**On the Parallelism of DPs and Clauses: Evidence from Kisongo Maasai***

Hilda Koopman

UCLA

koopman@ucla.edu

## 1. Introduction

There are well-known typological word order correlations between clauses and DPs, with clausal VS(O) order correlating with nominal NS(O) order, and, less strongly, with NA order. Of the 53 V1 languages listed in Hawkins (1983) for example, 51 have NG word order[1], and 38 NA order. These correlations can be illustrated for Kisongo Maasai, an Eastern Nilotic language with strict VSO word order, and (Dem) N (Num) A order:

(1) ɛɪtíakɪtá ilpáyaní alayéni mɛkwɛ́ta

e-ɪtia-akɪ-ta il.payani ɔl[2] -ayeni m- ɛ- kwɛta

3-i.tell-APPL-PL.PAST PL.MS-men MS.SG-boy.MS.SG.ACC SUBJ- 3- run

"The men told the boy to run."

(2) oldíá láàlayô k

ol- dia MS - oo - il-ayok

MS.SG- dog. MS.SG.NOM MS- PL.NOM- PL.MS-boy.PL.ACC

"the boys' dog…", "a dog of the boys…", or "a dog of some boys…"

(3) kù-n-dâ mɛ́sa-i àré sìdâ n

PL-F-that table-F.PL.ACC F.PL two.ACC nice. PL.ACC

"Those two nice tables…"

Within the standard view, these correlations are captured by the fact that head movement of V and N targets landing sites higher than the subject or the possessor within the respective CP or DP projections (cf. Valois (1991), among others). Head movement of the N to a position higher than Num, but lower than Dem further yields the linear order Dem N Num A in (3), in accordance with a universal order or merger Dem> Num>A>N (Cinque (2000)). Under this view, the typological correlations do not follow from the theory. Since DP and CP contain different functional structure, and D and C each attract their head, cross-categorical similarities with respect to derivations cannot be expressed. Indeed, there is no theory internal reason as to why the presence of an EPP feature on C should correlate with the presence of an EPP feature on D. This view therefore leads to the conclusion either that the correlations must be accidental, or if they are not, that they must follow from some theoretical principle that at this point remains to be understood. In this paper, I will pursue the idea that these strong correlations can indeed find some principled theoretical explanation, given a proper understanding of the structure and derivations of DPs. More specifically, I will suggest that the correlations follow from the structure and the derivations in a straightforward way: they are due to the fact that DPs and CPs share identical substructure, and therefore by necessity share the same derivations. This requires a quite different view on the structure of DPs and the DP internal derivations, which is the starting point for this paper. In Koopman (2001a) (2003a), I argued that DPs in Maasai (and universally) are relative clauses, following in the footsteps of Bach (1968) and Campbell (1996) among others. This proposal generalizes Kayne's (1994) proposal for relative clauses and post nominal possessor constructions to all DPs: DPs are always D CPs, never D NPs. Koopman (2001a),

(2003a) further motivates the particular derivations that provide a unified account for the linear order, the agreement patterns and the surface constituencies of different types of DPs. This analysis puts the DP/CP parallelism in a quite different light. Indeed, since every DP contains a CP structure, the parallelism may be due simply to the shared CP structure, since shared structure implies shared derivations. Lack of parallelism must be due to the derivations that target those parts of the structure that can be shown to vary independently. This paper takes a first step towards the evaluation of this hypothesis for Kisongo Maasai which will lead to an investigation of a number of properties of the clausal syntax of Kisongo Maasai. No attempt will be made in to compare Maasai to other VSO languages: my objective is to provide a picture of the syntactic properties of Maasai.

## 2. Maasai DPs headed by a common noun are relative clauses

In Koopman (2001a), (2003a), I propose that DPs headed by a common noun in Maasai are never D NP structures, as commonly assumed, but instead are always relative clauses, i.e. D CP structures, containing a small clause nominal predicate. This analysis was initially inspired by the morphosyntax of the Maasai "noun", and the complex asymmetric agreement patterns found within the Maasai DP. In a nutshell, it appears that the Maasai "noun" spells out both the nominal predicate and the subject of the small clause (i.e. the external argument of the nominal predicate, which in English corresponds to a silent category). The nominal predicate and the subject of the small clause distribute as two independent syntactic constituents, thus providing particular insight into the structural make-up of DPs and DP internal derivations. The remainder of this section

provides some relevant background information, spells out the basic structure of DPs and discusses the DP internal derivations for DPs that are headed by common nouns.

Maasai common nouns, *alayéni* ‘ boy’ , *ilayóok*, ‘boys’, *oldíà* ‘dog’, or *ɛ́nkɛ́rái* ‘child’, contain four “overt” segments, as well as a tonal melody that spells out Case (nominative versus non-nominative). What superficially looks like a morphological complex noun consists of at least two separate syntactic constituents. The leftmost part, which I will refer to as *ol* (see footnote 2), shows a complex agreement pattern with the structural part that carries the number suffix and the case morphology.

