'sleep', this group contains denominative verbs.)

The first set of Lamang intensive verb bases is illustrated by the following examples:

	*k-l- 'take'	*m-n- 'do'	*s-l- 'fry'
Degree I	*kəla	---	---
Degree II	*kala	*mana	*sula
Degree III	*kalala	*manana	*sulala
Degree IV	*kalakala	*manamana	*sulasula

These bases underly the various tense stems of A-I ("perfective").

The formation of simple and extended bases in Lamang can be summarized as follows:

(1) Simple base-formation through Degree I vocalization ("unmarked"):

monoverbs:	C ₁ a	t _s a	'cut'
polyverbs:	C ₁ əC ₂ a	kəla	'take'
	C ₁ əC ₂ əC ₃ a	t _l əgəla	'stab'
	C ₁ əC ₂ aC ₃ a	ghəmbasa	'laugh'
	C ₁ əC ₂ C ₃ a	gwərva [gurva]	'dance'

(2) Simple base-formation through Degree II vocalization ("marked"):

polyverbs:	C ₁ aC ₂ a; C ₁ i/uC ₂ a
	C ₁ aC ₂ aC ₃ a

(3) Extended base-formation through reduplication of final radical consonant and "marked" vocalization (Degree III for polyverbs; Degree II and III for monoverbs which apply this formation twice; verbs of internal vocalization type i/u retain the vowel of the first syllable of their simple base):

monoverbs:	C ₁ aC ₁ a	(Degree II)
	C ₁ aC ₁ aC ₁ a	(Degree III)
polyverbs:	C ₁ aC ₂ aC ₂ a; C ₁ i/uC ₂ aC ₂ a	
	C ₁ aC ₂ aC ₃ aC ₃ a	

(4) Extended base-formation through complete reduplication of the Degree II base:

monoverbs: C₁aC₁aC₁aC₁a
 polyverbs: C₁aC₂aC₁aC₂a; C₁i/uC₂aC₁i/uC₂a
 C₁aC₂aC₃aC₁aC₂aC₃a.

The corresponding verbal nouns, which also serve as "imperfective" aspect stems, take a suffix -o and use a second set of bases characterized by the change of a occurring before the final consonant to o. Note that the internal vowel -o- is not dependent on the occurrence of the suffix -o, which is replaced by the subject pronoun in all but the third person singular, e.g. 'kol-i, kol-ka, kol-o, etc. "I, you, he take(s)'. (The completely reduplicative Degree IV base derives no separate verbal noun stem, and denominative verbs substitute their nominal base in their normal degree.)

	<u>Verbal noun stems</u>		
Degree I	kəl-o	---	---
Degree II	kol-o	mon-o	sul-o
Degree III	kalol-o	manon-o	sulol-o

The following chart of Lamang verb bases (with verbal noun stems added in parentheses) contains all structural types of Lamang verbs. (Examples not translated above are the roots s-wl- 'walk', gh-l- 'steal', and the Hausa loanword yarda 'agree'.)

Degree	Monoverbs	Polyverbs (given by first syllable vocalization type)			
		-ə-	-a-	-i-/-u-	
I	tša (tso)	kəla (kəlo) tləgəla (tləgəlo) ghəmbasa (ghəmboso) gʷərva ⁷ yərda ⁷ səwla ⁷			
II	tsatsa (tsotso)	kala (kolo) tlagala (tlagolo) ghambasa (ghamboso) gwarava (gwarovo) yarada (yarodo) sawala ⁷	mana (mono)	ghila (ghili)	sula (sulo)
III	tsatsatsa (tsatsotso)	kalala (kalolo) tlagalala (tlagalolo) ghambasasa (ghambasoso) gwaravava (gwaravovo) yaradada (yaradodo) sawalala ⁷	manana (manono)	ghilala (ghilolo)	sulala (sulolo)
IV	tsatsatsatsa	kalakala tlagalatlagala ghambasaghambasa gwaravagwarava yardayarda/ yaradayarada sawalasawala	manamana	ghilaghila	sulasula

⁷One set of lexically intransitive verbs and some verbs of foreign origin do not form verbal nouns with -o in Degree I; another set of intransitive verbs does not form morphologically distinct verbal noun stems at all.

4.2. Ga'anda. In order to document differing usages of the same set of formatives marking identical semantic features, I quote the following paragraph and examples from R. Newman's stimulating grammar of Ga'anda, a Central branch language belonging to the Tera subgroup (1971:34-35):

"Another optional verb feature is <intensive>. The presence of <+int> is marked by a reduplicative verb stem. The intensive form usually reinforces the number of times the action is performed, particularly if the object acted upon is plural....This reduplication can be represented by the following formula:

$$[C_1VC_2(V)]_{VB_{\langle +int \rangle}} \rightarrow C_1\text{ə}C_1aC_2(V)$$

ə βəl-incə cinica	'I killed lions'
ə βəbal-incə cinica	'I killed lions (many of them)'
ə ce-nda mərta xa	'they 'shot up the corpse'
ə cəca-nda mərta xa	'they shot up (many times) the corpse'
tlə necan 'yar-i-ta	'he is (hab.) insulting me'
tlə necan 'yə'yar-i-ta	'he is (hab.) insulting me (without letting up)'

The 'internal -a-' vowel change of the root is no doubt a reflex of the 'internal -a- plurals' found in other Chadic (and Afroasiatic) languages. In Ga'anda, however, it is not considered as a formation of a plural verb stem agreeing in number with plural objects, since (a) the object may be singular, and (b) a non-intensive verb stem can be used with plural objects."

