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The Annual Proceedings of the Berkeley Linguistics Society is published online via eLanguage, the Linguistic Society of America's digital publishing platform.
The Category Structure of Kusaal
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University of California, Santa Cruz

0. Introduction

Kusaal, the language of the Kusasi, is spoken in northeasternmost Ghana and adjacent Bourkina Faso (aka Upper Volta). There are approximately 122,000 speakers in Ghana and an additional 12,200 in Bourkina Faso. Kusaal is a Gur (or Voltaic) language, classed in a Central subclass of the Moore-Gurma Group. It is most closely related to e.g. Moshi, Dagbani, Gurendi, Manpruli and Degeri.

The focus of this paper is the categorial status of nominal modifiers in Kusaal. Put simply: does Kusaal have adjectives or not? I present here the data that I have which bear on answering this question and offer a tentative answer in the negative. After a necessarily brief structural sketch, I will present three arguments which suggest that if there are adjectives in Kusaal, then wherever they occur, they are either verbs or nouns. I will then briefly consider how to embed an analysis of this data into X-bar theory.

1. Structural Sketch

Kusaal has a strict SVO word order. It has postnominal modifiers and determiners and prenominal possessor NPs, as illustrated in examples (1-2):

1.a akúgr wá?ad
   .b akúgr kád-té bó:g-la
   .c bó:g-wá kád-té akúgr

2.a awín yěd bó:g
   .b awín yěd bó koďr
   .c awín kád-té akúgr bó:g-la

Akúgr dances
Akúgr is chasing the goat
This goat is chasing Akúgr
Awin sees a goat
Awin sees an old goat
Awin is chasing Akúgr’s goat

The verbal morphology is relatively straightforward. There are two aspectual suffixes (-té ‘imperfective’ and -ya ‘perfective’) and preverbal auxiliaries which code temporal reference and polarity:

3.a awín wá?ad
   .b awín wá?adtě
   .c awín wá?aya
   .d awín na wá?
   .e awín sa na wá?
   .f awín de: na wá?
   .g awín sa wá?ad
Awin dances
Awin is dancing
Awin has danced
Awin will dance (neutral)
Awin will dance (tomorrow)
Awin will dance (after tomorrow)
Awin danced (yesterday)
Nominal morphology is equally straightforward: nouns are generally overtly marked to show singular and plural number by pairs of suffixes. Which pair of suffixes a given noun takes is largely arbitrary, though there are some semantically-based generalizations. Examples of nominal forms from the major morphological subclasses are given in the chart on the next page.

The parentheses in the Base forms mark the result of a morphological rule of Stem Truncation, which neutralizes the contrast between [V], [V:] and [Vi?Vi]. This rule applies to both nouns and verbs when their base forms occur as individual words.

Though this suffixal morphology is familiar “noun class” morphology of west African languages, in Kusaal this classification of the nouns is not reflected in any concord system. The verb does not agree with its object or subject. The third person pronouns in the singular are ə ‘s/he’ and ə/e ‘it’, and reflect a human/nonhuman contrast rather than the class system suggested by the number morphology. Nor is there any noun phrase–internal concord either.

The forms listed as “long” in the table occur in a limited environment. The last word in a polarity question, certain constituent questions, and negated declaratives occurs in its “long” form. A few examples of this phenomenon, discussed further in England and Ladusaw 1984, must suffice here. Given the syntax of Kusaal, a word of any syntactic category could come to be the final word in a sentence, as the examples in (4–10) illustrate. The final word, whatever it is, must appear in its long form.