(4)

| | | | |
|---|---|---|---|
| **o** | **l** | **ayé** | **ni** |
| number | | [$_{Case}$ N | number $_{Case}$] |
| gender | gender | | |

The two parts are separated by demonstrative roots, a set of adverbs that occur both in clauses and DPs and the quantifier ‘other’[3].

(5) **ol** (Dem) (Adv) (other) **[aye-ni]**

The set of adverbs is listed in (6):

(6) náají ‘mentioned a few hours ago’ (Tucker and Mpaayei 1955: 18)

òʃí ‘usual’

dúó ‘mentioned this morning’

ŋólé ‘yesterday’

naári ‘sometime ago’

ápá ‘long time ago, then’

These adverbs play an important role throughout this paper, since they occur in similar positions in CPs and DPs. At this point, the reader should notice the particular position in

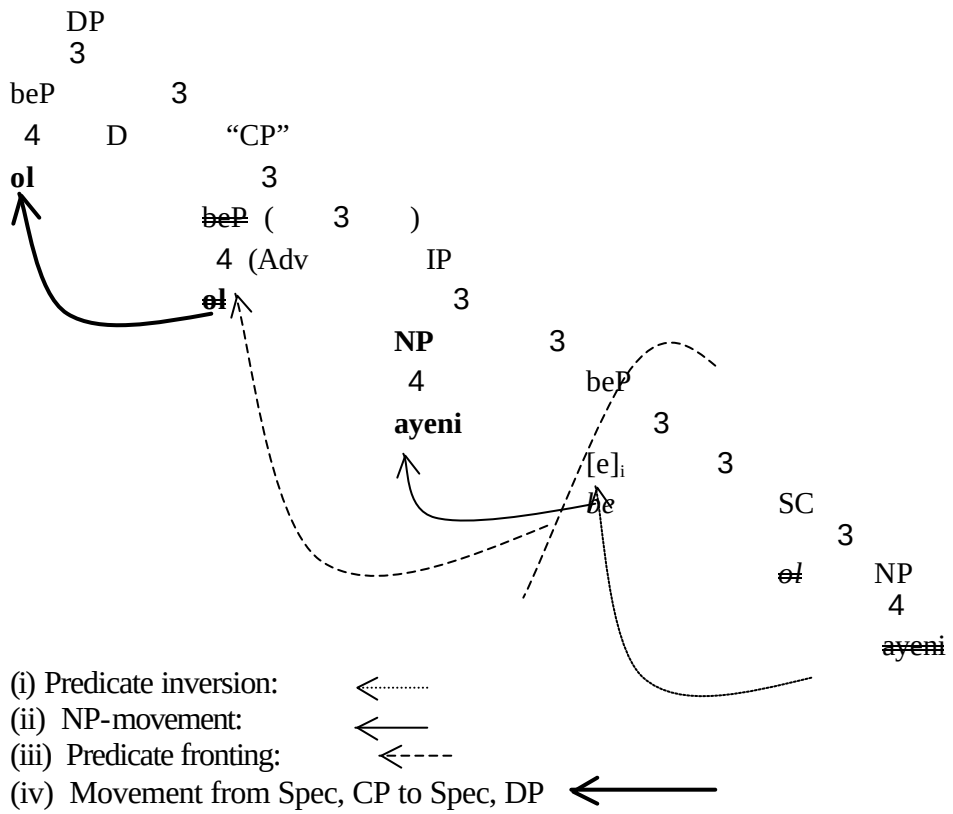
which these adverbs occur (5), and keep in mind that all other dependents of the N must follow the nominal predicate *ayeni*.

In Koopman ((2001a) (2003a)), I argue that *ol* originates deep inside the noun phrase and raises into the CP and DP region. More specifically, the form in (4) derives from a relative clause structure which contains a nominal predicate *ayeni* 'boy' and its external argument *ol*[4], embedded under a (silent) copula, *be*. For the purpose of this paper, it is sufficient to think of *ol* as some kind of A' pronoun that agrees with the nominal predicate ("which a boy is/ who is a boy"):

(7) $[_{DP}$ D $[_{CP}$ C $[_{IP}$ I $[_{beP}$ *be* [ *ol* [ ayeni]]

Since *ol* spells-out a basic part of every nominal small clause, we can understand a curious fact about the distribution of *ol*: it must occur in a wide variety of DPs headed by common nouns (citation forms, predicative forms, generics, indefinites, definites, synthetic compounds)[5]. As (7) illustrates, *be* projects *be*P, a projection that has the characteristics of *be*, except for the fact that it lacks the category feature V, and a phonological matrix[6]. *BeP* itself is embedded in an IP that provides a structural subject position, and a CP, which is the complement of D, and which attracts *ol* and the *beP*. The surface constituency in (5) is derived as follows: predicate inversion (Moro (1997)) moves the nominal predicate into Spec, *be*. NP movement raises the nominal predicate into Spec, IP. Remnant predicate fronts *be*P into the CP region[7]. Depending on the type of D, the constituent containing *ol* possibly moves from CP to Spec, DP. Adverbs occur between the landing site for the fronted predicate and the IP internal subject.

