

# KASEM NOMINALS – A STUDY IN ANALYSES

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Kasem is the language of the Kasena, an ethnic group which is found on both sides of the northern border between Ghana and Upper Volta, and which numbers approximately 80,000. It is assigned to the Grusi subdivision of the Gur language group by Westermann and Bryan in Part II of the Handbook of African Languages.<sup>1</sup>

The material for the following analyses was collected between November, 1962, and April, 1963, in the village of Paga in the Upper Region of Ghana, Paga being one of the main population centres of the Kasena in Ghana, and some additions and revisions to the material were made between December, 1963, and March, 1964.

The purpose of this paper is to present three different analyses of the nominal in Kasem, two based on a morphological approach, the third on a 'word' approach which does not require an analysis into morphemes.

All Kasem nominals can be assigned to five major groups (labelled A to E), with one or two minor groups. Each group consists of pairs of forms (with rare exceptions such as *sana* 'millet-beer', which cannot be so paired) which stand in a definite phonological relationship to each other, and which may be conveniently termed 'singular' and 'plural'. It is the phonological relationship between such pairs that forms the principal interest in this paper.

Since it is not possible (in this compass) to present an analysis of all the nominal groups in Kasem, two groups – C and D – have been selected to illustrate the three different analyses, these two groups being chosen mainly because of their inherent phonological interest, but also partly because, in the present corpus, they are two of the largest groups.

Before proceeding to the details of the analyses, some indication of the orthography (a phonemic one) is given. The consonants are represented by standard symbols – p t tʃ k, b d<sup>2</sup> dʒ g<sup>3</sup>, m n ny ŋ, f s v z, l, w y, digraphs being used for the plosive and nasal palatals. There are 10 vowel qualities written i ɛ e ε, u ɔ o ɔ, ə a, and these are grouped into two harmonic sets, an upper (i e ə o u) and a lower (ɛ ε a ɔ ɔ), the vowels in any word being exclusively drawn from one set or the other. Nasalisation of vowels is indicated by a tilde when not contiguous to a nasal consonant, and length with a colon. Tone is not marked as all pairs carry the same tone in the singular and the plural, so that tone is not immediately relevant to the purpose of the paper.

## FIRST ANALYSIS

For this analysis it is assumed that nothing is available other than the language as currently spoken in Paga – no knowledge of Gur language characteristics, related forms, etc. It is a strictly and purely synchronic analysis. Further, it is also assumed that the morpheme is the smallest unit of grammatical analysis, so that every nominal is analysed as consisting of a stem and a suffix, the latter carrying the grammatical category of number-group.

<sup>1</sup> J. T. Bendor-Samuel, in 'The Grusi Sub-Group of the Gur Languages', pp. 47-55 in this issue, confirms this assignment, but suggests that Kasem be considered a separate subgroup within the Grusi sub-division.

<sup>2</sup> d has an allophone flapped r.

<sup>3</sup> g has allophones ɣ and ɣ̃.

The problem, then, is to state as economically as possible, the analysis of each nominal into stem and suffix, and to relate the form of the stem in the singular to that in the plural when they are different.

NOMINAL GROUP C will be analysed first. All singular members of this group have a central vowel (ə, a) suffix, and all plural members a front vowel (i, ɪ, e, ε) suffix.

The stems are divided into two major phonological types, consonant-final stems and vowel-final stems. Further, consonant-final stems are sub-divided into alveolar-final (d, n, l) and velar-final (g, ŋ).

With alveolar-final stems, there are no stem alternants.

bəkədə	bəkədi	boy
kukudə	kukudi	dog
sada	sadɪ	grass mat
fana	fanɪ	knife
mɪmɪna	mɪmɪnɪ	thin
tʃana	tʃanɪ	moon, month
bakala	bakalɪ	shoulder
fələ	fəli	white man
tulə	tuli	granary, store-room

With velar-final stems the singular suffix is added to the stem, but in the plural the stem-final velar is lost, thus bringing the stem vowel into phonological juxtaposition with the suffix vowel. These vowels are then combined according to the following rules:

i + i	>	i
a + i	>	e
u + i	>	wi
o + i	>	we

where the five letters a, e, i, o, u are used indifferently to represent ə or a, e or ε, etc, respectively. ŋ-final stems with a close vowel are usually nasalised in the plural.

digə	di	room
dʒɪŋa	dʒɪ	hand, arm
ləŋə	le	song
naga	nɛ	leg
bugə	bwi	river
zɔŋa	zwɪ	calabash
tʃɔŋə	tʃwɛ	path
kɔga	kwɛ	back

While such process rules are the simplest way of handling these forms, it should also be borne in mind that this implies that in such words as dʒɪ the phoneme ɪ is bimorphic – it consists of the stem vowel ɪ and the suffix vowel ɪ, and that in the word for 'path' there are allomorphs of the stem tʃɔŋ-/tʃw-.

