The Problem of 'Head' in Maa (Maasai) Nominal Phrases

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1. Introduction to the problem of heads

Since the early days of structuralist syntax, linguists have more or less assumed that phrases – in the norm – have a preeminent, or *head*, element. Jespersen (1924:96) said "… we always find that there is one word of supreme importance to which the others are joined as subordinates." Bloomfield (1933:195f) identified the *head* or *center* of a phrase as the word that is of the "same form class" as the entire phrase of which it is a part. The concept of *form class* itself was ultimately grounded in some rather abstract notion of meaning that all members of a particular class would share (e.g., some notion of 'object') (ibid, 146, 202), though Bloomfield also said that form classes are defined "in terms of grammatical features" (ibid, 202). Hockett (1958:184) identified the (endocentric) center or head of a phrase as the constituent whose privileges of occurrence are matched by those of "the constitute." X-bar syntax (cf. Radford 1981) was built around the assumptions that, across phrase types in a given language, heads can be identified, all are essentially alike in syntactic nature, and the properties of an entire phrase are a consequence of the properties of whatever is its head. Zwicky (1985:2) reflected these assumptions in his statement that "(t)he intuition to be captured with the notion HEAD is that in certain syntactic constructs one constituent in some sense 'characterizes' or 'dominates' the whole."

But as a full reading of Zwicky (1985) and (1993) attests, however robust the intuition may be about a preeminent element, determining what that is in any given construction, in any given language, has not always proved simple. In part this is because syntactic and semantic ideas of "what characterizes the whole" do not always coincide. Second, there can be multiple characterizing factors in both syntactic and semantic domains; in either domain such factors need not all devolve on the same element. Third, historical change is a gradual and uneven process that can result in a linguistic structure with more than one center of "dominance" at a given historical point: one element type within a given phrase might have accreted to itself certain characterizing properties, while another element type within the same phrase might have accreted other characterizing properties.

Below we give a non-exhaustive list of proposed criteria or characterizations of heads found in the literature, and in a few instances point out some difficulties with attempts to apply the criteria. They fall into semantic, pragmatic, and (more narrowly) syntactic domains. In many cases one criterion is not independent of some other criterion.

More cognitively and functionally-oriented linguistics has often leaned toward **semantic characteristics** for determining headship, particularly when the concern is to find diagnostic criteria for identifying comparable units cross-linguistically, perhaps because of an operative assumption that cognition and semantics are what (historically or synchronically) motivate morphosyntactic structures. Proposed semantic features have included identifying "head" as:

a. **The semantic "profile equivalent" of the whole.** If there is a combination X+Y, X is identified as the semantic head if X+Y names a sub-instance of the thing described by X (Zwicky 1985:4, Langacker 1987:291, Croft 2001:257, *inter alia*). For example, *the green trees by the river* names a sub-instance of *trees*, hence *trees* is the profile equivalent of the whole phrase.

b. **The semantic "primary information bearing unit"** (Croft 2001). At first glance what this criterion should pick out in any given phrase might seem self-evident (aside from compound nouns, verbs, etc., with two lexical roots). But we find that in non-compound constructions this is not always clear. For example, consider example (1) from Maa (Maasai)[1]:

(1) *ɛn=tásat*   *bótór*
     FSG=elderly.human   senior/premier/out-ranking/older/first
     'senior (first) wife'

In (1) it is completely unclear to us which of the roots *tásat* vs. *bótór* should be considered the "primary information bearing unit." Both roots are rich with semantic features, and both cognitively prime a rich network of semantic and culturally-specific concepts. For a woman, *tásat* implies someone who has borne children (not necessarily someone who is "elderly" in the sense of English *elderly*). The specific interpretation of *bótór* probably varies in the concepts it primes depending on whether it pertains to a wife, a son, a politician, etc.

Hockett's and before him Bloomfield's focus on **morphological and syntactic properties** for determining headship have held sway with most linguists. But there are multiple characterizations of morphological and syntactic head properties, including:

c. **The item that can syntactically stand as the only element of the phrase**, and which in this way **has the same privileges of occurrence as the entire phrase** (Hockett 1958:184). In *Green trees by the river have weak roots*, the word *trees* is the only item within the subject phrase that could stand on its own as the subject of *have*; *roots* is the only item that could stand on its own as the object NP. Hence, these particular nouns have the "same privilege of occurrence" as the larger nominal phrases of which they are a part.

d. **The syntactically non-optional element of the phrase** (Zwicky 1985:13; equivalent to Zwicky's [1993:293] 'base'). At first glance, this criterion might seem to be equivalent to (c) just above, but there are language structures that suggest the two can sometimes be teased apart. (Also, qualifications are typically made that in some discourse or constructional contexts, a non-optional element may be elliptical.) This criterion is problematic in instances of exocentrically-headed phrases (Bloomfield 1933), but also sometimes in ones that might appear to have an internal head. Examples (2b-c) show that both *the* and *tree* are non-optional elements of the subject phrase in (2a). Similarly in (3) from Maa, *ɛn=kítɛŋ* 'cow' is a perfectly well-formed subject phrase for the verb *kél⁴ó* 'it goes,' but neither the clitic *ɛn=* nor the nominal stem *kítɛŋ* is optional. In sum, criterion (d) may not allow one to identify a unique head within a particular phrase or phrase type.

(2) a. *The tree has weak roots.*   b. **The has weak roots.*   c. **Tree has weak roots.*

(3) a. *K-é-l⁴ó*   *ɛn=kítɛŋ.*   b.**k-é-l⁴ó ɛn*   c.* *k-é-l⁴ó kítɛŋ*
        CN2-3-go   FSG=bovine.NOM
        'The cow goes/will go.'