4.3. Kapsiki. Different from Lamang and Ga'anda, Kapsiki, a language of the Higi subgroup, does not seem to exploit the possibilities of internal vowel change to mark intensive verb bases, but rather seems to use only partial and complete reduplication to indicate intensity/plurality (Smith 1969:111ff.). Kapsiki verb stems occur with both completely and partially reduplicated bases. Simple stems with partially reduplicated bases usually denote habitual action. Extended stems with partially reduplicated bases seem to indicate that the action was done several times or was directed toward several goals, e.g.

mene 'do':	ka-memené tlené nde	'he works all the time'
pese 'grow':	'a ké-pepesé	'it has been growing (at least some of it)'
zeme 'eat':	'a ké-zezemáké	'he has eaten (a little of several things: -aké)'

Complete reduplication of the base is used to show "emphasis":

...gwezé...ke-pesépesé	'...the grass...has really grown'
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4.4. Bachama. This Bata subgroup language has long been looked at rather suspiciously because it "untypically" shows grammatical gender in the nominal system. Interpreting this to mean that Bachama has succeeded in retaining this grammatical feature from Proto-Chadic days, we should not be surprised to find equally ancient remnants in the verb system. And indeed, Bachama does make use of the inherited principle of internal vowel change to form plural verb bases. The following is quoted from Carnochan (1970:101ff.):

"A large number of verbs show internal vowel changes from singular to plural forms, often correlating in intransitive clauses with a singular or plural subject, and in transitive clauses with a singular or plural object. Sometimes, however, the singular or plural form of the verb is at variance with the number of the subject or object, and appears to be independent of such concords, and to relate directly to semantic factors in the situation. For many verbs, there are distinct singular and plural forms, and the speaker has to make a choice. He does so according to whether he wishes to focus attention on the unity or disparity of action or state in the situation....In general, the vowel in the plural forms is more open than that in the singular. There is a similar relation between the vowels in the stems of singular and plural nouns....In general, verbs with -a- or -aa- in the stem have no distinct singular and plural forms..."

The sg:pl verb base contrast in Bachama can be illustrated both with verbs in the "Normal Grade" and with "Adessives" (verbs indicating action in the direction of the speaker):

	Normal Grade	Adessive Grade	
Underlying singular base	píirè	píirá	'thatch'
	ḃiyè	ḃiyá	'break'
	tùúlè	tùulá	'chew'
	'úsè	'úsá	'cook'
Underlying plural base	pyér	pyáará	
	ḃeyè	ḃáyá	
	tòólè	twàalá	
	'ósè	'wásá	

As regards cross-word class distribution of formatives, cf. the following set of Bachama sg:pl noun stems:

dímsèy	:	dyèmshè	'song'
dùwèy	:	dàwèyè	'horse'
vàney	:	vènyè	'hut'

5. Evidence from the Western branch: the Ron languages, Kanakuru, Hausa

5.1. The Ron languages. Verb stem formations in the Ron languages have been treated extensively in a series of articles by H. Jungraithmayr since 1965. Used as evidence of common retentions of Afroasiatic traits, Ron verb stems have been frequently listed alongside Berber and Semitic verb formations. Once only, in what I take to be his first approach to the subject--a supplementary article to Greenberg's (1955) "Internal a-plurals in Afroasiatic"--Jungraithmayr (1965) dwelled on the cross-word class distribution of the formative under consideration:

"Within the system of verbal aspects in Ron the relationship between Imperfective-Subjunctive and Habitual-Plural stems may well be compared with the singular/plural relationship between nominals discussed above. At least Daffo-Butura, Sha, and Kulere employ the same means and patterns when forming a Habitual-Plural stem from the respective Imperfective-Subjunctive stem, i.e. either intercalation (Daffo-Butura and Kulere) or reduplication (Sha)" (1965:106ff.).

From the list of examples given, only a few shall be cited here.

Daffo-Butura	ngóor	:	ngwâar	'bite'
	halâi	:	hâalâi	'hear'
Sha	fud	:	fwadad	'blow'
	bol	:	bólôl	'come'
Kulere	sùm	:	swâam	'catch'
	dik	:	díyâak	'touch, taste'

Compare the following set of corresponding noun plural formations cited from the same publication:

Daffo-Butura	mór	:	mwâr	'slave'
	hwám	:	hwâam	'ear'
Sha	hai	:	haayi	'head'
	matêl	:	matyâl	'hen'
Kulere	kôd	:	kwâad	'fowl'
	sumór	:	sumwâar	'hare'

The fascinating term "Habitual-Plural Stem" used in this early publication was subsequently eliminated by Jungraithmayr because, as he argued a few years later in his more extensive treatment of the Ron languages (1970), just like any other thematic derivational verb stem, "plural stems" ought to be kept distinct from "aspect stems". This is a strictly synchronic distinction made at the expense of the generalizations concerning the relationship of plural and habitual (A-II) verb formations which the former term implied.