Vowel-final stems are analysed in a manner parallel with the plural of velar-final forms, i.e. by means of vowel-combination rules. In the singular, where the suffix is represented by a, these are:

i + a	>	ia
e + a	>	ia
u + a	>	ua
o + a	>	ua
a + a	>	aa

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The rules for the plural are the same as those stated for the plural of velar-final stems, with the addition of

	$e + i > e$	
kəmbiə	kəmbi	cooking pot
pɪa	pɪ	yam
piə	pe	sheep
babɪa	babɛ	brave
kuə	kwi	bone
nɔa	nwɪ	finger
yuə	ywe	hair
nandʒɔa	nandʒwɛ	fly
daa	dɛ	stick

NOMINAL GROUP D occurs with a back vowel (u, ɔ, o, ɔ) for the singular suffix; the plural suffix is -lu/ɔ ~ -nu/ɔ ~ -du/ɔ, -lu/ɔ occurring with l-final stems, -nu/ɔ with nasal-final stems, and -du/ɔ with plosive- and vowel-final stems.

Stems are again divided into consonant-final and vowel-final types, with the former of these further divided into close-vowel stems and open-vowel stems.

Consonant-final stems with a close vowel (in fact, only u and ɔ are found) add -u/ɔ in the singular. In the plural, d and l-final stems are unchanged; n and ŋ-final become n; and g-final is lost.

tʃɔdɔ	tʃɔddɔ	neighbour
gulu	gullu	drumming
kasɔlɔ	kasɔllɔ	sand
gʊŋgʊnu	gʊŋgʊnnu	kapok cotton
nasɔnɔ	nasɔnnɔ	red
yitʊŋu	yitʊnnu	chair, stool
nyɔŋɔ	nyɔnnɔ	crocodile
təsugu	təsudu	granary cover
kasɔgɔ	kasɔdɔ	bundle of millet stalks

Consonant final stems with an open vowel (in fact, only o and ɔ have been found) add -o/ɔ in the singular. In the plural, all final consonants are lost and the stem vowel is lengthened, except where the final consonant is g. Further the stem vowel is centralised and the initial consonant<sup>4</sup> labialised.

wodo	wə:du	shade
gɔdɔ	gwa:ɔ	cloth
bolo	bwə:lu	valley
yɔɔ	ywa:lɔ	basket for sieving
sono	swə:nu	one who is loved
tɔnɔ	twa:nɔ	skin, paper, book
fɔŋɔ	fwə:nu	a small white ant
ŋɔŋɔ	ŋwa:nɔ	root
fogo	fwədu	die, dice
dʒɔgɔ	dʒwɔdɔ	breechcloth

<sup>4</sup> Strictly speaking, the initial consonant of the nucleus is labialised, the structure of the word being analysed as word = ± periphery + nucleus. See the third analysis for some more details on this point.

All vowel stems are analysed as long in this group. In the plural they all occur with the suffix **-du/ɔ**; in the singular, the stem and suffix vowels (written **u**) combine according to the following rules:

	<b>i:</b>	<b>+ u</b>	<b>&gt;</b>	<b>iu</b>	
	<b>u:</b>	<b>+ u</b>	<b>&gt;</b>	<b>uu</b>	
	<b>e:</b>	<b>+ u</b>	<b>&gt;</b>	<b>io</b>	
	<b>o:</b>	<b>+ u</b>	<b>&gt;</b>	<b>oo</b>	
	<b>a:</b>	<b>+ u</b>	<b>&gt;</b>	<b>a:u</b>	
<b>piu</b>	<b>pi:</b>	<b>du</b>		<b>mountain</b>	
<b>tɔ</b>	<b>tɔ:</b>	<b>ɔ</b>		<b>piece of soil</b>	
<b>kuu</b>	<b>kuu:</b>	<b>du</b>		<b>bone</b>	
<b>dɔɔ</b>	<b>dɔ:</b>	<b>ɔ</b>		<b>vessel for filtering charred millet</b>	
<b>lilio</b>	<b>lil:</b>	<b>ɔ</b>		<b>saliva</b>	
<b>sɔ</b>	<b>sɔ:</b>	<b>ɔ</b>		<b>shea-nut</b>	
<b>nəboɔ</b>	<b>nəb:</b>	<b>ɔ</b>		<b>cattle-yard</b>	
<b>vɔɔ</b>	<b>vɔ:</b>	<b>ɔ</b>		<b>leaf</b>	
<b>ma:ɔ</b>	<b>ma:</b>	<b>ɔ</b>		<b>catapult</b>	