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[1] In this paper examples are tagged with a reference or source citation when they are taken from a text, but otherwise are unmarked. Examples taken from Hollis (1905) retain his writing system, but otherwise follow the IPA except that orthographic <j> = /dʲ/, <y> = /j/, <ch> = /tʃ/, <sh> = [ʃ], <ww> and <yy> indicate fortis glides, and –ATR vowels are indicated as ɛ, ɔ, ʊ, and ɪ. No tone symbol on a vowel indicates Low tone. Abbreviations are: APASS antipassive, CN1 connector, CN2 connector, CO mutual, CONJ conjunction, DAT dative, F feminine, FPL feminine plural, FSG feminine singular, GEN genitive, IMP imperative, IMPR impersonal, INF infinitive, NEG negation, NOM nominative, M masculine, MPL masculine plural, MSG masculine singular, OBL oblique, PF perfect(ive), PL plural, POSS possessor, REL relativizer, SG singular, SUBJN subjunctive.

e. **The lexical element which determines, licenses, or restricts what other items must or can occur** (i.e., what Zwicky calls the **subcategorisand,** cf. Zwicky 1985:5; Nichols 1986). Comparison of (4a-b) shows that one sense of the English verbal lexeme LIGHT is subcategorized to take a direct object. Thus by criterion (e), LIGHT would be identified as the head of the phrase *lit the fire*. In (5a) from Maa, the stem *tʊŋáni* 'person' can be argued to license a gender+number proclitic, and furthermore to restrict that proclitic to a masculine gender form (*ɔl=*); feminine is strictly disallowed with this stem. In contrast, the stem in (5b) does not license a gender proclitic to precede the noun. By criterion (e), *tʊŋáni* and *shúmpi* are subcategorized differently for proclitic properties and, hence, would be the subcategorizands, or heads, of their phrases.

(4) a. *John <u>lit</u> the fire yesterday.*   b. **John lit yesterday.*

(5) a. *ɔl=tʊŋáni* 'a/the person'   b. *shúmpi* 'salt'

f. **The item that determines the form in which another item must occur** (i.e. the **governor**) (Zwicky 1985:7; Nichols 1986). Comparison of (6a) with (6b-c) shows that the Maa oblique preposition *tɛ* requires a following nominal phrase to have the same tonal melody as that phrase would have if it were a postverbal subject. That is, *tɛ* governs the Nominative case tonal melody. By criterion (f), *tɛ* is then the head of the entire construction in (6a).

(6) a. *tɛ*   *nk=além*   b. *a-shʊt-ʊ́*   *ɛnk=álém*
        OBL   FSG=knife.NOM   INF.SG-remove-TOWARDS   FSG=knife
        'with/at the knife'   'to remove the knife'

    c. *Ɛ́-ta-dó-yye*   *ɛnk=além.*
        3-PF-fall-PF.AWAY   FSG=knife.NOM
        'The knife fell down.'

g. **The item which carries marks of agreement for its dependents** (Zwicky 1993:295, Nichols (1986) "head marking"). In *He g<u>oes</u> to the store*, the verb carries agreement inflection (underlined) for the dependent third person subject. By criterion (g), *go* is the head of the constituent which contains both *he* and *go*. In (6c) just above, the verb carries a third person prefix *ɛ-,* which is a marker on the head (i.e. verb) of the clause, cross-referencing the dependent subject phrase *ɛnk=além*. However, this proposed criterion ignores the typological distinction that Nichols (1986) observed between "head marking" language types (e.g. marking of clausal arguments on a verb) vs. "dependent marking" language types (e.g. case marking on NPs related to a verb).[2]

h. **The item which bears the morphosyntactic marks of syntactic relations between the whole construct and other syntactic units** (i.e. Zwicky's 1985:6 "morphosyntactic locus"). In *The child <u>is</u> going* versus *The children <u>are</u> going*, one could argue that the underlined verbs *is* and *are* bear a mark of a relation between the predicate and the number of the subjects, and *going*, also within the predicate, does not.

i. **The item which determines or enables the syntactic distribution of the whole** (Hockett 1958:184, Zwicky 1985:11, Croft 2001). If distribution is (partly) the basis for determining syntactic category, this criterion is perhaps coextensive with **the item which syntactically determines the category of the whole** (Zwicky 1985:10; Nichols 1986). In some instances it yields the same results as criterion (c) above, but in other instances criteria (i) and (c) are not co-extensive, in particular whenever the construction is exocentric (Hockett 1958). For instance, in (7) it is difficult to say that that the preposition *under* has identical distributions to either the prepositional phrase *under the bed* or the DP *the bed*. Yet *under* changes the otherwise allowable distribution of a phrase like *the bed*.

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[2] This was somewhat addressed in Zwicky (1993) in reaction to Nichols (1986).

(7) a. *He put a book [<u>under</u> the bed]*.   b. **He put a book [the bed]*.   c. **He put a book [under]*.

    j. **The determinant of concord (agreement) for inflectional categories** (Zwicky 1985:8). In the Spanish examples in (8), the stems *mujer* and *problema* determine that feminine versus masculine concord appear throughout each phrase. By criterion (j), these stems are the head of each phrase.

(8) a.   *la*   *mujer*   *ancian-a*   'the old woman'
         the.FSG   woman   old-FSG
    b.   *el*   *problema*   *viej-o*   'the old problem'
         the.MSG   problem   old-MSG

    Finally, to explore headship within NPs in a language which nearly lacks the category of adjective and which productively uses nouns to modify other nouns, Payne (1990) turns to **pragmatic** criteria.

    k. **The element within a phrase that can best function anaphorically in discourse to refer to the same entity as the whole phrase** (Payne 1990:102-111). In the Yagua NP *húnúcha wánu* 'male tapir,' taken from a hunting story, the lexemes *húnúcha* 'tapir' and *wánu* 'man, male' are both syntactically nominal, are not compounded together, and each meets criteria (c, e, i) above for headship, and presumably (a, b, g, j) as well, while (d, f, h) are not relevant to the morphosyntax of Yagua nominal phrases. If in the hunting story subsequent to the clause from which *húnúcha wánu* comes the item *wánu* 'man/male' were to occur alone, it would most likely be interpreted as referring to an 'adult male human' (especially as hunters occur in the story); a subsequent use of *húnúcha* 'tapir' alone would more likely be interpreted as co-referential with *húnúcha wánu*.

    Zwicky (1993:308) concludes his survey of the sometimes conflicting, sometimes indeterminate, criteria for headship by stating that there is "no longer a single notion of head." He attempts to group all the properties he deals with into three major subtypes, but these three subtypes do not necessarily pick out the same item within particular English phrases. Croft (2001:246), in reviewing Zwicky's and others' work from a cross-linguistic perspective, says "(s)ome criteria turn out to be invalid; other criteria are construction-specific, and the criteria which remain do not match up." Croft hence opts "only" for the semantic criteria (a) and (b), though the discussion in the first chapter of his volume could be interpreted as relying on criterion (i).