If, for the moment, we follow Jungraithmayr's analysis, we find that actually the only language of the group that uses identical formations simultaneously in both categories, i.e. "derivation" and "inflection", seems to be Sha:

	simplex : plural stem	A-I : A-II stem
'break'	gol : golol	
'come'		bol : bóîôl

The other Ron languages (just like Sha with its other verb stem formation types) seem to avoid straightforward morphological ambiguity of this kind. Nevertheless, the common use of identical formatives is apparent once we look at the overall picture of plural verb stems and habitual aspect stems in the whole group. Compare the following chart in which the items are arranged according to types of stems and underlying bases:

Derivational-Thematic ("plural")		Aspectual-Inflexional ("habitual")	
Daffo	bil : byál		
Sha	shum : shwàm		
Fyer	pun : pwaan	Bokkos	lûl : lwââl
Sha	shîsh : shââsh	Daffo	shit : shyaát
		Kulere	ndim : ndyââm
Sha	gol : golol	Sha	bol : bólôl
			kûk : kwákâk
Daffo	hwi : hwy-áy	Kulere	mom : móm-áy
Sha	ci : cy-an		
Fyer	bol : bwal-an	Kulere	dyef : dyaf-ay
			ci : cá-áy
		Bokkos	cu : cwá-áy
		Daffo	cuh : cwa-áy

Within the framework of this important contribution, Jungraithmayr nowhere discusses the relationship of these formations to each other. As was seen in the case of Migama (section 3), the assumed incompatibility of <+plural> and <+imperfective> within a single stem formation prevented the occurrence of an "imperfective + plural" stem. This was in turn compensated for by innovation of a "non-plural imperfective stem". The Ron languages, in at least three of which a situation comparable to that of Migama exists, shall now be submitted to an analysis as to their way out of what appears to be an inherited syntactosemantic dilemma (all examples drawn from Jungraithmayr 1970).

5.1.1. The case of Fyer. This is the only one of the five Ron languages in which <plural> is marked both at base and stem level (Jung-raithmayr 1970:60ff.):

(i) base level only:	munî	: mwinî	'love'
	ngòr	: ngwàr	'bite'
	pun	: pwaan	'circumcise'
	---	: bwaar	'cut/die'
(ii) stem level:	(*bòhò ?) bòi	: bòi-à	'stab'
	bol	: bwal-an	'shoot'

(In addition, there is an extended thematic stem marking "intensive/totality" by the suffix -áq.)

Since Fyer has chosen thematic derivation to be marked at both base and stem level, the aspectual dichotomy remains to be marked suprasegmentally, i.e. by tonal distinctions.⁸ There are no cooccurrence restrictions:

ngòr/ngór	: ngwàr/ngwár
pun/pún	: pwaan/pwáán
munî/múnî	: mwin-/mwín-
bol/ból	: bwalan/bwálán

5.1.2. The case of Bokkos. This language has taken the alternative option if compared with Fyer: it has given up the productive formation of extended thematic verb stems altogether.⁹ Instead, postpositional particles are used--but none to mark <plural>! The morphological means of base and stem formation are thus freely available to mark exclusively the aspectual category. It is worth noting that monoverbs with a high base vowel make use of a stem level extension by a suffix -ay, whereas all

⁸As a matter of fact, the interpretation of the two tonally distinct verb stems as a "dichotomy of aspect" remains somewhat doubtful (cf. also Jung-raithmayr [1970:62], where he assumes "the powers for this 'confusion' to have originated from Angas by which Fyer is surrounded").

⁹There are examples of non-productive base augmentations attested in Bokkos but they are irrelevant for the topic under discussion.

other verbs use base extensions only.

<u>Polyverbs</u>	<u>Monoverbs</u>
lûl : lwáâl 'ask'	(a) dɔ : dɔwáá 'roast'
fu' : fwáá' 'blow'	sha : sháá 'refuse'
musàs : músáàs 'laugh'	(b) cu : cwá-áy 'eat'
pipel : pípyáál 'become white'	dí/dì : dyá-ày 'cook'

5.1.3. The case of Daffo-Butura. In his description of this Ron language, Jungraithmayr simply forgot to mention that "plural verb stems" do exist, as we know from the vocabulary (pp. 212-23), e.g.

bil :	byáál	'draw water'
cu(h) :	cwáy	'eat'
ndus :	ndwás	'close (a hole)'
ngóòɾ :	ngwâɾ	'bite, chew'
hwi :	hwyáy	'throw'
lamo' :	lamwá'	'skin'
ɾagot :	ɾagwát	'throw'
shu(h) :	shwáy	'pour into'

Synchronically, polyverbs form plurals by insertion of /a/ with subsequent diphthongization, whereas monoverbs take an extension suffix -ay (cf. Bokkos above in the category of aspect). Note that the inserted vowel is short /a/. The regular A-II formation in Daffo-Butura works along exactly the same lines except that the inserted vowel is long /aa/. In the case of a few monoverbs, long aa at the surface may go back to either double formation (e.g. CV + a + ay) or plain analogy, e.g. byaál, ndwaás, ngwáàɾ, lamwáá', ɾagwáát; cwaáy, hwaáy, shwaáy. It is left to our imagination whether the distinction in vowel quality represents an old or rather relatively recent device to distinguish between "plural stems" and "habitual stems". However, we cannot expect anything but neutralization of the sg:pl distinction in the A-II formation under these circumstances.