## SECOND ANALYSIS

In this second morphological analysis, linguistic factors other than purely synchronic ones are taken into consideration. In particular, the fact is noted that in many of the Gur languages the nominal suffixes are mostly of phonological structure **CV**, whereas, as has already been demonstrated in the preceding section, a purely synchronic analysis gives Kasem suffixes as mostly **V** in structure. The question is asked, therefore: 'Is it possible to analyse Kasem nominals in terms of suffixes of structure **CV**, so as to bring it more obviously nearer related languages?' This second morphological analysis is an attempt to do so.

Kasem nominal phrases can be analysed in terms of a core and outer periphery, and within the core a system of class concord operates. Comparing the nominal suffixes with the corresponding concordial prefixes certain similarities are evident. They are compared on the following chart.

CHART 1 KASEM NOMINAL SUFFIXES AND CONCORDIAL PREFIXES COMPARED

		A	B	C	D	E
sg.	nom. suf.	-u <sup>5</sup>	-i	-a	-u	-u
	con. pref.	wu-	di-	ka-	ku-	ku-
pl.	nom. suf.	-a	-a	-i	-lu/-nu/-du	-ni
	con. pref.	ba-	ya-	si-	ti-	di-

It will be seen that with one exception (D, plural) the suffix vowel and the prefix vowel are the same for any class, and that in most cases the prefix has an initial consonant whereas the suffix does not. Noting the difference in vowel in the plural of group D and of consonant in the plural of group E, and the general fact that all consonants which are stem-final or suffix-initial are voiced in the spoken language, a set of reconstructed suffixes is postulated as follows.

<sup>5</sup> The five vowel letters will again be used to indifferently represent either of the two harmonic possibilities, both in Chart 1 and in Chart 2.

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CHART 2 RECONSTRUCTED NOMINAL SUFFIXES IN KASEM

	A	B	C	D	E
sg.	*-wu	*-di	*-ga	*-gu	*-gu
pl.	*-ba	*-ya	*-zi	*-du	*-ni

Using these reconstructed suffixes, the morphology of groups C and D will be presented again. Where necessary, phonological 'steps' between the reconstructed suffix and the form as presented in the previous analysis will be postulated, the choice of such steps being guided by phonetic likelihood and distributional limitations in the language. Where necessary, stem forms will also be reconstructed, but this is rarely needed.

NOMINAL GROUP C has reconstructed suffixes \*-ga for the singular and \*-zi for the plural. Following the same general division of the stems into consonant- and vowel-final, with the former further divided into alveolar- and velar-final stems, the following statements can be made.

Using the general symbol t for any of the three alveolars, and C and V respectively for any consonant or vowel, then

$$\begin{aligned} CVt + *ga &> CVt + a^6 \\ CVt + *zi &> CVt + *yi > CVt + i \end{aligned}$$

Using the general symbol k for the two velars, then

$$\begin{aligned} CVk + *ga &> CVk + a^7 \\ CVk + *zi &> CVk + *yi > CVk + i > CV + i \end{aligned}$$

Thus, by postulating the loss of suffix-initial \*g and weakening of suffix-initial \*z to a semi-vowel which is then lost, the reconstructed forms can be related to the present forms of the suffixes. By way of support for the 'steps' it can be pointed out that in the currently spoken language, g is often lost before another consonant, and that no semi-vowels occur word-medially.

NOMINAL GROUP D has reconstructed suffixes \*-gu for the singular and \*-du for the plural. Again, the broad phonological divisions of the first analysis are followed.

Consonant-final stems with the close vowel U can be analysed as follows:

$$\begin{aligned} CUc + *gu &> CUc + u^8 \\ CUd + *du &> CUd + du \\ CUI + *du &> CUI + lu \\ CUn + *du &> CUn + nu \\ CUŋ + *du &> CUŋ + nu > CUn + nu \\ CUg + *du &> CU + du \end{aligned}$$

<sup>6</sup> The examples will not be repeated but reference should be made to the preceding section.