    Having sketched criteria commonly appealed to for headship, in what follows we will use criteria (i) and (j) to probe headship in Maa nominal phrases. For (i) we will look at what enables distribution of the nominal phrase as a core argument. For (j) we will look at what determines the number and gender value of the entire phrase and affects cross-referencing and anaphoric forms. The data will show that for the vast majority of nominal phrases, determiners are heads for gender (j) and distribution (i), but nominal stems are heads for number (j). We thus agree with Zwicky that "there is no longer a single notion of head," even by a single criterion such as (j)! The reason that different elements determine gender versus number within Maa nominal phrases is because these grammatical features developed at different historical times, and out of different sources.

    However, the headship situation in Maa is even more complex than just sketched. The data show that the locus of the headship properties in Maa actually *varies by noun stem*, hence the generalizations mentioned in the preceding paragraph can only be made with reference to subsections of the lexicon. In particular, while gender is always a property of determiners, it has also become an inherent lexical feature of a restricted set of nouns. The variant status of particular noun stems relative to gender and headship properties reflects the fact that historical change in the "genderedness" of nouns can proceed gradually across the lexicon of a language.

2. Introduction to Maa determined noun phrases (DPs)

    Figure 1 presents a schematic diagram of the Maa determined nominal phrase (DP). Perhaps only one item distributes as Quant$_1$ in Figure 1, a borrowing of Swahili *kila* 'every, each' (9).

Quant₁	Determiner	Limiter	Noun	Quant₂*	Possessive Phrase*	Adjective Phrase* Relative Clause

Figure 1. Order of elements within Maa DPs

(9)   *N-ɛ́-íshɔr-ɪ*   [*kíla*   *en=kitók*   ]   *ɛ-sʊkári.*
     CN1-3-give-IMPR   every   FSG=woman   FSG=sugar
     'Every woman is given sugar'.

Elements in the Determiner slot will be discussed in Section 3. The Limiter slot can be occupied by items from a variety of lexical classes, including a small set of adjectives (but not all adjectives) and some items that elsewhere function as adverbs. A few items (underlined) are illustrated in (10). Some items which can occur in the Limiter slot can also occur after the noun; compare (11a-b).

(10)   *ɛn=<u>apá</u>*   *tásat*   *ɛnyɛ́*   *bótór*   'his older former wife'
       FSG=before   elderly.human   his   older

       ɛna=<u>dúóó</u>   *tít˩ó*   'the previously-mentioned girl'
       FSG=relevant   girl

       ɛnk=<u>áí</u>   *amókɛ*   'another shoe'
       FSG=another   shoe

(11) a.   *Á-yíéú*   *ɛn=<u>kɪtí</u>*   *búku.*   'I want a / the small book.'
       1SG-want   FSG=small   book

    b.   *Á-yíéú*   *ɛm-búku*   <u>*kɪtí.*</u>   'I want a / the small book.'
       1SG-want   FSG=book   small

The constituents marked with an asterisk (*) in Figure 1 may somewhat vary in order relative to each other, though they tend to be ordered as indicated. The noun and all following modifiers are marked for nominative vs. accusative case via tonal melodies. The melodies differ by stem (Tucker & Mpaayei 1955:175-216).[3]

3. Determiners

In Maa, determiners show number (singular, plural) and gender (feminine, masculine, or place; Tucker & Mpaayei 1955:15ff). Place is a rare gender, found in limited contexts. Feminine is the default or functionally unmarked gender (Corbett 1991:220, Payne 1998). In the remainder of this paper we deal with feminine and masculine genders.

Syntactically, there are two types of determiners in Maa: demonstratives and gender+number proclitics. (In northern Maa, e.g. Samburu, the proclitic determiners mark only gender.) The proclitic determiners are always attached to some following stem. The demonstratives may function as determiners on something else, or as demonstrative pronouns.

3.1. Demonstratives

Besides gender and number, four sets of demonstratives mark degrees of proximity and 'place' (Tucker & Mpaayei 1955:201). In (12) *ɛldé* and *ɛlé* are used as demonstrative pronouns for masculine singular entities. When functioning as pronouns, the demonstratives clearly are marked for case by the

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[3] Throughout this paper we overtly gloss only nominative (NOM) case; all forms in an accusative case melody are simply not glossed for that feature. The question of whether all the pre-nominal demonstrative determiners are marked for case is an open one, which we will not pursue here for reasons of space. Adverbial limiters do not vary for case but adjectives in this position like 'another' and 'small' do.

usual Maa means of tonal melody.[4] In (12a-b) the demonstrative pronouns are in the nominative case and reference transitive subject arguments. In (13), *ɛlê* and *ɛldé* function as demonstrative determiners.

(12) a.   *N-é-pon*   *ɛldé,*
      CN1-3-notch.ear that.MSG.NOM
      'That one notches the ears [of the animals]',

   b.   *n-ɛ́-ŋam*   *ɛlé*   *[en=kíook*   *na-bô*   *ɛ́n=kítéŋ* *]*
      CN1-3-notch   this.MSG.NOM   FSG-ear   F-one   FSG.GEN-cow
      'this one notches one ear of the cow'

(13)   *Ɛlê*   *payyán*   *ɛ-ɪrɔ́r-ɔ́k⁺í*   *ɛldé*   *lík⁺áí.*
      this.MSG   man   3-talk-DAT   that.MSG.NOM   MSG.other.NOM
      'This man is being greeted by that other one.'

3.2. Gender+number proclitics

There are four gender+number proclitics in Maa. In southern Kenya and Tanzania they are composed of a vowel-consonant sequence with a low tone; high tone is added to a proclitic by some speakers to mark genitive case. The final consonant of the morpheme marks gender: *n* for feminine and *l* (or *r*) for masculine, though the consonants are dropped in some predictable phonological environments. The analysis of the initial vowels is a bit more cumbersome. The vowel *ɪ* (or its +ATR counterpart *i*) marks a plural nominal constituent and does not distinguish gender. The vowels *ɛ* and *ɔ* (or their +ATR counterparts *e* and *o*) are used in the singular, and simultaneously mark the feminine and masculine genders, respectively. The major allomorphs of the southern proclitics are:

(14)   *ɛn=*   FSG   *ɪn=*   FPL   *ɔl=*   MSG   *ɪl=*   MPL

Some linguists (e.g., Koopman 2003) separate these clitics into two morphemes, which might be historically justified (see Heine & Vossen 1983). Even if they are composed of two historically separate morphemes, synchronically they are very fusional, which makes analyzing each proclitic as a single synchronic morpheme more appealing.