4.a awín wá?ad
   .b awín wá?ada
5.a awín yêd bôg
   .b awín yêd bô ga
6.a awín yêd bó kodré
   .b awín yêd bó kodre
7.a awín yêd bógwâ
   .b awín yêd bó gwâ:
8.a o na yom be:wg
   .b o na yom be:go
9.a o yêné bôg be pe?ewg
   .b o yêné bôg be pe?ego
   .c *o yêné bôga be pe?ego

Awin danced (before yesterday)
Awin didn’t dance
Awin won’t dance

Awin is dancing
Is Awin dancing?
Awin sees a goat
Does Awin see a goat?
Awin sees an old goat
Does Awin see an old goat?
Awin sees this goat
Does Awin see this goat?
S/he will sing tomorrow
Will s/he sing tomorrow?
S/he saw a goat or a sheep
Did s/he see a goat or a sheep?
<table>
<thead>
<tr>
<th>Gloss</th>
<th>Base</th>
<th>Sing.</th>
<th>Plural</th>
<th>Long Sg.</th>
<th>Long Pl.</th>
<th>Class</th>
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<td>peʔes</td>
<td>peʔego</td>
<td>peʔese</td>
<td>og/s</td>
</tr>
<tr>
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<td>núʔog</td>
<td>núʔus</td>
<td>núʔogo</td>
<td>núʔose</td>
<td>og/s</td>
</tr>
<tr>
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<td>móg</td>
<td>móːs</td>
<td>móːgo</td>
<td>móːse</td>
<td>f/s</td>
</tr>
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<td>sel</td>
<td>selog</td>
<td>selus</td>
<td>selogo</td>
<td>seluse</td>
<td>f/s</td>
</tr>
<tr>
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<td>pè:wg</td>
<td>pè:d</td>
<td>pè:go</td>
<td>pè:de</td>
<td>og/d</td>
</tr>
<tr>
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<td>tóg</td>
<td>tóːd</td>
<td>tóːgo</td>
<td>tóːde</td>
<td>og/d</td>
</tr>
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<td>kábog</td>
<td>kábod</td>
<td>kábogo</td>
<td>kábode</td>
<td>g/s</td>
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<td>gbáwn</td>
<td>gbánaʔ</td>
<td>gbáwnj</td>
<td>gbánnəː</td>
<td>og/a</td>
</tr>
<tr>
<td>basket (flat)</td>
<td>pén</td>
<td>pèwn</td>
<td>pènaʔ</td>
<td>pèwnj</td>
<td>pènəː</td>
<td>g/s</td>
</tr>
<tr>
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<td>pús</td>
<td>púsug</td>
<td>púsus</td>
<td>púsuga</td>
<td>púsuse</td>
<td>g/s</td>
</tr>
<tr>
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<td>sé:g</td>
<td>séːs</td>
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<td>bóːs</td>
<td>bó:ga</td>
<td>bóːse</td>
<td>g/s</td>
</tr>
<tr>
<td>alligator</td>
<td>ó(ː)</td>
<td>óg</td>
<td>óːd</td>
<td>ó:ga</td>
<td>óːde</td>
<td>g/d</td>
</tr>
<tr>
<td>jute fibre</td>
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<td>pí:g</td>
<td>píːd</td>
<td>pí:ga</td>
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<td>āːdug</td>
<td>āːdaʔ</td>
<td>āːduga</td>
<td>āːdaː</td>
<td>g/a</td>
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<tr>
<td>blackberry</td>
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<td>āːr</td>
<td>āːdaʔ</td>
<td>āːrəː</td>
<td>āːdaː</td>
<td>r/a</td>
</tr>
<tr>
<td>yam</td>
<td>bús</td>
<td>búsəʁ</td>
<td>búsəʔ</td>
<td>búsəʁe</td>
<td>búsəː</td>
<td>g/s</td>
</tr>
<tr>
<td>anthill</td>
<td>yɔ(ː)</td>
<td>yɔːr</td>
<td>yɔːyaʔ</td>
<td>yɔːrəː</td>
<td>yɔːyaː</td>
<td>g/s</td>
</tr>
<tr>
<td>gourd</td>
<td>gáʔ(ː)</td>
<td>gáʔər</td>
<td>gáʔəʔ</td>
<td>gáʔəɾə</td>
<td>gáʔəː</td>
<td>g/s</td>
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<td>gel</td>
<td>geləʔ</td>
<td>gelə</td>
<td>geləː</td>
<td>B/a</td>
</tr>
<tr>
<td>calabash</td>
<td>wám</td>
<td>wám</td>
<td>wáməʔ</td>
<td>wámə</td>
<td>wáməː</td>
<td>B/a</td>
</tr>
<tr>
<td>monkey</td>
<td>wær:N</td>
<td>wærŋ</td>
<td>wær:me</td>
<td>wærŋŋa</td>
<td>wær:məːse</td>
<td>N/s</td>
</tr>
<tr>
<td>beetle</td>
<td>pæN</td>
<td>pæŋ</td>
<td>pæːs</td>
<td>pæŋŋa</td>
<td>pæːse</td>
<td>N/s</td>
</tr>
<tr>
<td>a bird</td>
<td>pé(ː)</td>
<td>pé:f</td>
<td>péːs</td>
<td>pé:fə</td>
<td>péːse</td>
<td>f/s</td>
</tr>
</tbody>
</table>
10. a. o po ye? bó:ge?  
   b. o po ye? pë:go?  
   c. o po ye? bó:g be nida?  
   d. *o po ye? bó:ge be nida?  
   S/he didn't see a goat  
   S/he didn't see a basket  
   S/he didn't see a goat or a person