<sup>7</sup> In the case of such pairs as ləŋə/le 'song' and naga/nε 'leg' a reconstructed stem CEk could be postulated, such that

$$*CEk + *ga > *Cek + a > CAk + a$$

This would explain the absence of an Ek-Ak contrast here, and would give this group more symmetry in its stem vowels.

<sup>8</sup> For loss of the suffix-initial \*g, cf. group C in the singular above.

Consonant-final stems with the open vowel  $\text{O}$  can be analysed as follows:

$$\begin{aligned} \text{COc} + *gu &> \text{COc} + *u > \text{COc} + \text{o}^9 \\ \text{COD} + *du &> *CO: + *du > \text{C}^v\text{A}: + du \\ \text{COl} + *du &> \text{COl} + lu > *CO: + lu > \text{C}^v\text{A}: + lu \\ \text{CO}_n + *du &> \text{CO}_n + nu > *CO: + nu > \text{C}^v\text{A}: + nu \\ \text{CO}_\eta + *du &> \text{CO}_n + nu > *CO: + nu > \text{C}^v\text{A}: + nu \\ \text{COg} + *du &> *CO + du > \text{C}^v\text{A} + du \end{aligned}$$

Vowel-final stems are handled in a parallel manner, using the same stems as in analysis 1. All that needs to be postulated is loss of suffix-initial  $*g$  in the singular. Thus,

$$\begin{aligned} \text{CE:} + *gu &> \text{CE:} + *u > *CE + *u > \text{Cl} + \text{o}^{10} \\ \text{CE:} + *du &> \text{CE:} + du \end{aligned}$$

### THIRD ANALYSIS

Both of the previous analyses have assumed as a basic postulate that the smallest unit of grammatical analysis is the morpheme and consequently each nominal has been analysed as bi-morphemic with a stem and a suffix. Supposing, however, that this assumption is not necessarily held and that another assumption is brought to bear, viz, that the maximum congruence of the phonology and the grammar is desirable in an analysis, then the way is opened for a rather different approach.

In Kasem, so far as I have been able to ascertain, there is no marked correlation between the phonological system and the morpheme, except in so far as the latter may coincide with the syllable, nucleus, or periphery. On the other hand, the (grammatical) word is a clearly marked phonological unit: with certain exceptions, it is the domain of the vowel harmony system; and considering the word to consist of a nucleus and a periphery, the distribution of tone and nasality is readily related to the structure of the word. Given the above assumption, therefore, that maximum congruence between the grammar and the phonology is desirable, an analysis of the Kasem nominal with the word as the basis, and without any use of the morpheme, would be sought. Such an analysis is attempted below.

The simple word in Kasem can be analysed as consisting of a nucleus preceded by an optional periphery, thus,

$$\text{word} = \pm \text{periphery} + \text{nucleus.}$$

For the study of the nominal, only the nucleus is relevant; that is to say, two nominals in the same group and with the same nucleus but different peripheries would show identical phonological relationships between the singular and plural forms, e.g.  $\text{t}\text{a}\text{t}\text{a}\text{g}\text{a}/\text{t}\text{a}\text{t}\text{w}\text{a}\text{d}\text{a}$  'basket' and  $\text{k}\text{a}\text{t}\text{a}\text{g}\text{a}/\text{k}\text{a}\text{t}\text{w}\text{a}\text{d}\text{a}$  'unmarried girl', the former having a periphery  $\text{t}\text{a}$ , and the latter a periphery  $\text{k}\text{a}$ .

For the purposes of this analysis, the nucleus is regarded as occurring in two forms,  $\text{CVc}$  and  $\text{CV}$ , where  $\text{C}$  may be any consonant (not further defined, as not relevant);  $\text{V}$  may be one of the two units  $\text{l}$  and  $\text{A}$ , where  $\text{l}$  signifies any non-central close vowel articulation, and  $\text{A}$  signifies a central articulation<sup>11</sup>;  $\text{c}$  is simply divided into alveolar

<sup>9</sup> This assimilation of  $\text{u}$  to  $\text{O}$  is still operative at certain points in the spoken language, especially in the construction verb + pronoun object.

<sup>10</sup> This last 'step' is an interesting case of metathesis, in this instance between the phonological features of 'open' and 'close', while the features of 'front' and 'back' are unchanged. This type of metathesis is not uncommon in the language, both in the nominals and in the verbs.

<sup>11</sup> In the *Third Analysis*, owing to a typographical ambiguity,  $\text{l}$  is read as  $\text{I}$ , not as the lower-case consonant  $\text{l}$ .