In (15) below, the singular proclitic determiners are followed by singular nominal stems *kɛ́rái* 'child' and *olá* 'luggage.' In (16) the plural counterparts are given.

(15)   *Tá-ret-ok-í*   *ɛn=kɛ́rái*   *ol=olá.*
      SG.IMP-help-DAT-IMP   FSG=child   MSG=luggage
      'Help the child with the baggage.'

(16)   *ɪn=kɛ́ra*   *il=olân*
      FPL=children   MPL=luggages
      'children'   'luggage (plural)'

With this brief introduction to the overall structure of Maa nominal phrases and the determiners, we now explore the distribution of head properties within the Maa nominal phrase.

4. Head properties in Maa

Different tests for headedness in Maa yield different answers to the question "(w)hat is the head in the Maa nominal phrase?" As noted in section 1, in this paper we concentrate on three tests. The first two concern the element which determines the number (section 4.1) and gender (section 4.2) for the

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[4] It is an open question whether case marking is morphologically or phonologically neutralized on some demonstratives when they function as determiners to another element.

nominal phrase. The third has to do with what enables the distribution of the phrase as a core argument (section 4.3), which thus also involves a grammatical test for syntactic category within Maa.

As a guide to the rest of the discussion, the findings of the tests are summarized in table 1 below. The top two table rows comprise the bulk of the Maa lexicon; the four bottom rows represent sets ranging in size from a dozen or so stems to less than five. Number is usually stored in the lexical nominal stem (rows 1-5), except for a smallish set which appears to be incompatible with number (row 6). Gender is determined by the determiner with most stems (rows 1-2). With some stems it might be argued that gender is coded in the determiner but has also been lexicalized into the nominal stem (row 3). That is, speakers memorize those particular stems as having only one gender possibility. When a stem is incompatible with a determiner, there are three possibilities relative to gender: (i) the stem has lexicalized gender within it (row 4); (ii) the stem is compatible with either gender (row 5); or (iii) the stem is incompatible with any gender (row 6).

When it comes to the syntactic category determinant, when a nominal stem is compatible with a determiner, the determiner is the syntactic head for this criterion (rows 1-3). When a stem is incompatible with a determiner, it is the stem itself which is the head (rows 4-6).

	Number stored in:	Gender stored in:	Syntactic category determinant:
1. Det + N-stem *en=kíné* 'goat'	N-stem	Determiner	Determiner
2. Det + N-stem *ɔl=dɛkét* 'curse'		Determiner/semi-lexicalized in N-stem	
3. Det + N-stem *ɔl=tʊŋáni* 'person'		Determiner /N-stem	
4. N-stem (no Det) *kʊlɛ́* 'milk'		N-stem	N-stem
5. N-stem (no Det) *pa-X* 'X-sake'		Online/pragmatic determination (no lexicalized gender)	
6. N-stem (no Det) *bátá* 'danger zone'	No number/ singular?	No gender	

Table 1. Subsets of nominal stems

4.1. What is the head for number?

In the broader linguistic literature, number is sometimes not considered to be an inherent lexical feature of nouns, and is just an "added specification" to either an NP or an element which counts as head by some alternative criterion (Dixon 2000: 491). However, number is a central nominal category in Maa and in Nilo-Saharan languages generally, which display a plethora of patterns for marking it (Dimmendaal 2000).[5] Number in Maa noun stems is coded in many idiosyncratic and unpredictable morphological ways depending on the lexeme, and hence is a central part of the lexical knowledge speakers have of (almost) every lexeme. Further, it controls concord throughout the Maa nominal phrase, and nominal number has ramifications for several facts about verb inflection.

The Maa number marking patterns differ in their morphology, phonology, and their semantics (plural versus singular marking). The examples in (17) demonstrate the major patterns of number marking in Maa: "zero/suffixation", where addition of a suffix marks either plural or singular but only

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[5] The myriad of number marking patterns found throughout Nilo-Saharan led Dimmendaal (2000) to conjecture that number marking in the family is a relic of an earlier system of noun classes. Even so, semantic transparency to any "classes" is highly opaque in modern Maa and the only distinction relevant to verb inflection and agreeing numerals, relative clauses, etc., is number – not any finer erstwhile class distinctions.

one of these values is marked by a suffix (17a); "replacement," where suffixes are required for both singular and plural (17b); and stem suppletion (17c). Further elaboration about number marking patterns is presented in Section 4.1.2 below.

(17) a. *ɔl=álɛ́m*   *ɪl=álɛm-a*   b. *enk=áípóópo-ní*   *ink-aipoópo*
    MSG=sword   MPL=swords-PL   FSG=mushroom-SG FPL=mushroom
    'sword'   'swords'   'mushroom'   'mushrooms'

    c. *ol=owwar-ú*   *il=ówwár-ák*   d. *ɔl=chaní*   *il=keék*
    MSG=lion-SG   MPL=lion-PL   MSG=tree:SG   MPL=tree:PL
    'lion'   'lions'   'tree'   'trees'

One can argue that the zero/suffix pattern (see (17a) and (26-29) below) does not mark a singular/plural distinction but rather a common/uncommon number distinction (Dimmendaal 2000, Corbett 2000:162). With lexemes like 'sword,' having one unit is the common situation and the plural is morphologically marked. With mushrooms, having just one is less common, while having several is more common; with such stems the singular (or singulative) is morphologically marked.

Such an analysis does not contradict the claim that a plural/singular distinction is still a central part of the noun's semantics. This is because when number is marked on other elements in correlation with the nominal stem, these other elements can be sensitive to the plural/singular distinction and not to a common/uncommon distinction. For example, the number contrasts in infinitive verbs (section 4.1.1) are clearly responsive just to singular vs. plural. Even if there is merit to a common/uncommon analysis for the zero/suffix pattern, this semantic opposition would be orthogonal to the singular/plural one; both oppositions are marked by a single suffix on nouns of this type.

4.1.1. Where does number figure in the grammar beyond the noun form?

In section 4.1.2 below, we consider what item in the Maa nominal phrase determines number agreement (criterion j). First, however, we briefly introduce the scope of items that display number agreement. In addition to the Maa nominal stem, number is marked on almost every constituent of the nominal phrase: the determiner, most nouns found after the determiner, adjectives, genitive modifiers and relative clause constructions. Consider (18).

