THE AGREEMENT OF NOMINAL PREDICATES IN LUGANDA[1]

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1. Introduction

It is natural to expect in a language that has features of gender
and number that subject nouns, which have inherent gender, will impose
those features on at least some other gategories which do not have in-
herent features. Such categories may include adjectives, demonstratives,
pronouns, or verbs. Bantu languages provide a particularly fertile
field for the investigation of grammatical agreement, since they probably
have the most pervasive system of noun genders. Givón [1969] has dis-
cussed this phenomenon in Bantu, in which head nouns spread their gender
(and number) features to virtually all categories that lack inherent
gender. These categories are:

> demonstratives ordinals
>
> intensifiers pronouns
>
> adjectives copulas
>
> numerals verbs

The following sentence in Luganda is illustrative:

(1) ebibala ebyo ebilungi ebisatu bye yalidde tebibadde bibisi
     'Those three nice fruits which he ate were not ripe'

I will show below that in Luganda it is sometimes necessary for a
subject noun to impose its gender on a predicate noun, and I will attempt
to determine to what extent and under what conditions this can occur.
We will also see that sometimes a predicate noun seems to impose its
gender on a subject noun, and I will examine some of the implications
of this vexing fact.

2. Generic versus specific and derived gender

First, one would expect a language to allow such sentences as:

(2) NP_x is NP_y

where NP_x is either specific or generic and NP_y is generic, even if both
are of different genders. Examples (3) - (5) illustrate that this is,
in general, true in Luganda, and in fact it is undoubtedly universal.

(3a)	effumbe kisolo	'a civet (5/6) is an animal (7/8)'
(3b)	*ekisolo ffumbe	*'an animal is a civet'
(3c)	ekisolo ekyo ffumbe	'That animal is a civet'
(3d)	*effumbe elyo kisolo	*'<u>That</u> civet is an animal'
(4a)	elyenvu kibala	'a banana (5/6) is a fruit (7/8)'
(4b)	*ekibala lyenvu	*'a fruit is a banana'
(4c)	ekibala ekyo lyenvu	'That fruit is a banana'
(4d)	*elyenvu elyo kibala	*'That banana is a fruit'
(5a)	ŋŋaali nnyonyi	'a crested crane (1a/2a) is a bird (9/10)'
(5b)	*ennyonyi ŋŋaali	*'a bird is a crested crane'
(5c)	ennyonyi eyo ŋŋaali	'That bird is a crested crane'
(5d)	*ŋŋaali oyo nnyonyi	*'<u>That</u> crested crane is a bird'[2]

The starred forms do not, of course, indicate any constraint on
mixing genders, but rather the universal constraint on semantic struc-
ture that definitional paths (see Bever and Rosenbaum [1970]) are one-
way. It is a matter of set relations that can be illustrated by para-
phrastic definitions whereby one must move up the path node by semantic
marker node. Thus:

(6)   a woman is a <u>human</u> that...

       a human is an <u>animal</u> that...

       an animal is a <u>living thing</u> that....etc.

The starred forms (3d), (4d), (5d) would imply that other civets
are <u>not</u> animals, other bananas are not fruits, etc., and so would be
counterfactual to the set relations.

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[2]Paired numbers like 5/6 are the usual way of naming Bantu noun
genders, the pairing representing sg./pl. agreement 'classes'.

Like other Bantu languages Luganda uses several noun classes derivationally to express augmentation, diminution, and so on, and what we observed above holds with respect to these derived classes in most cases. Thus, for derived gender of non-human nouns (deriving into class 20/22, the <u>augmentative</u> gu-):

(7a)   enjovu nsolo (nnene)   'an elephant is a (big) animal'
(7b)   enjovu gusolo (gunene)   'an elephant is a huge animal'
(7c)   ogusolo ogwo njovu   'That huge animal is an elephant'
(7d)   *oguyovu gusolo (gunene)   *'A huge elephant is a huge animal'

Example (7d) is ungrammatical; such agreement is probably blocked due to a semantic constraint on redundancy.

(8a)   *enjovu eno gusolo (gunene) *'This elephant is a huge animal'
(8b)   *oguyovu nsolo (nnene)   *'A huge elephant is a huge animal'
(8c)   *ogusolo njovu   *'A huge animal is an elephant'

These last three are starred for the same reasons as (b) and (d) in (3), (4), (5) above.