Thus Daffo-Butura marks both <plural> and <A-II> exclusively at the base level with the exception of monoverbs, which use a stem level extension. Leaving the latter aside, there is a thematic derivation available

which uses a homophonous suffix *-ay* to mark predominantly applicative or conative modifications of the verbal meaning at the stem level, e.g.

shit : shyaát / shit-ây : shyaát-ày 'see'/'look at'
 taar : taár / tar-ây : taár-ày 'break'/'break off'

(As in Bökkos, further thematic derivation is achieved by use of various postpositional particles.)¹⁰

5.1.4. The case of Sha. For this language, the existence of three derivational thematic verb stems were suggested by Jungraithmayr: a stem ending in *-o* to mark "motion towards speaker/action at a distance"; a stem ending in *-ay* to mark, among others, "totality/intensive" or "applicative" functions; and thirdly, a "plural stem" for which only five examples could be found:

ci : cyan 'eat'
 du : dwan 'go'
 shum : shwàm 'catch'
 shîsh : shââsh 'slaughter'
 gol : golol 'break (tr.)'

Whereas the *-o* and the *-ay* stems freely occur in the "habitual" (A-II), e.g. *lwágág-ó* '(hab.) rise and come', *lyandand-ây* '(hab.) box someone's ears', there are no examples of "plural stems" in the habitual! For *ci*, we find a habitual formation *cáyây* only, i.e. without the plural suffix *-an* (cf. Fyer *bwal-an* above), but containing the suffix *-ay* which is so typical of the A-II formation of monoverbs not only in Sha but also in Bökkos and Daffo (see above).¹¹ For *du*, there is unfortunately no A-II formation quoted at all. In the case of *gol* : *golol*, no aspect or tense stems whatsoever are labelled as such in the description. According to the rules (1970:271), the habitual of

¹⁰There are a few non-productive base augmentations attested in Daffo-Butura. These do not pertain to <plural/intensive>.

¹¹The analysis of *cáyây* and all other monoverbs as containing the suffix *-ay*, is contrary to Jungraithmayr (1970), who explains all habitual formations of Sha in terms of final radical reduplication and does not consider monoverbs to require special treatment.

any CoC₂ verb is CoC₂oC₂, i.e. golol must contain both indication of A-II as well as of plural. Thus we may speak of base level neutralizations of the sg:pl contrast in A-II stems. In the cases of shum : shwàm and shîsh : shââsh, there too is no sg:pl contrast in the A-II formations:

<-pl>	shum	}	<A-II>	shwàmàm		shîsh	}	<A-II>	shishâsh
<+pl>	shwàm.	}				shââsh	}		

In the five cases cited, the lack of "A-II + pl" stems in the data could be accidental and due to failure to elicit these forms--but it could also be due to a systematic gap caused by the incompatibility of A-II and <+pl> formatives within the same base.

5.1.5. The case of Kulere. According to Jungraithmayr (1970), there are no productive thematic stem extensions at all in this language since he treats the verb stems ending in -o(he) as belonging to the category of aspect/tense. Yet traces of thematic derivation have been noted.¹² The A-II ("habitual-progressive") stems in Kulere (again according to Jungraithmayr) employ the following:

- (1) -aa- infix (polyverbs with high base vowel)
 - (2) -ay suffix (monoverbs, and polyverbs with non-high base vowel)
- (Jungraithmayr's third type (= both -aa- infix and -ay suffix) is based on overdifferentiation of varieties of type 2 above.)

The existence of "plural stems" is definitely ruled out--but compare the following quotation concerning the formation of passive and active participles:

"Comparable to the Arabic mafsuul form, Kulere forms a passive perfective participle of transitive verbs in such a way that a

¹²These rudiments of thematic-derivational extensions of the stem are marked by a suffix -an. Yet this suffix has not persistently been lexicalized as Jungraithmayr seems to imply (pp. 323, 341). This can be seen from the habitual stems where at times the final n is valued as a radical consonant, i.e. a long -aa- occurs in front of it:

ryadân : ryadaân	'draw, write'
lanzân : lanzaân	'box someone's ears'
(cf. without suffix: nî lanz-yâh 'I box your (m.sg.) ears')	

but at times is treated as a suffix to the stem which, in the case of monoverbs, may already carry the A-II suffix -ay: r(i)y-ân : ryá-áy-ân 'see'.

high tone prefix má-, which is reduplicated in the case of monosyllabic verb stems, occurs in front of the shortened perfective stem (in the singular) or in front of the habitual stem (in the plural)" (1970:325-6; translation mine).