(8)




(9) PF: /olayeni/ --> alayeni LF ~ which is a boy, the x such that x is a boy

Note that these derivations do not involve any head movement: head movement simply has no role to play at any point in these particular derivations.

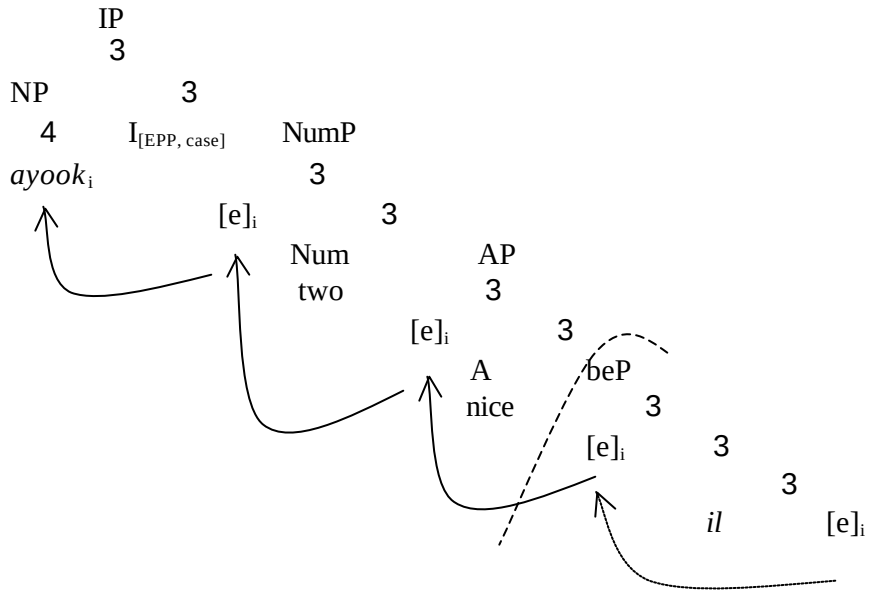
As we can see in this derivation, both the *beP* containing *ol* and the NP *ayeni* end up in separate positions high within the DP. This is empirically supported by the fact that *beP* is separated from the NP *ayeni* by material that is merged between the Spec, IP and the D, as the initial adverbs listed in (6) (see section 4.4 for further development). Below, I briefly discuss each individual movement step, and add further support.

(i) Predicate Inversion. The predicate *ayeni* 'boy' is raised by predicate inversion into the specifier of *be* over the intervening subject, yielding the apparent minimality violation so characteristic of predicate inversion. Predicate inversion occurs in the environment of *be,* which is well-known to trigger predicate inversion (cf. Moro (1997) *the picture on the*

*wall is the cause of the riot; the cause of the riot is the picture on the wall*). It is this application of predicate inversion that distinguishes the Maasai DP from the English one (cf. Koopman (2003a) pp. 106-107).

(ii) NP movement. Because of predicate inversion, the nominal predicate will behave as the highest NP specifier. If there is a clausal position within the DP where Case is checked, or, alternatively, an I position endowed with an EPP feature, the predicate NP will be attracted, and undergo regular NP movement to Spec, IP, raising through the Specifier positions of Numeral phrases and APs. As a consequence of this derivation, these line up in the merged hierarchical order Num>AP (Cinque (2000)). Note that the NP that undergoes movement to the case position (Spec, IP) is also the NP on which overt case morphology in Maasai is realized, further suggesting a link between Spec, I and case. The following tree illustrates the IP part of the derivation (with a mixture of English and Maasai glosses *ayook*=boy-pl *il*= masculine plural) [8]:

(10)




The moved NP triggers obligatory agreement in number gender and case on numerals and adjectives to its right. It is well known that NP movement triggers obligatory agreement

on heads when the NP moves through their local Spec position. This analysis thus reduces nominal “concord“ to Spec head agreement and the locality of NP movement. It also yields an account for the fact that dependents merged higher than Spec, IP will not show any agreement with the noun, since there is no point in the derivation where the necessary spec head relation exist (Koopman (2001a)). This analysis accounts for the linear order (NP Num A), and provides a direct interface with the phonology, in the sense that case morphology is spelled out on the NP in Spec, IP. The presence of I, probably a silent T node, can furthermore be detected by the role this node must play in the licensing of the adverbs in (6).

(iii). Predicate fronting. The (remnant) *beP* predicate fronts as a phrase to the C level. This yields general predicate initial order in Maasai. The fronted constituent contains what the C level attracts (*be/PredP*), as well as the external argument of the nominal predicate (*ol* ), which will be bound by the D. Predicate fronting to the C region skips over filled intermediate Spec positions and head positions, a standard property of local phrasal movement to the C region. The fronted predicate targets a position to the left of the Spec, IP, and to the left of “other”, the high adverbs (6) and demonstrative roots, the latter maybe a case of further phrasal movement to Spec Dem.