(18) *il-ówwár-ák*   *kótítík*   *oo-pûô*   *áa-nya*   *in-kírí*
    MPL=lion-PL   small.PL REL.MPL-go.PL   INF.PL-eat FPL-meat.PL
    'small lions who go to eat meat'

Number is also relevant outside the nominal phrase. Aside from person, it is the only nominal category marked in Maa verbs via certain bound pronominal prefixes (19), singular/plural suppletion for the stem 'go' (20-21), and via a suffix *-ɪ* (22) (cf. Greenberg 1959).[6]

(19) a. *Á-ló.*   b. *Ɛɪtó*   *ki-puo.*
    1SG-go.SG   NEG   1PL-go.PL
    'I will go.'   'We will not go.'

(20) *n-é-lo*   *en=kítejó.*
    CN1-3-go.SG   FSG=rabbit
    'and the rabbit went.'

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[6] While it is clear that this suffix marks plural, its exact distribution as a plural marker needs investigation.

(21) *n-é-puo*   *il=ŋojín⁴íáá.*
       CN1-3-go.PL   MPL=hyenas
       'and the hyenas went.'

(22) *K-é-gól-⁴í*   *kʋná*   *bólunot*   *olêŋ.*
       CN2-3-be.hard-PL   these.F.NOM   chapters.NOM   very
       'These chapters are very hard.'

The Maa infinitive (underlined below) also marks the number of the understood subject of the transitive or intransitive verb. Singular infinitive is marked by an *a-* prefix plus a Low-High tone melody on the verb (23). Plural is marked by an *áa-* prefix plus a High-Low tone melody (24).

(23) *N-ɛ́-ŋas*   <u>*a-akʋ́*</u>   *ɔl=áíbártani*
       CN1-3-do.first   INF.SG-become   MSG=initiate
       'it first becomes an initiate' (bulunoto.005a)

(24) *Amô*   *ɛ́-ídíp-á*   *aké* *ıl= máʋwaní*   <u>*áa-to-ok*</u>   *kʋlé*
       because   3-finish-PF just MPL-Mauwani.NOM INF.PL-PF-drink   milk
       'because the Ilmauwani have finished the taking-of-milk ceremony' (aibartisho.016d)

4.1.2. What element determines number concord in the nominal phrase?

For languages with number agreement in nominal phrases, discovering what determines the number of the entire phrase can be tricky. Dixon (2000) demonstrates this difficulty with a Portuguese example. In (25), *-s* is suffixed to all members of the NP in the plural:

(25) *os livros vermelhos*   'the red books'
       o livro vermelho   'the red book' (Portuguese, Dixon 2000:491).

For Dixon, one option is that the lexeme LIVRO (book) is the source for all the number marking, and the determiner and adjective simply agree with it. Another option is that "number applies to the NP, plural *-s* being added to each word" (Dixon 2000:491). Dixon does not discuss further options for the source of number marking, such as the possibility that it could originate from the determiner.

Superficially, the Maa situation seems similar to Dixon's Portuguese example. In (18) above each element of the nominal phrases is overtly marked for number. However, unlike Portuguese, when it comes to number marking in Maa, we noted above that one is faced with a plethora of patterns for number marking on the lexeme itself. Most common is use of a suffix accompanied by a tonal melody change. There is a large set of number marking suffixes in Maa, and synchronic choice among them appears to be fairly idiosyncratic (e.g., *-i,-n, -a, -o, -ni, -n, -in*). In fact, whether a given suffix marks singular vs. plural cannot always be predicted. For example, in (26), the suffix *-i* is used as a number marker. With the stem *mɔ́rraɲ* 'warriors' it marks singular. With *payyán* 'man' it marks plural. Similar instances can be seen with feminine nouns in (27), and with the suffixes *-ní* and *-a* in (28) and (29).

(26) *ɔl=mɔ́rrán-i*   *ıl=mɔ́rran*   *ɔl=payyán*   *ıl=payyan-í*
       MSG=warriors-SG   MPL=warriors   MSG=man   MPL=man-PL
       'warrior'   'warriors'   'man'   'men'

(27) *ɛn=kɛrá-ı*   *ın-kɛra*   *ɛn=dɛ́rɛ*   *in-dére-i*
       FSG=children-SG   FPL=children   FSG=monkey   FPL=monkey-PL
       'child'   'children'   'monkey'   'monkeys'

(28) *ɛnk=adaláwwo*   *ink-ádalawwo-ní*   *ɛnk=áípóópo-ní*   *ink-aipoópo*
       FSG=wrist.protector FPL=wrist.protector=PL FSG=mushrooms-SG   FPL=mushrooms
       'wrist protector'   'wrist protectors'   'mushroom'   'mushrooms'

(29)   *ɔl=abʊrr-â*   *ɪl=abʊ́rr*   *ɔl=álɛ́m*   *ɪl=álɛm-a*

       MSG=foam-SG   MPL=foam   MSG=sword   MPL=swords-PL

       'foam/bubble'   'foams/bubbles'   'sword'   'swords'

As noted earlier, one specific pattern of number marking is what Dimmendaal (2000) calls "suffix replacement," which involves an overt suffix for both singular and plural. In (30), one finds alternation between a suffix -*i* for singular and -*ak* for plural.

(30)   *ɔl=tʊŋán-i*   *ɪl=tóŋán-ák*

       MSG=person-SG   MPL=person-PL

       'person'   'people'

Incidentally, note that in (26-27) and (30) an -*i* suffix is involved in number marking. Yet it is used in both zero/suffixation and replacement patterns, and marks both singular and plural number values.

Thirdly, one finds Maa lexemes where number is marked by weak to strong stem suppletion. Weak suppletion sometimes involves vowel changes. Four suppletive pairs follow.

(31) a.   *ɛn=kítéŋ*   *ɪn=kíshú*   b.   *ɔl=kítéŋ*   *il=móŋí*

       FSG=cow   FPL=cows   MSG=bull   MPL=bulls

       'cow'   'cows'   'bull'   'bulls'

    c.   *ɛnk=áwwô*   *ɪnk=ái*   d.   *en=tít⁺ó*   *in=tóyye*

       FSG=bow   FPL=bows   FSG-girl   FPL-girls

       'bow'   'bows'   'girl'   'girls'

Some less common Maa number marking patterns intersect with the use of determiners. In the subgroups just surveyed above, all nominal stems can take determiners. But in two less-common subgroups (rows 4 and 5 of table 1), the singular stem is not compatible with a determiner, but the plural stem is. In (32a), the plural of 'salt' (a Swahili loan) takes the suffix -*n* as well as a determiner, while the singular lacks both of these. In (32b), the plural of *paárná* 'namesake' is marked via a genitive plural prefix, governed by a preceding determiner. The singular again takes no determiner.