Examples are:

fakyen má-má-gyôl	'broken pot'
fakÿên má-má-gywaál	'broken pots'
coh má-má-tûr	'broken walking stick'
côh má-má-twáár	'broken walking sticks'
zâr má-má-sîky	'cut-off rope'
zaâr má-má-syááky	'cut-off ropes'

Compare also the following parallel formations of "passive" and "active" participles:

ɖafál má zyèl	'a killed person'
naaf mú zyaàl	'killed persons'
ɖafál má zyêl	'a killer'
naaf mú zyàlày ¹³	'killers'

The conclusion is apparent: to use the aspectual dichotomy of the verb system to mark the number distinction of sg:pl in agreement with the number of the nominal head of a construction would seem to be a silly thing to do for any language if the number distinction were not inherent in the aspectual dichotomy!

5.1.6. Summary of Ron languages. The following chart summarizes the segmental markers of <+plural> and <A-II> found in the Ron languages.

¹³As regards the two forms zyaàl (extended base) and zyàl-ày (extended stem), the first of which violates the rules of Aspect-II formation in Kulere, we are left to mere guesswork as to whether zyaàl might reflect a formerly productive "plural" base formation. This is the only contrasting pair which I have found in the data.

	<+plural>	<A-II>
Fyer	1. -i- 2. -a(a)- 3. -a 4. -an	
Bokkos		1. -aa- / polyverbs 2. -aa / monoverbs: V<+high> 3. -ay / monoverbs: V<-high>
Daffo	1. -a- / polyverbs 2. -ay / monoverbs	3. -aa- / polyverbs 4. -a-ay / monoverbs
Sha	1. -a(a)- 2. -VC ₂ /C ₁ VC ₂ ____ 3. -an / monoverbs	4. -VC ₂ /C ₁ VC ₂ ____ 5. -ay / monoverbs
Kulere	(1. -aa-)	2. -aa- / polyverbs: V<+high> 3. -ay / polyverbs: V<-high> / monoverbs

As regards cross-word class usage of these base and stem level formatives within the same languages, there are only a few exceptions:

- (a) Fyer has no noun plural to match the formation of *bòh-à* and uses the suffix *-an* only in combination with *-i-* insertion;
- (b) Bokkos uses short *a* (internal or suffixed) in noun plurals as opposed to long *aa* in the verb system;
- (c) Sha does not use the suffix *-an* in noun plurals (there are no monoradical nouns contained in the data anyway!);
- (d) Kulere does not use the suffix *-ay* in noun plurals.

In general, the phonological conditions under which some of the formatives are or are not applied in the verb system are only in a few cases identical to the conditions under which they are applied in the noun system. (It ought to be noted here that the individual Ron languages may use up to eight different noun plural formations through various types of apophonic, suffixal, reduplicative, and tonal processes.) Types of noun plurals found in Jungraithmayr (1970) which match those

verb formations as numbered in the chart above are illustrated below.

Fyer	1.	fèèr : fyèèr	'Fyer individual'
		yuur-ù : yir	'eye'
	2.	bor : bwar	'home'
		hóy : hwàáy	'head'
4.	yuur-ù : yir-án	'eye'	
Bokkos	1.	'àkot : 'àkwàt	'child'
		mwal : mwaál	'ear'
	2.	mùto : mutw-á	'navel'
		re : 'á-ry-à	'husband'
	3.	tìtwi : títw-ày	'sheep'
		fatí : faty-ày	'tree'
Daffo	1.	cířîŋ : cířâŋ	'fingernail'
		kùsúm : kùsàm	'rat'
	2.	cířîŋ : ciříŋ-ay	'fingernail'
		fí : fi(y)-áy	'back'
	3.	sakúr : sakwâar	'slave'
		hwám : hwaám	'ear'
Sha	1.	matèl : matyâl	'hen'
	2/4.	gísh : gishash	'bone'
		bur : burâr	'war'
		'atôn : 'atonôn	'nose'
		bàcèn : bacenen	'bow'
		gabàr : gabarár	'he-goat'
	5.	řakû : řakw-ày	'baboon'
		pérísh : pérísh-ây	'horse'
Kulere	1.	sísíři : sísíyâar	'star'
		kingyéř : kingyaar	'snake'
		sumór : sumâar	'hare'
		řukúh : řukwâh	'baboon'
		zâr : zaar	'rope'

The situation in the Ron languages cannot be taken to be representative of the Western branch of Chadic. For contrastive purposes, I

shall therefore quote from the description of the plural verb bases and one type of noun plural in Kanakuru, and then turn to a discussion of some reduplicative formations in the Hausa verb and noun systems.

5.2. Kanakuru. In his comprehensive treatment of the Kanakuru language, P. Newman (1974:72) described a synchronic process of "consonant hardening" ([+son] → [-son]) for both verb and noun plurals:

"A small subset of Kanakuru verbs are number-sensitive and obligatorily agree in number with the direct object of a transitive sentence, or with the subject of an intransitive sentence. There is never agreement between the verb and the agentive subject of a transitive sentence. These plural verb stems are formed from the singular by "hardening" the second consonant of the underlying root."