3. <u>Derived gender of human nouns</u>

Observe now the large group of exceptions to (7), (8) above, involving the derived gender of human nouns:

(9a)   omusomesa musajja (mubi)   'The teacher is a (bad) man'
(9b)   *omusomesa gusajja (gubi)   'The teacher is a huge (bad) man'
(9c)   *ogusomesa musajja (mubi)   'The huge teacher is a (bad) man'
(9d)   o<u>gu</u>somesa <u>gu</u>sajja (<u>gu</u>bi)   'The huge teacher is a (bad) man'

The sentences in (9) indicate that there is at least one case where the subject <u>does</u> impose its gender on <u>predicate nouns.</u> It is intriguing to notice, moreover, that whereas (7d) is ungrammatical on grounds of redundancy, that very redundancy is mandatory in the case of human nouns.

Derived gender in Luganda usually expresses abnormality and sometimes also pejoration. Thus omuntu omunene is a person who is big, but probably within normal limits, whereas oguntu is a person who is abnormally, and sometimes pejoratively, big. ogusomesa 'a huge teacher' is, then, by definition abnormal in size and so is not a normal

musajja 'man'. It is important to observe, in this connection, that in Bantu languages generally, nouns for people with defects such as blindness, deafness, lameness, etc., often appear in non-human or even inanimate noun genders:

(10)   Swahili: (a)   kiziwi (7/8) 'deaf person'

              (b)   kipofu (7/8) 'blind person'

(11)   Kirundi: (a)   ikimuga (7/8)'cripple'

              (b)   igitumva (7/8) 'deaf person'

Such nouns in Luganda have been moved relatively recently into the human class 1a/2a, but with their old inanimate class prefixes frozen to their stems, as in:

(12a)   kasilu/bakasilu (from 13/14)
         'a mute, or idiot'

(12b)   kiggala/bakiggala (from 7/8)
         'deaf person'

Givón [1970a] has suggested that at an early stage of Proto-Niger-Congo nouns were classified by an n-ary, non-hierarchized system of semantically significant classes, with humans and animals together in the animate class 9/10. At a later stage speakers evidently reanalyzed their position in the world from an anthropocentric point of view. This precipitated a reanalysis of the noun classes; class 1/2 was created de novo, and human nouns were gradually moved into it. Accompanying the creation of this new class was the change in the noun universe into a binary system, hierarchized in the order: abstract, concrete, animate, human.

Now, if humans see themselves on top of a hierarchy in the noun universe and somewhat separated from the other nouns,[3] it is not unlikely

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[3]The separateness of human from non-human nouns may be seen in the fact that human nouns can not be conjoined with other nouns in many syntactic positions. Rather a comitative construction must be used (see note 5).

that deviations and abnormalities would assume greater importance in humans than in other kinds of nouns. People analyzing their language from an anthropocentric world view may very well consider abnormality in people to be of sufficient importance and concern to override the constraint on redundancy as expressed in (7d). It seems, then, that, at least for Luganda, we can extend Givón's [1969] rule of <u>feature spreading</u> to include the category [noun], just in case the noun has the features [+human, +derived gender] (and, of course, is in an environment following the copula), in addition to the other categories listed at the beginning of this paper.

4. <u>Can predicate NP's impose grammatical agreement on subject NP's?</u>

There is a much more vexing problem with regard to predicate NP agreement, illustrated in examples (13) - (16) below:

(13a) e<u>kisolo</u>[4] e<u>kyo</u> <u>ffumbe</u>   'That animal is a civet'
       7   7   5

(13b) *e<u>kyo</u> <u>ffumbe</u>
      7   5

(13c) e<u>lyo</u> <u>ffumbe</u>   !That (one) is a civet'
      5   5

(14a) e<u>kibala</u> e<u>kyo</u> <u>mucungwa</u>   'That fruit is an orange'
      7   7   3

(14b) *e<u>kyo</u> <u>mucungwa</u>
      7   3

(14c) o<u>gwo</u> <u>mucungwa</u>   'That (one) is an orange'
      3   3

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[4]There are two words for 'animal': kisolo and ensolo. Though it is difficult to pinpoint which animals are considered one and which the other, it seems the former usually refers to the smaller carnivores such as civets, wild dogs and hyaenas. Class 7/8 (ki-/bi-) is often used derivationally as a kind of pejorative, thus compare the following:

      alya nga nsolo   }
                         'He eats like an animal'
      alya nga kisolo }

The former is said of one who eats continuously, the latter of a sloppy, gluttonous eater.