The long form of a word is generally formed from consonant-final short forms by the addition of a low vowel ([a], [a] or [e]). Which vowel is added cannot be predicted phonologically. The long forms of nouns are determined by the noun class of the noun. Consonant-final verb forms have their long form determined by their aspectual suffix. Vowel-final forms simply lengthen the vowel. The source of this curious alternation is historical: apparently Kusaal has reduced the nominal class suffixes of Gur by first lowering and then deleting the final vowels. This deletion seems to have been blocked sentence-finally in these constructions, giving rise to this curious hybrid of an inflectional process and cliticization.

Describing the base form of the noun leads us directly to the matter at hand: are the modifiers of nouns to be considered adjectives? To consider this question we turn to an examination of the NP-internal syntax of Kusaal.

2. NP Internal Syntax

The category Determiner is optional in the Kusaal noun phrase: a bare noun will be read as indefinite:

11. a. awin gottë bó:g  
    b. awin gottë bó:s  
    Awin is watching a goat  
    Awin is watching some goats

There are two enclitic definite determiners: -la 'distant' and -wë 'proximal'. These determiners attach to the final word of the head of the nominal phrase and show no indication of number:

12. a. awin gottë bó:ga-la  
    b. awin gottë bó:s-la  
    c. awin gottë bó:g-wë  
    d. awin gottë bó:s-wë  
    Awin is watching the goat  
    Awin is watching the goats  
    Awin is watching this goat  
    Awin is watching these goats

Numerals and other quantifiers appear phrase-finally. The presence or absence of a definite article distinguishes partitive and simple noun phrases, respectively.
13.a bó:s-ayi kadtē akugr  
.b bó:s-ia ayi kadtē akugr  
.c bó:s-wa wosa kadtē akugr  

Two goats are chasing Akugr  
Two of the goats are chasing Akugr  
All of these goats are chasing Akugr  

The important thing to note about these determiners is that in each case the noun retains its number marking. This is not the case with other forms of modification:

14.a bó kängā kad akugr  
.b bó bāmmā kad akugr  
.c bó kān kad akugr  
.d bó bān kad akugr  

This goat (not that one) chased Akugr  
These goats (not those) chased Akugr  
That (point) goat chased Akugr  
Those (point) goats chased Akugr  

Here the noun bó:g/bó:s appears in its base form: the stem to which the usual number suffixes are added, shortened by the stem truncation rule which neutralizes vowel length in stems. Note that though there is no indication of number on the noun, the noun phrase as a whole is marked. These demonstratives have different forms (morphologically similar to third person pronouns) for singular and plural. They are not members of the same category as -la and -wa, as they may cooccur.