It is worth noting that "consonant hardening" is a synchronic rule whereas comparative evidence suggests that historically we are witnessing results of a "weakening" rule in the singular stems of Kanakuru (cf. Newman 1970). We may thus say that weakening has occurred in bases underlying the unmarked stems of modern Kanakuru while the marked (= plural) stems still show the consonants of the historical bases.¹⁴ Cf. a few selected examples from both systems:

<u>Verb system</u>		<u>Noun system</u>	
sg : pl		sg : pl	
dòwé : d'òpé	'tie'	líwè : líp-én	'calabash'
pòrí : p'òdé	'go out'	shéré : shéd-íyán	'gazelle'
múrí : mútè	'die'		

¹⁴In an interesting article which I saw only after the draft of this paper was finished, Frajzyngier (1976) advocates an alternative analysis for Kanakuru verb (and noun) plurals. He has good reason to relate the non-weakening of obstruents in the plural forms to underlying consonant reduplication (!) The quality of the final vowel then becomes predictable from the structure of the first syllable, cf., for instance, the verb 'die':

<sg> : <pl>
 *muti : *mutte
 ↓ ↓
 muri : mute

In this way, Kanakuru provides excellent evidence for the type of plural base augmentation by consonant reduplication which we have already encountered in Migama and, with vowel insertion between the reduplicated radicals, in Hausa, Ron-Sha, and Lamang.

As regards A-II formation in this language, Kanakuru makes use of a nominalized verb stem ("gerundive").

5.3. Hausa. When we turn to Hausa for the discussion of bases that are marked for <plural/intensive>, we find that the situation in this Western branch language is again quite different from that of the Ron languages and Kanakuru. In Hausa, simple bases are in regular contrast with extended bases formed by means of reduplication. The resulting "intensive forms of the Hausa verb" have been exhaustively discussed by Frajzyngier (1965). In Hausa we find several extended bases, i.e. the formations which Parsons (1960/61) has distinguished as "denominative verbs", "extended verbs", "post-reduplicated derivative verbs", and "plural (or frequentative) verbs". According to Frajzyngier's analysis, the "intensive forms" of Hausa verbs are manifested in two of Parsons' classes as (1) "plural verbs", and (2) "post-reduplicated derivative verbs". In addition, there are a fair number of "verbs intensive in shape" (Frajzyngier), i.e. without any simplex being found in the dictionaries--a situation not uncommon in other Chadic languages (cf. Lamang discussed in section 4.1).

The types of reduplicative verb base formation can be illustrated by the following set of stems in Grade IV:

Underlying simple base	Underlying extended base	Type
máakùr-ée 'strangle'	mámmáakùr-ée	(1)
	máakùrkùr-ée	
tárts-èè 'smash'	táràrràts-ée	(2)
	tártsàts-ée	

As the chart above shows, <intensive> verb base formation involves two distinct types of reduplicative processes, type (1) based on syllable reduplication, and type (2) based on final consonant reduplication. Type (1) reduplication based on syllable means addition of a closed syllable to the simple base. The onset consonant of the added syllable and its vowel are copied from the syllable to be reduplicated. The syllable is closed by a coda consonant which is copied from the onset of

the following syllable, if the syllable to be reduplicated is open. Closed syllables are reduplicated completely. Compare:

- (i) máakùr-ée : mámmáakùr-ée (< *mak+maakura < *maa-ku-ra)¹⁵
 hàif-áa : hàhháif-àa (< *hay+hayfi < *hay-fi) 'give birth'
 (ii) máakùr-ée : máakùrkùr-ée (< *maa+kur+kura < *maa-ku-ra)

As the examples demonstrate, this type of reduplication may work on the first syllable as well as the second syllable (in the case of trisyllabic simple bases). Triradical but bisyllabic simple bases of the type CVCCV can be transformed into underlying bases of the type CVCVCV with open first syllable, by insertion of a vowel copied from the first syllable into the second syllable between C₂ and C₃, cf.

- (iii) hàif-áa : hàyyáyáf-àa (< *ha+yaf+yafi < *ha-ya-fi/*hay-fi)
 tártts-èè : tárárràts-ée (< *ta+rats+ratsa < *ta-ra-tsa/*tar-tsa)

We now turn to type (2) of reduplicative verb base formation, i.e. Parsons' "post-reduplicative derivative verbs". Frajzyngier (1965) had mentioned four cases in which these extended bases serve as "intensives" (quoted in the official orthography from Bargery and Taylor):

tartsa	: tartsatsa	'take a bee-line to a place'
tartse	: tartsatse/tararratse	'smash'
girma	: girmama	'grow big' : 'respect someone'
	daukaki	'respect someone'

(Whether the last two examples can be accepted as <intensive> formations remains somewhat doubtful.)