(11) [ol] (Adv) (other) [ayeni]

ol (Dem) ~~ol~~ (Adv) (other) [ayeni]

Section 4.4. will discuss the finer details of predicate fronting and the articulation of the left periphery.

Differences between types of DPs follow from the type of predicate the IP contains. DPs headed by common nouns contain a nominal small clause, possessor constructions a

possessive small clause , relative clauses a full verbal projection. For reasons of space, I will not be able to show this in the present article and refer the reader to Koopman (2003b) where a unified analysis of ‘simple’ DPs, possessive DPs and relative clauses is presented, and where I show the empirical inadequacy of a more traditional head movement account for Maasai. I will briefly address one issue though. According to the structure in (10), the NP predicate has the distribution of a structural subject. Usually, we think of the subject of the DP as the possessor, and the question arise if and how these two are compatible. The basic analysis for possessive constructions is sketched below: it will become clear that the possessor indeed ends up in the structural subject position of the DP as well, in accordance with the traditional insight.

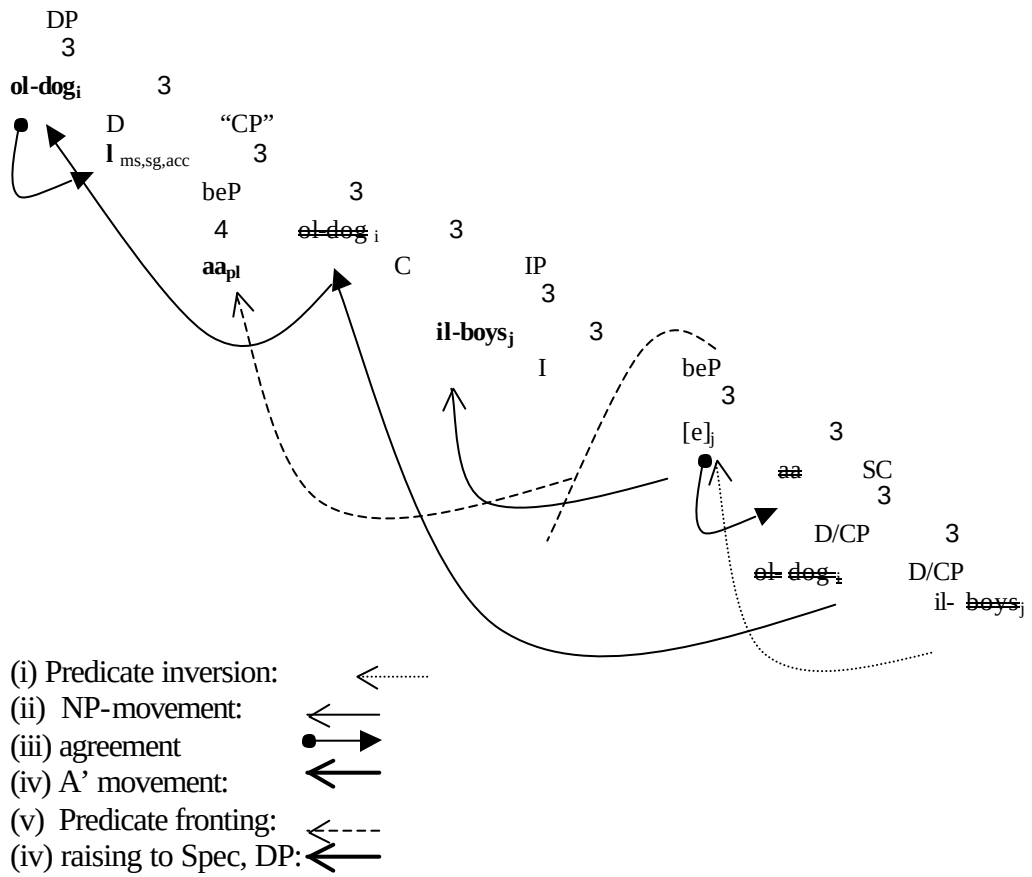
In a nutshell, possessive constructions have a D CP structure, but differ from DPs headed by a common noun, in that they contain a different type of nominal small clause predicate where the appropriate thematic relations are encoded (Kayne (1994), Den Dikken (1998), Storto (2000), (2001)) [9]. The possessive example in (12) has the structure in (13), with Cs boldfaced:

| | | | | | | |
|---|---|---|---|---|---|---|
| (12) | c. | **ol**díà | **l**- | aá | **(ɨ)l**ayó`k | . |
| | | SG.MS.dog.acc | MS.SG.ACC | PL.ACC | PL.MS-boys.ACC | |
| | | ‘the/some dog of the/some boys’ | | | | |

(13) $[_{DP}$ [..... ] $[_{D}$ **[l]** $[_{CP}$ C $[_{IP}$[ $[_{I}$ **oo** $[_{beP}$ *be* .. $[_{SC}$ $[_{D/CP}$**ol**dog] *to* $[_{D/CP}$**il**boys] ]]]

As we can see from the boldfaced distribution of *o/il* both the external argument and the small clause predicate are at least D/CPs, with *ol/il* in their left periphery). *l* is the D of the DPs, and *aa* the agreement form of *be* with a plural DP subject. The derivation proceeds in essence as before.