When nouns are modified by the forms which I will call “putative adjectives”, the same truncation of the noun occurs:

15.a pe kodr  
.b pe kodaʔ  
.c bo kodr  
.d bó kodaʔ  

'an old sheep', 'an old basket'  
'old sheep', 'old baskets'  
'an old goat'  
'old goats'  

16.a pe bedr  
.b pe bedeʔ  
.c bó bedr  
.d bó bedeʔ  

'a big sheep', 'a big basket'  
'big sheep', 'big baskets'  
'a big goat'  
'big goats'  

In these cases, the number is marked on the last element of the NP, not on the presumed head noun. There are two points to notice here. First note that the loss of number marking and truncation of long vowels leads to homonymous stems in many cases. Hence the alternative glosses in these examples. The word peʔɛwŋ 'sheep' (high) and pe:wŋ 'basket' (low) both have the stem pe (though they differ in tone). The former is a noun of the og/s class while the latter is of the og/d class. The word bó:g 'goat' is of the g/s class. The putative adjectives kodr/kodaʔ 'old' and bedr/bedeʔ 'big' do not alter their forms to indicate the class of the noun modified. The second point to note is the ending on the putative adjectives: the r/a alternation is the mark of one of the major noun classes.
The first group of determiners mentioned, -la, wā, and the numerals and quantifiers may appear as expected at the end of the NPs in (15) and (16). The demonstratives käggā, bāmmā, etc. occur after these putative adjectives, and their effect on them is exactly what the adjectives have on the nouns:

17.a pe kod käggā 'this old sheep/basket'
   .b pe kod bāmmā 'these old sheep/baskets'
   .c bo bed kān 'that big goat'
   .d bó bed bān 'those big goats'

The loss of the number marking on all but the rightmost noun, putative adjective or demonstrative is obligatory. Indication of number does not, however, necessarily disappear from the head noun. The noun 'man', for example, does not show number by suffixation but rather has two morphologically unanalyzed forms: dau (singular) and dēp (plural) as shown in (18). When modified by a demonstrative or a putative adjective, the form does not alter as shown in (19) and (20). This is not generally true of human nouns, as (21) indicates.

18.a dau-la the man
   .b dēp-la the men
19.a dau käggā this man
   .b dēp bāmmā these men
20.a dau gīg a short man
   .b dēp gīmis short men
21.a pua?-la the woman
   .b pueb-la the women
   .c pua? vēllīg a beautiful woman
   .d pueb? vēllīs beautiful woman

3. Predicative Putative Adjectives

Let us assume that the forms vēllīg and gīg are adjectives in these noun phrases, being used attributively, and then ask how they may be used predicatively. It turns out that the question of how one says the woman is beautiful has two answers:

22.a pua?-la vēl the woman is beautiful
   .b pua?-la anē vēllīgā the woman is beautiful
   .c pueb-la vēl the women are beautiful
   .d pueb-la anē vēllīse the women are beautiful
23.a dau-la gim
    .b dau-la anē giggē
    .c dap-la gim
    .d dap-la anē gimise

    The form anē in the (b) and (d) examples is a copula verb which may also link subject NPs and predicate nominals:

24.a awin anē pua?
    .b awin anē dau
    .c awin nē akugr anē dap

    Awin is a woman
    Awin is a man
    Awin and Akugr are men

What are the forms vel and gig? They are verbs: the verb-form of the putative adjectives. I can deduce three arguments from my limited data that support the analysis of the forms in these sentences as verbs. These arguments do nothing to disallow an analysis of the other forms as nouns. Hence the suggestion that if there are adjectives in Kusaal, they are always either nouns or verbs. I shall henceforth refer to the forms like vel and gig as V-form adjectives, and the veligga and gimise as N-form adjectives.