These Hausa formations, of course, bear very close resemblance to formations discussed earlier in this paper, although their use as intensive bases may be of minor importance in modern Hausa. This type involves base level augmentation by means of reduplication of the final radical consonant plus insertion of -a(a)- between the final two radicals. The length of the inserted vowel seems to depend on the structure

¹⁵The abstracted "bases" of Hausa verbs are quoted with a final vowel (following Newman 1975).

of the first syllable of the bases (cf. the examples for "post-reduplicative" verbs in Parsons (1960/61:7, note 14)).

Reduplicative base formation can be found in the noun system of Hausa as well. The reduplication of the first syllable seems to apply to singular forms of semantically marked "non-singular/non-simple" referents, e.g. *fíffíkèe* 'wing (sg.)', *kakkaur-* 'thick', but its use may not be entirely related to semantic properties. Reduplication involving the second syllable as well as the final consonant plus -a(a)- insertion are well attested in base formations which underly certain types of nominal plural stems, e.g.

- | | | | | |
|------|--------------------|---------------------|--------------------|------------------|
| (i) | <i>littáafii</i> : | <i>littàttàafái</i> | (< *littaftaaf-) | 'book(s)' |
| | <i>gàjéer-</i> : | <i>gàjàjjèerúu</i> | (< *gajerjeer-) | 'short (things)' |
| (ii) | <i>gídáa</i> : | <i>gídàajée</i> | (< *gidaad-) | 'compound(s)' |
| | <i>bák-</i> : | <i>bákàakée</i> | | 'black (things)' |

As regards A-II formation in Hausa, this language makes use of a nominalized verb stem. Since base level is thus not involved at all, there is no reason why <plural/intensive> verb bases should not occur in the various forms of A-II ("continuous, relative continuous, negative continuous") which are all based on the verbal noun.

6. Summary and conclusion

With this presentation, I hope to have shown the wide distribution in Chadic of related formatives in plural/intensive and aspect-II verb formations and in noun plurals. At the same time, it was our intention to demonstrate how the distinction between "bases" and "stems" facilitates the analysis and identification of relevant units in the rather complex verb systems of selected Chadic languages, and how it can provide a framework for the comparative study of verb systems.

As concerns the hypothesis or original identity of <plural> and <A-II> in the proto-language, the salient observations made with regard to the selected Chadic languages can be summarized in the chart below.

	Predominantly or exclusively marked at			Related noun plural formatives
	BASE level <+pl>	BASE level <aspect-II>	STEM level* <aspect-II>	
Migama	+	+	+	?
Lamang	+	-	+	-
Ga'anda	+	-	+	-
Kapsiki	+	-	+	-
Bachama	+	-	+	+
Ron-Fyer	+	-	+	+
-Bokkos	-	+	-	+
-Daffo	+	+	-	+
-Sha	+	+	-	+
-Kulere	(+)	+	-	+
Kanakuru	+	-	+	+
Hausa	+	-	+	+

* Includes suprasegmental marking, verbal noun stem substitution, and affixational marking

Three important generalizations can be drawn from the comparative analysis:

(1) Verb systems and noun systems make use of either identical or at least very similar formatives to indicate markedness in binary oppositions, both <sg> vs. <pl> in noun as well as verb systems, and <A-I> vs. <A-II> in the category of verb inflexion. (This has been observed for Bachama, the Ron languages as a whole, Kanakuru, and Hausa--marked + in the last column in the table above. For Migama no data on noun plurals were available, and the three remaining Central branch languages generally use an innovated suffix to mark noun plurals.)

(2) When marking of verbal <pl> and <A-II> takes place at the base level, the two formations are likely to "collide", i.e. they cannot co-occur in one and the same verb stem without the "neutralization" of the sg:pl contrast in the <A-II> formations. (This happens in Migama, Ron-Sha, Ron-Daffo, and probably Ron-Kulere--marked by + + under "base level" in the table above. None of the four Central branch languages was found to

mark <A-II> at the base level.)

(3) The "collision" of these two inherited categories can be avoided without necessarily giving up one of the two. The type of solution to the dilemma depends on choosing which of the categories shall remain marked at the base level. If <A-II> continues to be marked in the bases, verb plurals can be expressed by thematic derivation at the stem level (cf. the monoverbs of Ron-Daffo and Ron-Sha). If the feature <plural/intensive> is marked in the verb base, then <A-II> marking may be shifted completely to the stem level, for instance, by use of special suffixes, by shifting from segmental to suprasegmental marking, by shifting from verb stem to nominalized verbal noun stem, or by any combination of these devices. (Languages of this type are Lamang, Ga'anda, Kapsiki, Bachama, Ron-Fyer, Kanakuru, and Hausa--marked + under "base level <+pl>" and "stem level <A-II>".)

I shall not close this presentation without venturing a possible--though admittedly highly speculative--interpretation of the observed phenomena, i.e. propose a hypothesis on the historical development of the synchronic patterning of related formatives in noun plurals, verb plurals, and the semantically marked aspect. For the purposes of this paper, I shall mainly follow Klingenheben (1928/29, 1956) for Proto-Afroasiatic, and Moscati et al. (1969) for Proto-Semitic (which I take to represent the closest approximation to Proto-Afroasiatic available at the present time).