(15a) <u>ennyonyi</u> <u>eyo</u> <u>ŋŋaali</u>   'That bird is a crested crane'
        9   9   la

(15b) *<u>eyo</u> ŋŋaali
        9   la

(15c) <u>oyo</u> ŋŋaali   'That (one) is a crested crane'
        la la

(16a) <u>ekivuga</u> <u>ekyo</u> <u>ndere</u>   'That instrument is a flute'
        7   7   9

(16b) *<u>ekyo</u> <u>ndere</u>
        7   9

(16c) <u>eyo</u> <u>ndere</u>   'That (one) is a flute'
        9   9

In (c) in examples (13) - (16) above not only must subject and predicate agree, but it appears that it is the <u>predicate</u> that spreads its gender feature to the <u>subject</u> - just the opposite direction from what we observe in normal cases of subject - predicate agreement. Moreover, in addition to the problem of the <u>direction</u> of agreement is the problem of the order of transformations. Givón [1969] has shown that <u>feature spreading</u> must precede anaphoric deletion transformations; examples (13) - (16) above seem to suggest that another feature spreading rule must <u>follow</u> head noun deletion. Thus we appear to have the following sequence of rules:

(17)   (a) features of subject-noun spread to Dem.
       (b) anaphoric deletion of subject noun.
       (c) features of predicate-noun spread to Dem., erasing the
              previous gender feature.

We find the same problem in topicalized sentences as well:

(18a) <u>ekisolo</u> <u>ekyo</u> <u>bakiyita</u> <u>ffumbe</u>
        7   7   7   5
       'That animal, they call it a civet'

(18b) *<u>ekyo</u> <u>bakiyita</u> <u>ffumbe</u>
        7   7   5

(18c) elyo baliyita ffumbe
     5   5   5

     'That one, they call it a civet'

(19a) ennyonyi eyo bagiyita ŋŋaali
     9   9   9   la

     'That bird, they call it a crested crane'

(19b) *eyo bagiyita ŋŋaali
     9   9   la

(19c) oyo bamuyita ŋŋaali
     la   la   la

     'That one, they call it a crested crane'

Here, too, agreement is apparently going the wrong way (and in the wrong order).

Similar phenomena may be demonstrated in another Bantu language, Ichibemba (see Givón [1969]), where in topicalized and cleft constructions relative clauses are involved and a noun umuntu 'person' may be assumed to have been deleted. Imfumu 'chief' is a human noun, but of gender 9/10. It takes the agreement of gender 9/10, not that of 1/2. Thus, in cleft constructions:

(20a) niimfumu ì - à - ishile
     9   9

     'It's a chief who came'

(20b) *niimfumu ù - à - ishile
     9   1

And in emphatic constructions:

(21a) imfumu ee - ì - à - ishile
     9   9

     'The chief is (indeed) the one who came'

(21b) *imfumu ee - ù - à - ishile
     9   1

But in pseudo-clefts:

(22a) *ì - à - ishile niimfumu

(22b) ù - à - ishile niimfumu
    | 9

    'The one who came is the chief'

    (from umuntu u - a - ishile... 'the person who came...')
                | |

So a third problem raised by these data, one highly important for
linguistic theory, is the apparent irrecoverability of the deleted noun.
In attempting to arrive at a solution I would like, if possible, to
rule out a priori any explanation that does not allow recoverable de-
letion or does not maintain the subject-to-predicate direction of the
normal rule of feature spreading.

5. Discussion

We may rule out the possibility that a sentence like

(13c) elyo ffumbe

    'That one is a civet'

be derived from an underlying sentence such as:

(23) *effumbe (cop) elyo

    'The civet is that one'

First, such a solution would be of no use for the topicalized sentences.
Second, there is independent evidence (Givón [1969]) to show that demon-
stratives do not come from an embedded sentential source as do adjec-
tives. Further, example (24) indicates that anaphora is definitely
involved in the gapped structure below:

(24)   ensolo eyo ffumbe, ogwo musu, eyo njovu...
      9   9 5   3   3   9 9

    'That animal is a civet, that one is a rat, that one's an
    elephant...'

Luganda, like most Bantu languages, uses one noun class (7/8) as a
neutral gender in resolving gender conflicts arising in conjunction-

reduction.[5] Thus:

(25)   embwa elya; effumbe lilya   ⟹
        9   9   5   5

        'The dog eats; the civet eats'

        embwa n'effumbe bilya
        9   5   8

        'The dog and civet eat'

In Hebrew, a two gender language, the masculine gender is used as
the neutral gender in conjunction-reduction. Thus:

(26)   hashor oxel ; hapara oxelet   ⟹
          m.   m.   f.   f.