(32) a.   *shúmpi*   *in-chumpí-n*   b.   *pa-árná*   *in=oó=pa-árná*

       salt.SG   FPL=salt-PL   CO-name   FPL=GEN.FPL=CO-name

       'salt'   'salts'   'namesake'   'namesakes'

Subgroup 6 in table 1 appears to be approaching incompatibility with the category of number. These include relator nouns which often show spatial relationships, and some non-spatial items such as *bátá* '(the situation of) danger'. Stems of this group either do not occur in any environment where number is overtly marked (relator nouns), or at most occur as subject of an auxiliary+infinitive construction where the infinitive is in the singular form (cf. *bátá* in (33)); to the best of our knowledge these items cannot trigger plural agreement. Stems in this group are marked for case (34a-b) and can be conjoined with other nominal constituents (35), so such stems do behave syntactically like nominals.

(33)   *K-ɛ́-gíra*   *batá*   *a-lot-ú.*

       CN2-3-PROGRESSIVE   danger.NOM   INF.SG-go-VENTIVE

       'Danger is coming.'

(34)   a.   *K-á-⁺úré*   *bátá.*   b.   *É-ísídái*   *batá.*

          CN2-1SG-fear   danger   3SG-be.good   danger.NOM

          'I'm afraid of danger'   'Danger is good'

(35) *K-á-ꜜúré*   *ol=owwarú   ɔ́-bátá.*
      CN2-1SG-fear   MSG=lion   CONJ-danger
      'I'm afraid of a lion and danger.'

When trying to "plug" *bátá* into positions where its number would be overtly reflected in another agreeing form, the combination is simply not acceptable.

(36)   **bátá   ó-l-owwarú*   **bátá   o-bô*   **bátá   na-bô*
       Danger FSG.GEN.MSG=lion   danger   M-one   danger F-one
       'the danger of a lion'   'one danger'   'one danger'

The intricate detail presented above shows that number has to be lexicalized with every nominal stem. Moreover, speakers know that some stems apparently lack number. Hence there is no reason to conclude that the source of the number information for the entire nominal constituent is anything other than the nominal stem.

4.2. What is the head for gender?

Gender in Maa exhibits several interesting properties from a typological point of view, but we mention here only such properties as are relevant to evaluating which element determines the gender of the entire nominal phrase.

Two classic definitions of nominal gender or class are those of Greenberg and Corbett (the bolding below is ours):

> *By a noun gender system will be meant a system in which the **noun stems** of a language are divided into a set of genders, the distinction being based on the fact that the choice of **a noun** belonging to a particular gender determines the choice among a set of alternative "agreeing" forms in one or more other classes of morphemes or words, e.g. particles, demonstratives, adjectives, unbound anaphoric pronouns, pronouns incorporated in a verb complex, etc.* (Greenberg 1978: 49).

> *An agreement class is a set of **nouns** such that any two members of that set have the property that whenever: (i) they stand in the same morpho-syntactic form, and (ii) they occur in the same agreement domain, and (iii) they have the same lexical item as agreement target, then their targets have the same morphological realization* (Corbett 1991:147).

As seen in these quotes, both Greenberg and Corbett define gender as a property of a noun or a noun stem, and Koopman (2003:212) takes this for granted for Maa. Many other linguists have further associated the gender of an entire NP with the head of the noun phrase. Among those one can include Dixon (2000) and Givón who writes: "*Of these, only ... class/gender – is an inherent feature of **the head noun***" (2001:427, bold added).

Maa nouns can be divided into subgroups based on their (in)compatibility with different genders (Payne 1998), as shown in determiners and relative clause prefixes; here we discuss gender only relative to determiners. The nominal subgroups include stems which are compatible with both masculine and feminine determiners, stems which have a "default" or "expected" gender but which are also compatible with the other gender, and stems which are only compatible with one gender of the determiner.

Examples (37-38) show nominal stems which are compatible with both masculine and feminine determiners, here ɔl= and ɛn=, respectively. The determiners can mark natural gender, as in (37). In (38) and (39) the grammatical gender differences mark size distinctions, which sometimes correspond to lexical differences in other languages. Finally, in (40) the gender difference relates to a metaphoric extension of the stem for 'house.'

(37)　　en=kíné　　　　or=kíné　　　　ɛnk=aɪrítani　　　ɔl=aɪrítani
　　　　FSG=goat　　　MSG=goat　　　FSG=shepherd　　MSG=shepherd
　　　　'female goat'　　'male goat'　　'herdswoman'　　　'herdsman'

(38)　　or=gárri　　　　en=gárri　　　　e-motí　　　　　or=motí
　　　　MSG=car　　　　FSG=car　　　　FSG=pot　　　　MSG=pot
　　　　'truck/big car'　　'(small) car'　　'(small) pot'　　　'(big) pot'

(39)　　ɛnk=álém　　　　ɔl=álém　　　　en=dóínyó　　　　ol=dóínyó
　　　　FSG=blade　　　MSG=blade　　　FSG=eleveted.ground　MSG=eleveted.ground
　　　　'knife'　　　　'sword'　　　　'hill'　　　　　'mountain'

(40)　　ɛnk=ají　　　　ɔl=ají
　　　　FSG=house　　　MSG=house
　　　　'house'　　　　'initiation group'

Another subgroup is comprised of stems associated with a default or expected gender but which are still compatible with determiners of both genders. With such stems, using the non-default gender usually yields a pejorative reading.

(41)　　ɔl=dɛkét　　ɛn=dɛkét　　　　　en=tít⁺ó　　ol=tít⁺ó
　　　　MSG=curse　FSG=curse　　　　　FSG=girl　　MSG=girl
　　　　'curse'　　'ineffectual curse'　　'girl'　　'large shapeless hulk of a woman'

Given that most stems are compatible with determiners of both genders, for these items it is initially unclear whether the source for the gender value of the entire nominal phrase is the nominal stem or the determiner. Per the criteria of Greenberg and Corbett, to answer this question one needs to examine patterns of cross-reference in other constituents associated with the potential head.