(14)




(i) Predicate inversion:
(ii) NP-movement:
(iii) agreement
(iv) A' movement:
(v) Predicate fronting:
(iv) raising to Spec, DP:

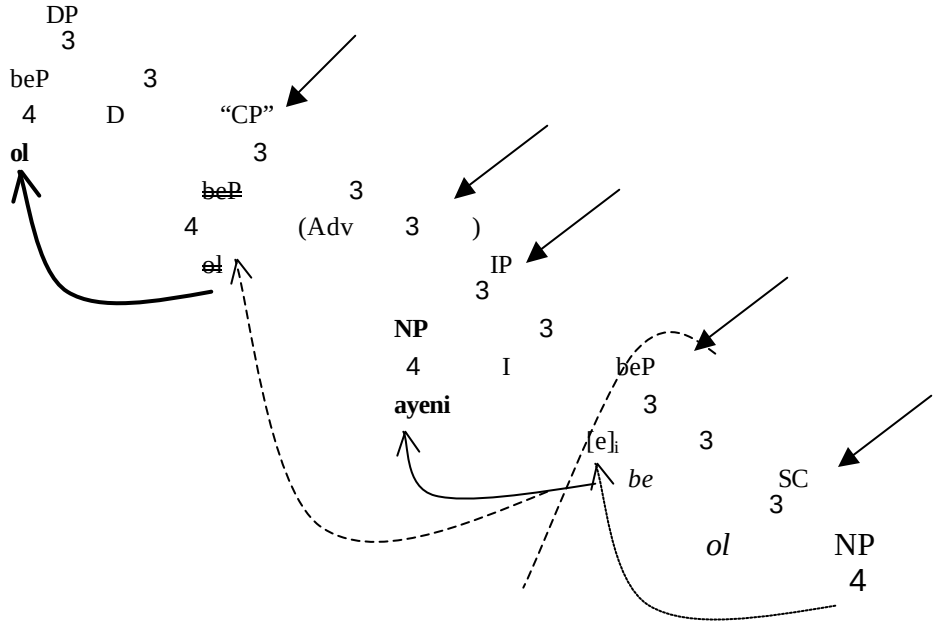
Predicate inversion raises the predicate to the specifier of *be*, effectively turning it into a structural subject, whence it raises on to Spec, IP, as subjects always do. The raised DP triggers number and gender agreement though Spec head agreement on *be* which is spelled out as e or ɔ in the singular, or as ɔɔ in the plural. The argument of the small clause predicate (*oldog*) undergoes relativization (A' movement), raising first to Spec, CP, and then on to Spec, DP, triggering agreement in gender, number and Case of the Spec, DP and D: the remnant predicate (beP), containing the agreeing forms raises into the left periphery. Note that this derivation requires *two* landing sites in CP: one for wh-phrases, and one for the remnant moved predicate. The latter must be to the left of the landing site for the wh-phrase. Indeed, Koopman and Szabolcsi's (2000: 4) ban on extraction from a moved constituent, forces the subject of the small clause to vacate the

remnant predicate before the predicate raises into the left periphery. By Chomsky's (1995) extension condition, the landing site for the predicate must be to the left of the A' position through which the DP raises. This move, though purely motivated by theory internal considerations, does yield the right empirical results. As we will see in section 4, where the left periphery of Maasai is mapped out, the predicate also occurs very high in the left periphery in clauses, to the left of potential A' landing sites. This yields the perfect parallelism that we would expect if predicates in Maasai are always attracted by the same head in the CP region.

## 3. On the expected parallelism of DPs and clauses

Given the analysis of DPs outlined in the previous section, parallelism is expected for clausal CPs with the same kind of predicate and the same kind of CP.

(15)




As the arrows indicate, we expect predicate fronting to the CP region to take place in clauses, yielding basic predicate initial order, with the predicate preceding adverbs. We expect to find general parallelism with respect to NP movement: if NP movement is

obligatory in nominal IPs for case theoretical reasons, it should hold true for clauses as well. Furthermore, predicate inversion is expected to apply in the presence of *be*. Finally, the strongest parallelism should obtain with cases which are structurally the closest, i.e. clauses that contain predicate nominals. The next sections examines these predictions more closely, starting with subjects. But first we introduce some general properties of Maasai clauses.