According to Klingenheben (1928/29:262ff.), the "one and only Proto-Semitic verb form (= East Semitic "preterite", West Semitic "imperfectum") was put into contrast with a second, younger form which was built on a nominal base (= East Semitic "present-habitual"). Within this opposition, Klingenheben and others view the fundamental contrast as being one of an "aorist" (our <A-I>) vs. a "durative-progressive" (our <A-II>). Thus a prior threefold distinction at the base level of

noun base I	:	noun base II		verb base (I)
<unmarked>		<marked>		

was expanded into a symmetrical fourfold distinction of

noun base I	:	noun base II		verb base I	:	verb base II
<unmarked>		<marked>		<unmarked>		<marked>

The marked bases were characterized by such formatives as possibly reduplication of the base (partly or completely, including consonant reduplication especially of 2nd or final radical, with or without [= "gemination"] vowel insertion), segmental augmentation by consonant addition and/or vowel insertion, and/or apophonic vowel changes, to mark plural-like semantic features in both the noun and the verb systems. All bases were allowed to combine with stem-forming affixes, such as gender and number markers in the nominal system, and various inflexional and thematic-derivational affixes in the verb system. I consider it likely that--if only by analogy--the concept of the sg:pl contrast had entered the verb system through this symmetrical reshaping of the base system at some earlier stage of Proto-Afroasiatic. (For the period in which the Proto-Chadic split occurred, I assume--following Jungraithmayr in this respect--that only these two bases operated in the verb system and that the morphological contrast between these two was primarily that of "simple" vs. "augmented".) During a following stage of development within the verb system, the cognitive value of the plural-like semantic feature and its corresponding formatives was lost because the marked base had begun to be transferred from the derivational into the inflexional category. This shift may have been supported by (a) the loss of the binary opposition, i.e. because one of the aspect bases had ceased to function as a simple stem, i.e. as a real unit in the binary opposition, having come to serve only as a common underlying form for a set of affixationally derived "tenses" (in A-II, e.g. for "iterative", "frequentative", "subjunctive", etc.) which, as a group, contrasted with a single tense or group of tenses based on the opposite aspect; and/or by (b) the loss of the marked base itself, i.e. because for certain reasons the A-II base derived stem(s) had been substituted by or merged with other inflexional stems--in Chadic especially with a nominalized stem built on the unmarked (<A-I>) base. Thus A-II was either no longer felt to carry plural-like semantic features or the A-II base had ceased to function as a grammatical unit altogether. In any case, a cognitive category of verbal plurality had developed in competition with the aspectual dichotomy where the latter became more and more interpreted

in terms of "completed" vs. "incompleted" action. Syntactically, these verbal "plurals" were needed to serve either number concord with subject or object, or agreement with semantic factors in a given situation, such as intensity of effort, duration, etc. of action, or both--factors which could not be indicated in the inflexional category, i.e. by aspect or tense (German "Aktionsarten"). At this particular stage of development, verb "plurals/intensives" either remained and became lexicalized with a few verbs or, as a productive process, re-entered the verb system, either through thematic derivation at the stem level, or they were reintroduced at the base level--either to contrast only within A-I formations, or in both A-I and A-II if the latter was or could be marked at stem level. This would explain why in some Chadic languages plural/intensive verb bases look so much like bases which underly A-II formations in the same or other widely separated Chadic languages.¹⁶ If our assumption of the Proto-Afroasiatic origins of the structural phenomena discussed in this paper is correct, we can say that a number of Chadic languages have preserved these traits of the proto-system until today. Strikingly enough, these languages are not confined to only one or two of the three recognized branches of Chadic. It seems that at least present geographical neighborhood does not play any major role in the preservation, further development, reduction, or substitution of the phenomena under discussion. Even adjacent languages of the same subgroup do not necessarily show a particularly close relationship in this respect. We may take this to indicate great age, as is further indicated by the range of variation in the extent to which these formations are made use of within Chadic as a whole.

I am well aware that this paper can do no more than scratch at the surface of a very complex comparative problem. I am also aware that the danger of premature speculation is still always present in comparative Chadic--the more so in comparative Afroasiatic--research once we

¹⁶For subsequent comparative research in this field it is thus advisable to analyze manifestations of A-II in Chadic separately at (i) the base level, and (ii) the stem level. Otherwise we are likely to confuse two structurally and historically different "imperfective" stem formations, namely, (i) verb base II (\pm affix) and (ii) verb base I + affix.

leave the safer grounds of comparative phonology and lexicon. Nevertheless I am of the opinion that the data available from Chadic languages are today of sufficient quantity and quality to venture comparative "enterprises of great pitch and moment" in the field of grammar too. Many aspects of the problem necessarily had to be left unconsidered, mainly because my inquiry into them has not yet gone far enough. Admittedly this paper raises more questions than it answers. Yet one aim of this presentation has been to stimulate fellow Chadicists and maybe even Hamito-Semitists to check the hypotheses and, on the basis of their own experience, either reject the approach suggested here or accept it as a promising line of further research in the fields of comparative Chadic and comparative Afroasiatic.

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