In (42a-b), the stem *ásúráí* 'snake' is preceded by masculine and feminine determiners, the later yielding 'small snake' and not necessarily a change in biological gender. In both examples the nominal stem is followed by a relative clause containing the verb *rók* 'be black'. If the gender of the nominal phrase depends on something inherent in the nominal stem, gender marking on the relative clause should not change when the determiner changes. If gender of the nominal phrase is controlled by the determiner, gender on the relative clause should change in correlation with a change in the determiner. The examples in (42a-b) show that the latter is the case.

(42) a.　*ol=ásúráí*　　*ɔ-rɔk*　　　　b.　*ɛnk=ásúráí*　*na-rɔk*
　　　　　MSG=snake　REL.3MSG=be.black　　　　FSG=snake　REL.3FSG=be.black'
　　　　　'a black snake'　　　　　　　　　'a small black snake'

In (43) and (44) below, the nominal stem *motí* 'pot' is preceded by feminine and masculine proclitic determiners. In both examples there are several instances of gender cross-referencing. The first cross-reference is made by the prefix on the numeral *-bó* 'one', with *o-* for masculine and *na-* for feminine. The gender in this case must be associated with the determiner rather than with the stem, because only the determiner is changing. The second cross-reference is found on the nominal predicate which follows the element *naá*. In both examples the nominal predicate is composed of a nominal constituent in the genitive marked by a high tone on the determiner (*ól-chaní* 'tree' in (43) and *ór-payyán* 'man' in (44)). This genitive constituent is governed by a determiner (underlined) which agrees in gender with the topic (bracketed) of the entire clause preceding *naá*. The underlined determiner's gender correlates with that of the determiner of the topic phrase and not with *motí*.

(43)　　óre　[e=motí　　na-bô]　naá　　ɛn=ól=chaní　　o-j-í
　　　　so　FSG=pot　F-one　be　　　FSG=MSG.GEN=tree　REL.MSG-say-IMPR
　　　　'so one pot is of the medicine (*lit:* tree) which is called....' (soup recipe)

(44)   [*Or=motí   o-bô*]   *naá*   *o=l-ór=payyán.*
         MSG=pot M-one   be   MSG=M-MSG.GEN=man
        'One pot is that of the man.'

These examples show that the grammatical gender cross-referenced in modifiers like 'one' and in anaphoric elements is controlled by determiners and not by the nominal stem. Stems of this type correspond to those of rows 1 and 2 in table 1.

Stems corresponding to row 3 of table 1 are compatible with only one gender option in determiners, and are obligatorily preceded by a determiner. For this set, it seems that gender has been lexicalized into the nominal stem. That is, a specific grammatical gender is one thing a speaker 'knows' about these items (see Payne 1998).

(45)   *ɛnk=áí*   *en=kiriŋó*   *ɔl=aláshɛ*
        FSG=god/sky   FSG=meat   MSG=brother
        'god/sky'   '(a piece of) meat'   'brother'

The stems corresponding to rows 4 through 6 of table 1 do not synchronically take determiners. Those represented by row 4 are incompatible with a determiner but have a specific lexicalized gender, as shown by cross-reference in other forms. In (46) the first three stems are lexically feminine and the fourth, a proper name, is masculine. In (47) gender is lexicalized in accordance with natural gender.

(46)   *shúmpi*   *kʊlé*   *lémbáɛ*   *Kermút*
        'salt'   'milk'   'secretary bird'   'Kermut' (proper name, masculine)

(47)   *mɛ́nyɛ́*   *ŋɔ́tɔ́nyɛ́*
        'his/her father'   'his/her mother'

The fifth set (row 5 of table 1) is composed of stems which are incompatible with a determiner, yet have no gender lexicalized in them. Hence, these stems are compatible with being interpreted as either masculine or feminine, in a very cognitively "on-line" manner. Examples in this group include *pa-árna*[7] and all other nominal stems with the prefix *pa-*. The contextually-dependent referent of the stem is reflected in agreement patterns, as illustrated in (48).

(48)   *pa-árna*   *l-áí*   *pa-árna*   *ø-áí*
        CO-name   M-1SG.POSS   CO-name   F-1SG.POSS
        'my namesake (male speaking)'   'my namesake (female speaking)'

Finally, some stems are simply incompatible with the category of gender (row 6 of table 1). Stems of this type can be seen in (34-36) above. (These also appear to be partly incompatible with number.)

To summarize, these data show that for the majority of Maa nominal stems (rows 1 and 2 in table 1), gender originates in the determiner and is not a set feature of the nominal. Row 5 stems also lack gender specification. Row 3 stems have lexicalized gender and a determiner, so for this group the head for gender is indeterminate between the nominal stem and the determiner. Row 4 stems have lexicalized gender and no determiner; the nominal stem is clearly the head for gender.

4.3. What is the head for distribution as a core argument?

The distribution of a nominal phrase as a core argument (defined here as subject or object) is another head-related property. This property splits nominal stems into two groups. A first observation

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[7] *Paárna* designates any person who shares a name with someone; here we translate it as 'namesake' though it is not quite equivalent in meaning to this English word.

is that if a stem is compatible with a determiner, then it is obligatorily preceded by one when functioning as a core argument; compare (49a-b).

(49) a. *K-é-lʲó*   *ɔl=tóŋání*   b.   **k-é-lʲó*   *tóŋání*
        CN2-3-go   MSG=person.SG.NOM   CN2-3-go   person.SG.NOM
        'The person will go.'

Stems which are not inherently nominal behave similarly. They can function as a core argument only when preceded by a determiner. In (50) *apá* 'long ago' functions as an adverb and is not governed by a determiner, but in (51) it is governed by a determiner and functions as the subject of the verb. It is the determiner which licenses *apá* to function as a core argument.

(50)   *N-é-tií*   *apá*   *ɔl=mʊrran-í*   *ó-bʲó.*
        CN1-3-be   formerly   MSG=warrior.NOM   MSG-one.NOM
        'There once was one warrior.'

(51)   *N-έ-jɪŋ*   *ɔl=apá.*
        CN1-3-enter   MSG=formerly.mentioned
        'The other one entered.'

Similarly, genitive phrases (52) are obligatorily preceded by determiners if functioning as core arguments. The same is true for relative clauses (53) and adjectives (54-55).