Morphological Criteria

All N-form adjectives show number marking by pairs of suffixes which are possible noun suffix pairs:

25.a r/a class:
    .b og/a class:
    .c ə/a class:
    .d og/d class:
    .e g/s class:
    .f f/s class:

    tētaʔar/tēta:    maʔasər/maʔasə    bo:log/bo:lə
    pulu/pulə    tə:1/tə:1a    we:wg/we:d
    bə:lig/bə:lis  fɪː:fɪː:s

    'tall'
    'green, tender'
    'soft'
    'white'
    'hot'
    'red'
    'slim'
    'small'

The forms listed in (25) all have endings like some other nouns do. These are the forms used post-nominally as attributive adjectives. The forms like veligga which are used after the copula anē are all forms which look like the long forms of some noun. (Generally it is the long form of the expected class, though in a few cases about which I
can say nothing intelligent here, it is the long form expected for some other class.) Hence on morphological criteria N-form adjectives pattern with nouns.

N-form adjectives are subject to the same suffix deletion rule that nouns undergo when a demonstrative is added. When used after ame they show agreement in number just as predicate nominals do. V-form adjectives, on the other hand, are invariant in number just as verbs are. I have no instances in my data of a clear V-form adjective occurring with the suffixial morphology of verbs, but this would, in any case, be only the two aspectual suffixes. One would, on independent grounds, not expect the imperfective suffix to be compatible with these presumably stative verbs, but it is predicted that the perfective -ya should be compatible with adjectives given the right context.

On simple morphological tests, then, these adjectives seem to be able to look like either verbs or nouns, and their behavior seems consistent with their in fact being verbs or nouns.

**Coordination**

Kusaal presents us with an apparently elegant diagnostic for the category of the head of a phrase. Conjoined constituents take one of two coordinators, m̂e or ka, depending upon the category of their head, m̂e being used for conjoining noun-headed phrases and ka for verb headed phrases. The expected distribution of these items is borne out by the data in (26):

26.a akugr n̂e awín kad bo:g la
   .b akugr kad bo:glə n̂e pe?egla
   .c *akugr k' awín kad bō:glə
   .d *akugr kad bó:glə ka pe?egla
   .e dau n̂e pua? la kad bo:g la
       Akugr and Awín chase the goat
       Akugr chases the goat and the sheep
       the man and woman chase the goat

27.a akugr gosud b̂i:g-la ka dogud m̂u
    .b *akugr gosud b̂i:g-la n̂e dogud m̂u
    Akugr watches the child and cooks rice

28.a akugr wa?am ka b̂íl
    .b *akugr wa?am n̂e b̂íl
    .c akugr a b̂íl:ga ka a ĝiŋĝa
    .d *akugr a b̂íl:ga n̂e a ĝiŋĝa
    .e akugr a b̂íl:ga n̂e ĝiŋĝa
    .f *akugr a b̂íl:ga ka ĝiŋĝa
    Akugr is tall and thin
    Akugr is thin and short
The data that I have shows that, though the coordinator need not always be present in all cases of coordination, when it is present, its form is always determined by this rule. The examples in (28) show that N-form adjectives are coordinated with the noun coordinator, while the V-form adjectives are coordinated with the verb coordinator.

The intensifier sed

The intensifier sed ‘really’ can only be used to intensify verbs. V-form adjectives may be intensified with sed, but N-form adjectives may not. (They may sometimes be reduplicated for intensification.)

29.a o sed zad
   .b o sed glim
   .c *o ane sed gagg

30.a o sed veel
   .b *o ane sed veelig
   .c o ane veela veela

4. Does Kusaal have Adjectives?

It is possible that N-form adjectives are simply derived from V-form adjectives (or vice-versa). This is suggested by the forms adduced here which have a full paradigm of six forms: verb, N-form base, N-form singular short, N-form singular long, N-form plural short, and N-form plural long. Of the twenty-three potential adjectives in my corpus, thirteen have a full paradigm. The form of these adjectives does not indicate clearly whether a putative derivation process should be considered to proceed from V-forms to N-forms: the V-form adjectives are either identical to the N-form stems or the stem plus a final -am. Equivalently, the N-form adjectives could be derived by stripping the V-form adjective of its final -am (if any) and adding some nominal number suffix pair.