        'The ox eats; the cow eats'

        hashor vehapara oxlim /* oxlot
                          m.   f.

        'The ox and cow eat'

But, like Luganda, Hebrew does not resort to the neutral gender in
cases like (13) - (16). Note particularly (27d) - (27f) below:

(27a)   hadavar haze ze sefer   'This thing is a book'
          m.   m. m. m.

(27b)   ?hadavar haze ze maxberet   'This thing is a notebook'
           m.   m. m.   f.

(27c)   *hadavar haze zot maxberet
           m.   m. f.   f.

(27d)   ze sefer   'This (is) a book'
        m. m.

(27e)   zot maxberet   'This (is) a notebook'
        f.   f.

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[5]For a detailed discussion of gender-conflict resolution in con-
junction-reduction, see Givón [1970b]. See also the discussion of
some interesting problems on the same topic in Xhosa in Voeltz [1971]

(27f) *ze maxbere†

     m.   f.

In fact ze in (27b) is nearly acceptable, though zo† in (27c) is
definitely out, indicating a preference for the masculine. It should
be pointed out that (13c) - (16c) and (27d) - (27f) are not strictly
parallel, since ze and zo† are demonstratives often used as copu-
las. But I think the problem of recovering a deleted subject-noun is
manifested in both languages, as well as the problem of predicates im-
posing agreement on subject pronouns once the head noun has been dele-
ted.

One alternative solution to our difficulty in Luganda would be to
posit in the lexicon abstract classifier-nouns like:

(28a) -solo   'animal'
(28b) -bala   'fruit'
(28c) -vuga   'musical instrument'

either (A) in every gender, or (B) with no gender specification at all.
The former is less satisfactory because there may be other items already
occupying those slots. For example there is already a noun -solo
with the gender feature specification [+3/4] and with the same lexical
tone, meaning 'tax'. At any rate, listing generic nouns unspecified as
to gender, would be preferable since the noun in question need be listed
only once. This would allow for recovery but it would still require
that, at some late point in the cycle, a feature spreading would oper-
ate from the predicate to the subject. Moreover, to posit such abstract
forms on the basis of these data alone, with apparently no other evi-
dence for them elsewhere in the grammar is in some way an ad hoc compli-
cation of the grammar.

Finally, sentences like (29) and (30) show that it is highly un-
likely that unspecified nouns as suggested in (28) exist. For we would
then need ekibala 'fruit' for sentences with predicate adjectives and
verbs, and -bala for those with predicate nouns. And even if that
were the case, with respect to (13) - (16) we cannot know at the time
of lexical insertion whether or not the subject noun is destined to

undergo anaphoric deletion:

(29a)	ekibala ekyo kinene	'That fruit is big'
(29b)	ekyo kinene	'That one is big'
(30a)	ekibala ekyo kyaagwa	'That fruit fell down'
(30b)	ekyo kyaagwa	'That one fell down'

The explanation that I believe has the greatest merit is inspired by a paper by E. Voeltz [1971] wherein he demonstrates that there are post-cyclic, and even late phonological, constraints on gender-conflict resolution rules in conjunction-reduction in Xhosa. If that analysis is correct, as his data certainly support it, then it seems not unreasonable to suggest that Luganda has a surface repair rule which operates on strings such as (13b) - (16b) which are derived by transformational rules. It is this repair rule that imposes the gender feature of the predicate NP on the subject after the subject head noun gets deleted. At that late point, also, subject noun-predicate noun agreement, as seen in examples (7), (8), (9), may be handled.

The merit of this solution is that it would not tamper with the normal cyclical rule of feature-spreading which seems to govern most cases of agreement. Moreover, this explanation is not ad hoc, considering we now have evidence from another Bantu language, as well as from Hebrew, Spanish, and probably others, that this kind of rule is indeed required.

Even the not-so-careful reader will have observed that the question of recovery of the deleted noun is still unanswered. It seems that it must remain so, and that these data constitute an exception, if not a counter-example, to the notion of recoverability, unless we modify the constraints on deletion. Thus we can say that the recoverability constraint on deletions may be relaxed if it is really easy to figure out what was deleted, i.e. if and only if it is a classifier noun higher up on the definitional path and directly dominating the predicate noun. This modification of the constraints on deletion is, I believe, by itself sufficiently constrained, so that it does not reduce it to complete triviality.

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