## 4. Maasai clauses

Let us first examine some broad properties of the clausal structure of Maasai. Maasai is a rigid VSO word order language:

(16) m-edʲókì résói alayéni mɛkwétà

m- e - dʲo - ki (resoi) ( al- ayeni) m- ɛ- kwɛta

NEG- 3S-say- APPL Resoi.NOM OL-boy.ACC SUBJ-3S-run.a

"Resoi will not tell the boy to run"

(17) aadʲókì (résóɪ ) ( nanʊ ) makwétà

aa - dʲo - ki (resoi) ( nanu) m- a- kwɛta

3S.1O-tell- APPL Resoi.NOM me.ACC SUBJ- 1S- run.a

"Resoi tells/will tell me to run"

What is referred to as 'V' in the VSO order turns out to be a highly complex structure. It consists minimally of a subject clitic (or fused subject/object clitic), and a verbal root, augmented with the appropriate prefixes and suffixes which are dependent on verb class, tense and aspect, argument structure, voice, and features of the subject. The complex is preceded by negation, and forms a phonological domain for the purposes of ATR vowel

harmony. The following descriptive templates illustrate the richness of the complex verb(cf. Tucker and Mpaayei1(955), Rasmussen (2002) for a recent description).[10]

(18) a. NEG- Scl-(Ocl) (PERF)[11] - √ V- towards - "do"[12] - FUT/INCEPT - INST - AgrS[13]- PASS[14]
(*i(n)*) away MIDDLE CAUS
(CAUS)[15] DAT/BEN REFL PERF

b. NEG - Scl-(Ocl) (PERF √ V PROG AgrS-PASS[16]
/*i(n)*/CAUS

Footnote:

The following descriptive template illustrate the richness of the complex verb.

(i) . NEG- Scl-(Ocl) (PERF) - √ V- towards - "do" - FUT/INCEPT - INST - AgrS- PASS
(*i(n)*) away MIDDLE CAUS
(CAUS) DAT/BEN REFL PERF

Lexical and pronominal DPs may double subject or object clitics, and may be dropped. DPs are marked for Case. Case shows up on the constituent in Spec, IP (see section 2), and is expressed as tonal morphemes (Tucker and Mpaayei (1955))[17]. The subject of a tensed clause carries nominative case, as do objects of the single P in Maasai (*t*-). The latter is immediately followed by an agreement morpheme which agrees with the object of the P in number and gender[18].

(19) tɛ̀nđitó

t- ɛ- ɛndito

for AGR.SG SG.F.girl.NOM

"for the girl"

(20) tòóndóyè

t- oo- indoye

for AGR.PL.NOM PL.F. girl.PL.NOM

"for the girls"

Accusative case, maybe more appropriately called non-nominative or the elsewhere case, appears on citation forms, predicate nominals, indefinite objects, definite objects and possessors. The unmarked word order is V S O CP/PP , though O S order is possible as well, depending on the information structure (cf..Payne, Hamaya and Jacobs (1994), and 4.4. below).

Clauses with non-verbal predication will be discussed in section 5. At this point, it is sufficient to point out that they are predicate first.

(21) sìdâi ɛ̀nâ

nice.ACC this.NOM

"This is nice"

(22) armálímúí ńɩ̀ɛ̀

SG.MS.teacher.ACC he.NOM

"He is a teacher"

Clauses with non-verbal predication cannot contain any of the morphemes that coocur with V in (18), except for negation. This yields the following descriptive generalization:

(23) pronominal clitics, Perfective, Fut, Pass, AgrS, Middle, Reflexive, Directional, Applied coocur with V.

Since the elements in (23) belong to the verbal spine, they cannot occur in clauses with non-verbal predicates. This immediately accounts for one major difference between clauses and DPs. If DPs contain a clausal structure why are there so many elements which cannot appear within DPs? The answer is simple: none of the elements in (23) can be found within DPs, because they contain a clausal structure with a non-verbal predicate. They behave in this way exactly like clauses with a non-verbal predicate. This

leaves open the possibility that the "IP" within DPs and CPs have some common (silent) T node, as suggested by the fact that the same (temporal) adverbs occur in both environments (cf.(6)).[19]

### 4.1 Verbal predication

Based on DP internal derivations, the subject is expected to raise at least to Spec, TP, and the finite verb is expected to raise high into the C domain, to a position where it precedes the high adverbs in (6).

### 4.2 Where is the subject? Evidence for subject raising

Nominative subjects in Maasai follow the finite predicate but precede other selected predicates:

(24) áa-ɪtîaka aláyeni mɛ- á- rány

3S.1O-tell. APPL.PAST SG.MS.boy NOM SUBJ-1S. sing.a

"The boy told me to sing"

It is not easy to determine where exactly the nominative subject DP is at spell-out. Phonologically, there often seems to be some kind of a phrasal boundary after the predicate. Maasai is a pro-drop language, hence pronominal DPs are typically silent, though they may be overt as well, often with a slight emphatic meaning. In this case, they follow the predicate and carry nominative case, as shown by example (1) for example. The linear string is compatible with an analysis where the nominative DP remains in its merged position (i.e. vP/VP internally), or where it would have raised into the TP region.