The remaining ten potential adjectives occur as either a full N-form paradigm with no V-forms, or else simply as verbs. These forms tend to be paired up by elicitation of translations, but are not, I think, morphologically related. Hence teta‘ar ‘big’ has only N-forms. Attempts to put some form of this adjective in a verbal context elicited zuaya, which turns out to be an enchaetive meaning ‘become big’ or ‘grow up’. The verb pad ‘small’ has no N-forms. Attempts to put this verb after the copula ane elicted:
by a nominalization process which turned the verb into a mass noun. Whatever
derivational relation exists between the N-forms and V-forms of full paradigm adjectives
is clearly not one which is creatively applicable.

The situation as I have laid it out is probably familiar to those acquainted with west
African languages. Welmers 1973, in a chapter titled "Adjectives and Unadjectives"
devoted to warning us from leaping thoughtlessly from 'nominal modifier' to 'adjective'
discusses the case of another Gur language, Suppure, in which similar facts obtain. There,
attributive adjectivals take nominal morphology and trigger the loss of the morphology on
the modified noun. The NP thus formed in Suppire, however, can be argued, presumably
in virtue of its concord system, to be of the class of the adjective, not that of the presumed
head noun. Welmers concludes (p. 264) "the data strongly suggest that the forms in
question are nominal, and that they combine with the stems of other nouns to form a type
of compound noun, the class of which is the modifier rather than the head." As in Kusaal,
the inability to establish a regular morphological relation between such forms and verb
forms clouds the derivational position. On the basis of the data that I have, I must arrive
at essentially the same conclusion as Welmers: (p. 267) "It would require more data and
analysis to define the status of qualificatives satisfactorily in terms of the total structure
of the languages, but it is clear that one must be most suspicious in respect to a class of
"adjectives".

5. Kusaal "Adjectives" and X-bar syntax

I conclude here with a brief consideration of the data discussed here within X-bar
theory. X-bar theory is a cluster of assumptions about phrase structure. Most important
in this matter are the assumptions that lexical categories are to be treated in terms of a
feature system and that phrasal categories are projections of those categories. The
argument for this position in syntax is parallel to that for the interpretation of
phonological segments as bundles of features. To interpret categories as co-equal
pigeonholes in the lexicon prohibits the capturing of cross-categorial generalizations, or
rather, makes all cross categorial generalizations equally natural. The claim of X-bar
theory is that rules generalize across certain 'natural classes' of categories. Interpreting
categories as feature bundles allows certain rules to be formulated compactly and others to
be not so easily formulated. Motivation for such feature systems is to be drawn from a
study of which classes of categories are treated as natural classes by the syntactic rules of
languages.

Kusaal's "adjectives" find no straightforward treatment as a major category within
an X-bar analysis. All of the syntactic rules that I have found treat V-form adjectives and
verbs identically, suggesting that there is no major categorial distinction between them.
The rules that I have discussed here likewise treat N-form adjectives and nouns
identically. Even should a rule be found which did distinguish between the two, it would be
reasonable to question the justification for considering the distinction to be one between
major categories rather than as between subcategories within the major categories of
nouns.
On this view, the question of whether Kusaal, or any language, has adjectives or not is a question about the distinctions drawn by its syntactic rules. The categories of the lexicon are as much a projection of the rules of the language as vice versa.

Footnotes

*The analysis presented here is the result of joint work with Nora C. England of The University of Iowa and is based on data from one native speaker of the Bawku, Ghana, dialect. I am grateful for comments from Geoff Pullum and the participants at the January meeting of the Northern California African Linguistics Association. This research has been supported by research grants from the University of California, Santa Cruz, and the University of Iowa. I gratefully acknowledge the support of the Syntax Research Center of UCSC and University House of the University of Iowa.

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