(52)   *n-é-yet*   *ol-l-enk-aina*   *naleŋ*
        CN1-3-pull   MSG-M-FSG.GEN-hand   very
        'and he pulls the trunk (*lit.* that of the hand) very hard' (Hollis 1905:105; his writing system)

(53)   *Á-tɔ́-dú-á*   *ε=na-ádɔ́*   *ŋɔtɔnyέ.*
        1SG-PF-see-PF   FSG=REL.3FSG=be.tall   mother.3SG.NOM
        'I saw [the FSG one] whose mother is tall'

(54)   *Ɛ-shɔmɔ́*   *εn=kítɪ*   *a-ŋor-ishó.*
        3-go.PF   FSG=small.NOM   INF.SG-hunt-APASS
        'The small (feminine) one went hunting'

(55)   *Ɛ-shɔmɔ́*   *ε=sapók*   *a-ŋor-ishó.*
        3-go.PF   FSG=big.NOM   INF.SG-hunt-APASS
        'The big (feminine) one went hunting.'

In sum, if a stem is compatible with a determiner, it is obligatorily governed by one in a core argument function. Moreover it is the determiner which gives both nominal stems and non-nominal elements the 'right of way' to function that way.

When a nominal stem is incompatible with being governed by a determiner (rows 4, 5 and 6 in table 1), it can function as a core argument with no determiner; see (56) and (33-36) above.

(56)   *K-á-ˡnyɔ́rr*   *pa-árná*   *l-áí.*
        CN2-1SG-like   CO-name   M-1SG.POSS
        'I like my namesake.' (said by a man)

The plural stems represented in at least row 5 (table 1) are formed compositionally via a genitive construction, and the genitive construction must take a determiner if functioning as a core argument:

(57)   *K-á-ꞌnyɔ́rr*   *ıl=lɔ́-pa-árná*   *l-áinéi.*
        CN2-1SG-like   MPL=GEN.MPL=CO-name   M-1SG.PL:POSS
        'I like my namesakes.' (*more literally*: those of the namesake) (said by a man)

5. Conclusions

Overall, the properties examined in this paper divide Maa nominal stems into intersecting subgroups regarding what element is the head. The various headship criteria sometimes pick out the determiner, sometimes the nominal stems, and sometimes yield an indeterminate answer. Furthermore, for subgroups 1 through 3 the number and distribution as core argument tests conflict as to what is the head. For subgroups 1 and 2 (the bulk of the Maa lexicon), gender and number also conflict as to what is the head. For subgroups 4 and 6, the criteria align on the noun stem as the head. For subgroup 5, gender is not lexicalized and what controls gender agreement in other associated elements is the speaker's on-line conceptualization of the natural gender of the referent. However, number and distribution as core argument align on the noun stem as head.

Altogether these data clearly support Zwicky's (1993:308) conclusion that "there is no longer a single notion of head"; but furthermore they show that even one and the same criterion does not uniformly pick out the same item as head in Maa. To some extent the different profiles of number and gender with regard to headship in Maa reflect their relative diachronic age. The lexicalization of number into noun stems is old. The grammaticalization of gender as a property of NPs is younger and is only gradually creeping across the lexicon.

References

Bloomfield, Leonard. 1933. *Language,* New-York: Holt.

Corbett, Greville. 1991. *Gender*. Cambridge: Cambridge University Press.

Corbett, Greville. 2000. *Number.* Cambridge: Cambridge University Press.

Croft, William. 2001. *Radical Construction Grammar*. Oxford: Oxford University Press.

Dimmendaal, Gerrit J. 2000. Number marking and noun categorization in Nilo-Saharan languages. *Anthropological Linguistics* 42:214-261.

Dixon, Robert M.W. 2000. Categories of the noun phrase in Jarawara. *Journal of Linguistics* 36:487-510.

Givón, Talmy. 2001. *Syntax: an Introduction Vol.1*. Amsterdam: John Benjamins.

Greenberg, Joseph H. 1959. The origin of the Masai passive. *Africa* 29:171-176

Greenberg, Joseph H. 1978. How does a language acquire gender markers? *Universals of Human Language III: Word Structure*, ed. By Joseph H Greenberg, Charles A Fergusun and Edith A Moravcsik, 47-82. Stanford: Stanford University Press.

Heine, Bernd & Rainer Vossen. 1983. On the origin of gender in Eastern Nilotic. *Nilotic Studies. Proceedings of the International Symposium on Language and History of the Nilotic Peoples,* ed. by Rainer Voseen & Marianne Bechhaus-Gerst, 245-268. Berlin: Deitrich Reimer Verlag.

Hockett, Charles F. 1958. *A Course in Modern Linguistics*. New York: The Macmillan Company.

Hollis, A.C. 1905. *The Masai*. Oxford: Clarendon.

Jespersen, Otto. 1924. *The Philosophy of Grammar*. New York: Norton.

Koopman, Hilde. 2003. The locality of agreement and the structure of DP in Maasai. *The Rule of Agreement in Natural Language*, *Proceedings of the Fifth Annual Texas Linguistic Society Conference.* ed. William E. Griffin, 207-227. Austin: Texas Linguistic Society.

Langacker, Ronald. 1987. *Foundations of Cognitive Grammar, Vol. I: Theoretical Prerequisites*. Stanford: Stanford University Press.

Nichols, Johana. 1986. Head-marking and dependent-marking grammar. *Language* 62:56-119.

Payne, Doris L. 1990. *The Pragmatics of Word Order: Typological Dimensions of Verb Initial Languages.* Berlin: Mouton de Gruyter.

Payne, Doris L. 1998. Maasai gender in a typological perspective. *Studies in African Linguistics* 27:159-175.

Radford, Andrew. 1981. *Transformational Grammar: A Student's Guide to Chomsky's Extended Standard Theory*. Cambridge: Cambridge University Press.

Tucker, A. N. & J. Ole-Mpaayei. 1955. *Maasai Grammar, with Vocabulary*. London: Longman, Green &Co.

Zwicky, Arnold. 1985. Heads. *Journal of Linguistics* 21:1-29.

Zwicky, Arnold. 1993. Heads, bases and functors. *Heads in Grammatical Theory*, ed. by Greville Corbett, Norman Fraser, and Scott McGlashan, 292-315. Cambridge: Cambridge University Press.

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