Research Paper | Education

The Nano-syntax of Noun Agreement in Kitharaka

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ABSTRACT

This paper investigates the syncretism found in subject agreement, adjective agreement and object agreement in Kitharaka, an SVO Bantu language spoken in Kenya. Syncretism refers to the similarity in form of different morphological forms of a word. Adopting approaches that argue for late lexical insertion (McCawley, 1968; Halle & Marantz, 1993; Harley & Noyer, 1999), the paper argues that syncretism occurs because the same lexical item, stored in the lexicon as a syntactic tree can be inserted to realize structures of varying sizes in the syntax under the superset principle (Starke Class Lectures; Caha 2007). Nano-syntax is an approach to the study of Syntax developed by Michal Starke. It assumes that terminal nodes are more fine-grained; with many small (nano) features arranged hierarchically in a synctactic tree. This approach has the consequence that lexical items do not spell out a terminal node; but a complex bundle of features, even a phrase

KEYWORDS :

1. The Data

Historically Bantu languages are known for an elaborate noun class system (Meussen, 1967; Guthrie, 1969-71; Welmers, 1973). Kitharaka one of the Bantu languages has 17 noun classes. Each noun in Kitharaka comes with a noun class prefix (NCP). Nouns in Bantu languages are usually arranged in singular plural pairs, for example class 1 is singular, and class 2 is the plural of class 1; class 3 is singular and class 4 is the plural, and the pattern is similar for class 5 and 6, 7 and 8, and 11 and 12.

Nouns trigger subject agreement (SA), adjectival agreement (AA) and object agreement (OA). These patterns of agreement are demonstrated in table 1.

Table 1
Noun Agreement Patterns in Kitharaka

Class	NCP	SA	AA	OA
1	mu	a	**u**-mu	Mu
2	a	ba	ba	ba
3	mu	u	**u**-mu	mu
4	mi	i	**i**-mi	mi
5	i/ri	ri	ri	Ri
6	ma	ma	ma	ma
7	gi/ki	gi/ki	gi/ki	gi/ki
8	bi/i	bi	bi	bi
9	N/Zero	i	i-N	mi
10	N/Zero	i	i-N	i
11	ru	ru	ru	ru
12	ka/ga	ka/ga	ka/ga	ka/ga
13	tu	tu	tu	tu
14	ku/gu	ku/gu	ku/gu	ku/gu
15	ku/gu	ku/gu	ku/gu	ku/gu
16	a	a	a	b(a)
17	gu	ku/gu	ku/gu	ku/gu

The data reveals the following patterns:

1. In the majority of cases, the morphemes for subject agreement, adjectival agreement and object agreement is the same (5, 6, 7, 8, 11, 12, 13,14, 15,16 and 17.)
2. The adjectival agreement for example (*u-mu*) class 3, appears to be a combination of subject agreement (*u*) and object agreement (*mu*) (see also class 4 *i-mi*).
3. In some cases, the prefix preceding adjectival agreement is similar to the subject agreement morpheme.
4. In other cases, the prefix preceding the object-like agreement in adjectival agreement is different (class 1 compare *umu* (AA) and *a* (SA)).
5. The object agreement is strikingly similar to the noun class prefix

Any analysis of Bantu agreement must explain the following facts:
- Why the three agreement morphemes can be the same.
- Why in very few instances there are difference in the phonological realization of the morphemes.
- Why some agreement morphemes appear to be a combination of others, for example adjectival agreement a combination of subject agreement and object agreement in some instances but not in others for example class 1).

3. Explaining the Facts
3.1 Theoretical Basis

In order to explain the facts, we will adopt analysis is distributed morphology which assume that syntax bundles features and lexical insertion happen late (McCawley, 1968; Halle & Marantz, 1993; Marantz, 1997a; Marantz, 1997b; Harley & Noyer, 1999). We will claim that the same lexical item can be inserted to realize a syntactic feature bundle whenever the features in the lexical item match those in the syntax, provided there is no item in the lexicon with more specific features (cf. Starke Class Lectures, Caha 2007; Muriungi, 2009, and Taraldsen 2009). Lexical insertion will therefore reduce to matching items stored in the lexicon, with the features in the syntax.

Furthermore, we will assume that items lexical items can be stored in the lexicon as syntactic trees with the consequence that lexical insertion reduces to matching trees in the syntax with those in the lexicon under a principle, the superset principle to be explained in section 3.2. This paper will also take it that phrasal spell out is allowed, that a lexical item can target a non-terminal node (McCawley, 1968); Weerman & Evers-Vermeul, 2002); Neeleman & Szendröi (2007); Caha, 2007; Abels & Muriungi, 2008;, Starke class lectures). We therefore differ from those accounts that only limit spell-out to terminal nodes (for a recent account of only terminal node spell-out, see Embick & Marantz (2008).

3.2 Accounting for the Kitharaka Data

We have seen that the adjectival agreement morpheme appears to be a combination of object agreement and subject agreement (e.g. *u-mu* (class 3); *i-mi* (class 4). Furthermore, we have seen that in some instances, the initial prefix in adjectival agreement is different from subject agreement. Combing these facts, we will claim that the agreement morpheme in Bantu is complex. In particular we assume that minimally, the agreement morpheme has three layers, A, B and C, as show in the tree in (1).
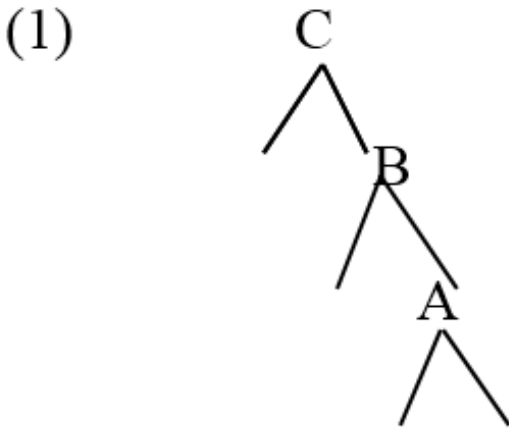
Layer A consists of the features that represent object agreement, layer B the features that mark object agreement and layer C features that mark subject agreement. An adjectival agreement morpheme will have the three layers.