These options are represented below (TP below is used as a shorthand for a much richer TP region):

(25) a. $[_{TP}$ T .. $[_{vP}$ $DP_{NOM}$..

b. $[_{TP}$ $DP_{NOM}$ T .. $[_{vP}$

(25a) is often argued for in VSO languages, with a reference to Koopman and Sportiche (1991)[20].

in Koopman and Sportiche (1991), we argued that subjects in VSO languages must be immediately c-commanded by T to be assigned Case: this forces raising when there are projections between T and V, as in Welsh.

Which of these options is correct has further consequences for the surface position of the verbal predicate. In particular, if (25b) turns out to be correct, the landing site for the predicate must be higher than TP. Many standard diagnostics for the position of subjects are inconclusive for Maasai. Negation precedes the verbal predicate, and therefore yields no information about the relative height with respect to the position of the subject. Indefinite and definite subjects have the same form, and finer diagnostics that could reveal further distinctions have not been explored at this point. Quantifiers follow the head noun in the DP, and at present it is unclear if quantifiers can float in Maasai. There are very few genuine adverbs in Maasai, and a subset of these must appear between the fronted predicate and the nominative subject; others have a wider distribution[21]. Certain adverbs may intervene between the nominative subject and the complement clause. This is consistent with the fact that the nominative subject can topicalize, as shown in section 4.4, but by itself not informative about the nominative case position.

Fortunately, if we consider raising predicates, we can construct an argument that shows that subjects must raise from their merged positions, that is, nominative subjects are not vP or VP internal. Many of the heads corresponding to adverbs or bound morphemes in Cinque (1999) show up as verbs in Maasai. Furthermore, they are restructuring predicates, as can be concluded from the fact that clitics 'climb' onto the finite verb (*ki*- in the following example expresses 2nd person singular subject and the first person object of the infinitival verb. See ( 59) for a list of portmanteau clitics.)

(26) kisióki ( iyé) àanáp

| | | | | |
|---|---|---|---|---|
| ki- | sioki | iye | aa- | nap |
| 2S.1O | soon | you.NOM | INF.SG | carry |

"You will carry me soon"

(27) kítaŋasá ááàpwò

| | |
|---|---|
| ki-ta-ŋasa | aa-pwo |
| we-PAST-first-a | INF.PLgo.PL |

"We first went there (and then we …)

(28) áidim tórét àatanápa îyé

| | | | | |
|---|---|---|---|---|
| aa- | idim | toret | aa-ta-nap-a | iye |
| 3S.2O- | be-able | toret.NOM | INF.SG-SUBJ.carry.SUBJ | you.ACC |

"Toret will be able to carry you soon"

Since some of these predicates are clearly raising predicates, we can test if the subject raises from its initial merge position or not by further embedding these structures. As the

following examples show[22], nominative subjects must obligatorily follow the tensed predicate and therefore do not appear to remain in-situ:

(29) ɛ- ídɨm ɨláyok ɨ̂gíla áàtarany

3- be.able PL.MS.boys INFL.PL.repeat INF.PL.sing

"The boys will be able to sign again"

(30) kíndɨm tórét aatasíokí aatanap

ki- ɨdɨm tórét aatasioki aa-tanap

3S.2O- be.able Toret INF.SG.soon INF.SG. carry

"Toret will be able to carry you soon"

While the examples above could be taken to be control structures, the following example clearly involves raising of the subject (replacing the name with an indefinite like *oltugani* "person, someone" does not change the form of the sentence):

(31) áa- sióki tórét ɨ̂gíla aataranaka

aa- sioki toret aɨgila aataranika

3S.2O- soon Toret INF.SG.repeat INF.SG. SUBJ.SG.APPL.

"Toret will soon sing for you again "

Cinque (2001) argues that restructuring predicates that induce overt restructuring have been directly merged in the corresponding functional head, and lack argument structure. If this is correct, all restructuring predicates that trigger clitic climbing can be used to show that the nominative subject must raise into the tensed clause, regardless of whether the predicates are raising or control, i.e. restructuring can be used to test the relative

height of the nominative subject at spell out. The data so far show that nominative DPs must raise from their merged positions in Maasai. We still need to determine where exactly the nominative DP occurs. Does it occupy Spec, TP or whatever the proper label is for the projection that checks the nominative DP? It seems to me that the null hypothesis in the current theory really is that if nominatives are forced to move high into the tensed clause, they must do so because there is a position that has a EPP feature forcing the movement. Otherwise, they should remain lower and satisfy Case through Agree, with intermediate heads showing agreement, as often assumed for Icelandic. Although I have not demonstrated unambiguously that the nominative DP *must* be outside the highest infinitival complement, I conclude that nominative subjects in Maasai are forced to raise to Spec, TP:

(32) nominative Case is checked in Spec, TP

This analysis is furthermore consistent with the existence of expletive clitics and agreement patterns, clitic doubling and topic drop, as discussed in the next section[23].

