

The morphological expression of nominal number in Kalenjin

Maria Kouneli

NYU

Introduction: The number system of Kalenjin (a Nilotic language spoken in Kenya) is representative of the systems of Nilo-Saharan languages, which are well-known for their complicated number morphology in the nominal domain (Corbett 2000). The majority of these languages have a tripartite system of number marking: some nouns are interpreted as singular in their morphologically unmarked form and form their plural by the addition of a plural affix, some nouns are interpreted as plural in their unmarked form, and form their singular by the addition of a singulative affix, while others never appear in their unmarked form: they have a singulative affix in the singular, and a plural affix in the plural. The puzzle in such a system lies in the lack of a one-to-one relationship between semantic and morphological markedness irrespective of what number value is chosen as the unmarked one: a noun can be morphologically unmarked in either the singular or the plural and the choice depends on the noun itself. Even though these systems have gained some attention in the typological literature (Dimmendaal 2000), there has been no theoretical work on their implications for the syntax of number. The purpose of this paper is to fill this gap by describing the number morphology of nouns in Kalenjin and by showing that the data support a split theory of number (Kramer 2009), in which number features are found both on the nominalizing head (little *n*), and on the head of the functional projection NumP. It is argued that nouns in Kalenjin belong to different classes depending on the kind of number features present on *n*, in the same way that nouns in Indo-European belong to different classes depending on biological sex gender features on *n* (Kramer 2015). Noun classification in Kalenjin works in the same way as number-based classification in Kiowa (Harbour 2007).

The data (unless otherwise indicated, data come from my personal fieldwork): Nouns in Kalenjin are divided into the following three categories:

- a) Inherently singular nouns: these nouns are unmarked in the singular and form their plural with a plural number suffix. Most nouns in the language belong to this category. For example:
3) *kipaw* ‘rhino’ - *kipaw-tiin* ‘rhinos’ (Zwarts 2001: 289)
- b) Inherently plural nouns: these nouns are unmarked in the plural and form their singular with a singulative number suffix. This category includes most mass nouns, animals that usually appear in groups (eg. elephants, ants etc.), body parts or items that appear in pairs (eyes, shoes etc.), but also some count nouns of unrelated semantic categories. For example:
4) *peel* ‘elephants’ – *peel-yaan* ‘elephant’ (Zwarts 2001: 288)
- c) Inherently numberless nouns: these nouns have no specified number value in their unmarked form and only appear with a singulative or plural number suffix. For example:
5) *pata-yaan* ‘duck’ - *pat-een* ‘ducks’ (Zwarts 2001: 289)

The order of nominal affixes is: (derivational) prefix - root – number suffix – thematic suffix – secondary suffix – demonstrative suffix – possessive suffix (Creider & Creider 1989). For the nouns in categories (a) and (b) there is no number suffix present when the noun is singular or plural respectively, but there is often a thematic suffix following the root, which is not predictable from the inherent number value of the root. For nouns in categories (a) a plural suffix (there are ten different ones in the language and the choice is root-dependent) is added to pluralize them, while a singulative suffix is added to singulativize the nouns in category (b). The thematic suffix of the unmarked form is dropped in this case, and a thematic suffix is present after the number suffix; this thematic suffix is predictable from the number suffix. Examples:

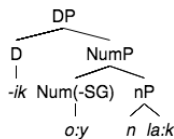
- 6) a. *áy-wa* vs. *áy-o:s-ya* (inherently singular noun) Creider & Creider (1989)
 axe-TH *axe-PL-TH*
 ‘axe (SG)’ ‘axes (PL)’
- b. *twà:l-yá:n-ta* vs. *twà:l-în* (inherently plural noun)
 bell-SG-TH *bell-TH*
 ‘bell (SG)’ ‘bells (PL)’

The secondary suffix (a kind of determiner), and the demonstrative and possessive suffixes all have two forms – one for singular and one for plural – and always agree with the noun in (semantic) number.