The lexicalization patterns for the three layers are as follows:
1. They can be occupied by different morphemes for example class 1 where A is *mu*, B is *u* and C is *a*.
2. A, B and C are lexicalized by the same morpheme (majority of cases).
3. C and B are lexicalized by the same morpheme, and A a different one (class 3 and 4; *u-mu* and *i-mi,* where object agreement is *mu* and *mi* but subject agreement and the prefix in adjectival agreement is *u* and *i.*

How does this lexicalization occur? Lexicalization occurs under the superset principle stated in (2):

(2) **Superset principle**
Insert a tree in the lexicon for a (sub) tree in the syntax, if the features of the tree in the lexicon are a superset of the features of the (sub) tree in the syntax. When lexical items compete for insertion, insert the tree with the least unused features. Do not insert a tree from the lexicon if it does not contain (a) feature(s) in the syntax.

Consider now the context where the three morphemes, the subject agreement, adjectival agreement and object agreement are the same. We will assume here that for these noun classes, there is a complex morpheme stored in the lexicon. For this morpheme layer A and B and C are spelled out by the same morpheme. Consider noun class 5, where the morpheme is *ri* for the three agreement morphemes. We will assume that in the lexicon, the morphemes is stored with the syntax in (3).
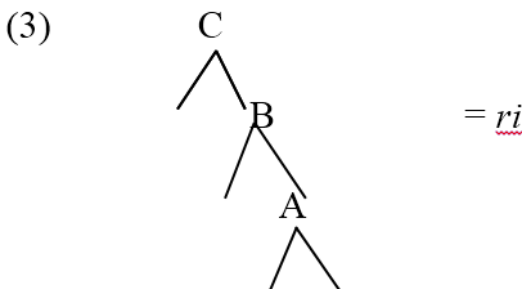

Suppose we have only the features of A in the syntax. Then during lexical insertion, we will insert the lexical item *ri* in (3) because it matches the features in the syntax. When we have B we will insert *ri*, and when we have C will also insert *ri*, because there are no morphemes with more specific features. This brings about syncretism. The variants of the same morpheme for example class 12 *ka/ga* is ex-

plained Dahl's law in Kiitharaka (see wa Mberia, 1981; wa Mberia, 1993 for details). This laws is a dissimilation rule where a voiceless stop becomes voiced when followed by another voiceless stop. Dahl's law will procude the patterns in (4):

(4) a. *ga*-kaabu "small basket"
    b. *ga*-tanda "small bed"

Consider next the context where the morpheme for adjectival agreement is different from that of subject agreement as in class 1 *u-mu* (AA) and *a* (SA). These facts are easily accommodated by the claim that a more specific morpheme blocks the insertion of a morpheme with unused features. *u* being more specific for B, will block *mu* which in addition will have object agreement features. Furthermore, *a,* which is the subject agreement morpheme will block *u* because *u* would have extra adjective agreement features.

Consider also the context where subject agreement and adjectival agreement are similar at the exclusion of object agreement (class 3 and 4). This is a case where there is a complex morpheme C B stored in the lexicon, and there are no specific morphemes. This lexical item therefore will be inserted in the syntax, whenever there are features of C or B (5).
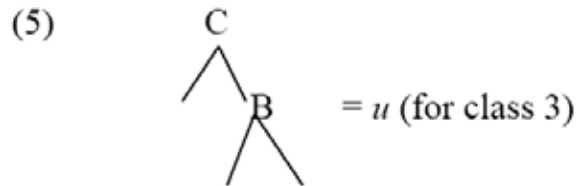
Consider finally the nasal classes, class 9 and 10. For these classes, when there is adjectival agreement, there appears a nasal which is homorganic with the initial consonant of the adjective as shown in (6):

(6)
    (a)   Njogu i-**n**nene "an big elephant"
    (b)   Njogu i-ŋ-kuru "an old elephant"
    (c)   Njogu i-**m**boru " a rotten elephant"
    (d)   Njogu i-**n**thongi "nice elephants" (dental n)

This homorganic nasal is absent in verbal agreement, therefore raising the question why only in adjectival agreement.

Nasal classes are also problematic because they do not seem to have a component of object agreement in the adjectival agreement complex. The object like agreement is present in all other classes in instances where there is adjectival agreement.

The solution to this lies in assuming that there is an idiom made up of the adjective and A, and for the nasal classes, when A c-commands an adjective, A is realized as a nasal. We know from other languages, idiomatic/irregular forms block compositional forms, for exam *went* blocks *goed* (Poser, 1992). A stored irregular form, which is by extension an idiom, will block a regular compositional form. In (6) therefore a nasal is inserted to realize OM. The idiomatic forms in (6) will therefore block the expected compositional forms in (7).

(7)
    (a)   *Njogu i-***mi***-nene "an big elephant"
    (b)   *Njogu i-***mi***-kuru "an old elephant"
    (c)   *Njogu i-***mi***-oru " a rotten elephant"

For the nasal classes therefore, A is realized as a nasal, B and C by the same morpheme as in (5).

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