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members t and velar members k; and v may be either i or a, with the same signification as l and A.

In addition, certain features or prosodies are postulated: length, marked by a circumflex over the unit that is long; openness of articulation marked by underlining the V and/or v units; and backness and rounding marked by a w preceding the initial C.

It should be emphasised that this is not an attempt to present a complete phonological analysis of the word in Kasem,<sup>12</sup> nor even of the nominal in Kasem, but only of nominal groups C and D. This being so, those features of the phonology which are most relevant to these groups have been selected for emphasis.

The singular-plural pairings can then be stated by means of phonological formulae, firstly in as general way as possible, and then more specifically. The symbol :: is used to mean 'is in phonological relationship with'.

NOMINAL GROUP C can then be described by means of the following two general formulae:

$$\begin{array}{l} CVta :: CVti \\ Cl(k)a :: Cl \end{array}$$

This second formula can be broken down into the four more specific formulae:

$$\begin{array}{ll} Cl(k)a :: Cl & \text{e.g. digə/di} \\ wCl(k)a :: wCl & \text{e.g. nɔa/nwɛ} \\ Cḷ(k)a :: Cḷ & \text{e.g. naga/nɛ}^{13} \\ wCḷ(k)a :: wCḷ & \text{e.g. tʃɔŋə/tʃwɛ} \end{array}$$

NOMINAL GROUP D can be summarised in four formulae, as follows:

$$\begin{array}{l} \underbrace{wClci} :: \underbrace{wCl̂ci} \\ \underbrace{wCḷci} :: \underbrace{wC\hat{A}ci} \\ \underbrace{Cli} :: \underbrace{C\hat{I}ci} \\ \underbrace{C\hat{A}i} :: \underbrace{C\hat{A}ci} \end{array}$$

where the bracketing indicates the following correspondences:

$$\begin{array}{l} \text{alveolar} :: \text{alveolar} \\ \eta :: n \\ \text{g, zero} :: d \end{array}$$

with the additional note that when  $\hat{c}$  corresponds with g, it is realised as a flapped r. With these additional comments, no further breakdown of the formulae is needed, except in the case of the third correspondence, which can be expanded to

$$\begin{array}{l} Cli :: C\hat{I}ci \\ Cḷi :: C\hat{I}ci \end{array}$$

### CONCLUSION

One may be tempted to ask, on being presented with three such analyses as these of the Kasem nominal whether any of these is to be considered better than the others. But if it were possible to answer such a question it would imply that these three analyses could

<sup>12</sup> If it were so, such features as vowel harmony, nasalisation, and pitch would have to be included.

<sup>13</sup> There is a problem here, in that the phonetic exponent of  $\bar{}$  in  $Cl(k)a$  is  $[a]$ . However, as noted in fn. 2, there is no  $[e/\bar{e}]$  or  $[\epsilon/\bar{a}]$  contrast at this point, so that  $\bar{}$  can be defined as indicating lowering and centralisation in this particular context.

be measured against some independent and absolute scale and by this means their relative merits assessed. But no such scale is available, and while its possibility cannot be excluded, it seems very doubtful if it will ever be developed, as the differences between these analyses are not those of degree but of basic assumptions, which, in the nature of the case, are not directly comparable.

Rather, it would seem better to take the view that each of these analyses throws its own light upon the structure of the Kasem nominal, and that each has its own contribution to make to a maximum understanding of this particular grammatical class. The first analysis, for instance, within the framework of the concept of the morpheme, highlights the strictly synchronic analysis and makes plain the current shapes and relationships of the morphemes involved. The second analysis, on the other hand, while still operating with the morpheme, recognises that Kasem is not an isolated language without links with other languages, and so seeks to do justice to those relationships by reconstructed forms which make the links more obvious, thus enabling similarities and differences to be more readily observed.

The third analysis, because of the phonological significance of the word, seeks to present an analysis in terms of the word and its phonology, using a phonological system different from a phonemic one. This process obviates the necessity for morpheme cuts, gives more flexibility in handling such features of the nominal as length, openness, and labialisation, and brings out the closely integrated phonology of singular and plural forms in a way that is not possible for the other two analyses.

Each analysis, therefore, highlights aspects of the Kasem nominal which the others do not, and each, therefore, makes a unique contribution to the fullest possible understanding of this nominal. In this way, then, they are not seen as rivals for some linguistic crown, but as complementary parts of a comprehensive total analysis, each serving different functions.