Theoretical assumptions: In my analysis, I will be adopting the assumptions of the Distributed Morphology (Halle & Marantz 1993) approach to morphology, and the structure that I assume for a simple DP is shown in (7). I assume that there is a functional projection NumP (Ritter 1991 a.o.), which hosts interpretable number features, i.e. number features that are interpreted at Logical Form (LF). I further assume that these are the features that trigger agreement for the other items in the DP that agree in number with the noun. I follow Harbour (2011) in assuming that number features are bivalent (+/-SG).

7) la:k-ó:y-ík → la:kô:k (after phonological processes have taken place)

child-PL-DET
'a/the child'



The analysis: I propose that the nominalizing head *n* can host [+/-SG] number features, but unlike those on Num, these features are uninterpretable: they are not visible for semantic interpretation at LF, but they are still visible for morphology. Following Kramer (2015), I assume that unchecked uninterpretable features do not lead the derivation to crash; rather it is unvalued features that do this. Since *n* can have number features, there are three kinds of possible *n*'s in the language: a) a *n* with a [+SG] feature: these are the inherently singular nouns, which are unmarked in the singular form, b) a *n* with a [-SG] feature: these are the inherently plural nouns, which are unmarked in the plural form, and c) A *n* with no number features: these are the inherently numberless nouns, which need a suffix in both the singular and the plural. A root can only be licensed in the context of one kind of *n*, and thus can only belong to one of the three categories above. Why are the number features on *n*? Firstly, nouns are the only syntactic category in the language with a tripartite number marking system; all other categories (verbs, determiners etc.) are unmarked in the singular and marked in the plural, just like in English. Thus, it makes sense that *n* is responsible for this kind of number marking. Secondly, nominalizations in the language are either singular or plural in their unmarked form, depending on the nominalizing affix. Since nominalizing morphemes have varying inherent number values, it follows that number features can be hosted on *n*. Turning now to the patterns of exponence, we see that the Num head always has an overt exponent except when the number features on the Num head match the number features on *n*, in which case the Num head is not spelled out. Therefore, we can postulate the following Vocabulary Insertion rules:

8) a. Num [+SG] → singulative suffix b. Num [-SG] → plural suffix

As for the cases where Num is not spelled out, I argue that when a Num with a [α SG] feature is structurally adjacent to a *n* with a [α SG] feature, the Num node is deleted via the post-syntactic operation of *obliteration* (Arregi & Nevins 2007, Calabrese 2011, Pescarini 2010). The Num node is deleted for economy reasons, and it is common cross-linguistically to find cases where two identical adjacent features lead to deletion of one of the two. Finally, the nouns of each class in Kalenjin share semantic properties that are related to the semantics of the number features on *n* (eg. nouns in the inherently plural class are mostly mass nouns or animals/items that appear in groups). This is similar to the noun classes of Kiowa (Harbour 2007), where nouns are divided into semantic classes largely defined by number features on *n*. Thus, in Kiowa and Kalenjin (and possibly the other Nilo-Saharan languages with a tripartite number marking system), number is used as gender. Hence, I conclude that number is one of the semantic properties on which a language's gender system can be based, along with more widely accepted properties, such as biological sex or animacy.

Selected references: Arregi, K., and A. Nevins. 2007. Obliteration vs. impoverishment in the Basque g-/z constraint. *University of Pennsylvania Working Papers in Linguistics* 13.1:2. Calabrese, A. 2011. Investigations on markedness, syncretism and zero exponence in morphology. *Morphology* 21.2:283-325. Creider, C., and J. Creider. 1989. *A grammar of Nandi*. H. Buske. Dimmendaal, G. 2000. Number marking and noun categorization in Nilo-Saharan languages. *Anthropological Linguistics* 42.2: 214-261. Kramer, R. 2009. *Definite markers, phi-features, and agreement: a morphosyntactic investigation of the Amharic DP*. Ph.D. Dissertation. University of California, Santa Cruz. Pescarini, D. 2010. Elsewhere in

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