In sum then, NP movement to a position higher than adjectives or the functional projections hosting restructuring predicate occurs both in clauses and in DPs. This is consistent with the relative clause analysis of DPs. The following section examines the same problem from a slightly different angle, and reaches the same conclusion: Maasai nominative subjects must raise.

## 4.3 The complex verb, agreement and the nominative subject

In this section, we consider the problem of the distribution of the subject from the following angle:

(33). What, if anything, can we learn from the internal structure of the fronted verbal predicate about the distribution of subjects.

Recall that the verbal predicate shows both an obligatory subject clitic (or a fused subject/object clitic) and subject agreement, and forms a phonological constituent:

(34) [(NEG) **Scl** Ocl [[.. V..] **AgrS**]]] ..**DP$_{NOM}$**

If agreement is strictly triggered in a Spec head configuration, and Agree is not available, (Koopman (2001a) (2003a)), the nominative subject must have raised through a local Spec position triggering Agr on V, and then to a higher clitic position. This leaves the problem how the complex verb gets to precede the nominative subject. If right adjunction is disallowed (Kayne 1994), the neg Scl Ocl V string cannot have been formed by head movement, and hence cannot show head-like behavior. The <u>Neg Clitic V Agr</u> sequence must therefore have moved as a remnant phrase, which implies the nominative subject must be outside of this phrase. Thus, the DP subject must have raised higher than AgrS and the projection that contains the subject clitic, Scl, presumably to some low Topic position, and the underlined sequence must have moved higher than Topic into the left periphery:[24]

(35) ……. [$_{TopP}$ DP$_i$ [… <u>[(neg) [[$_{DP}$e]$_i$ Scl Ocl [[$_{DP}$e]$_i$ [[V] AgrS]]]</u>

(Definite) objects will be forced to move through the object clitic position into the left periphery as well. Movement to the Topic position obeys the order of the hierarchical merger: the linear order must be SO if the "informational" content of both subject and object is the same (the order may differ if they have different informational status (see section 4.4.). Since the complex verbal predicate precedes the nominative DP, it must have raised beyond it to some position higher than Topics, raising questions about the

fine structure of the left periphery, which will be addressed in section 4.4. As repeatedly stated, Maasai subjects and objects can be freely dropped, a characteristic property of pronominal argument languages (Jelinek (1984)). If nominative and accusative DPs are indeed in a Topic position, probably Rizzi's (1997) low Topic position, subject and object pro-drop in Maasai might be closer to Topic drop in the Germanic languages than previously thought. As is well-known from the Germanic literature, Topic drop is only possible if the verb raises into the left periphery, which it obviously does in Maasai. Maasai differs from Germanic though in that it allows multiple topics and multiple topic drop, regardless of whether the DP is realized as a clitic or not.

In sum, raising of the nominative DP and fronting of the verbal predicate into the left periphery are in fact forced under the theory of agreement adopted here, and can be deduced from a simple examination of the structure of the complex verb. Distributional criteria converge: nominative DPs raise at least to a nominative position in tensed clauses, and can raise to a low Topic position in the left periphery, where they can be topic dropped, a property that is consistent with raising of the predicate into the C region. High adverbs occur higher than the low Topic position, between the site that hosts the predicate and the topic. The double agreement on the complex verb can be straightforwardly accounted for by the fact that subjects raise to such high positions. All agreement in Maasai is a reflection of an overt Spec head relation at some point in the derivation, and agreement failure follows from the absence of a Spec head relation (see section 2).

## 4.4 The position of the verbal predicate in the left periphery

The raising of the verbal predicate raises the problem of the landing site, and the motivation for the movement. In a series of papers on the fine structure of the left periphery, Rizzi arrives at the following fine structure of the left periphery structure (Mod stands for Modifier, basically a position for fronted adverbs). (Rizzi (1997), (1999), (2004))

(36) Force Top* Int Top* Focus Mod* Top* Fin IP (Rizzi 2204: (60))

We take (36) to approximate the structure UG makes available for the left periphery, and use it to guide our exploration of the left periphery in Maasai. If nominatives DPs are in Top, as we argued in the previous section, the verbal predicate cannot be in Fin at spell-out since all potential Topic positions occur to the left of Fin. This is supported by the fact that preposing of the predicate is independent from finiteness, i.e. it also happens within DPs. There are two potential landing site for the predicate, assuming neither Top nor Focus are suitable hosts: Force or a slightly lower position that Rizzi (1999) labels as Int (for Interrogative) , boldfaced in the example below:

(37) **Force** Top* **Int** Top* Focus Mod* Top* Fin IP

This presupposes that Int is a particular instance of a more general position for clause type (declarative, imperative, interrogative, as argued in Koopman (2001c). Let us call this position Force2. So far then, the verbal predicate in Maasai could be either in Force1 or Force2.[25]

(38) **Force$_1$** Top* Force$_2$ Top* Focus Mod* Top* Fin IP

a **[..V..]**

b. **[..V..]**

Our immediate task is to see if there is empirical evidence that bears on this issue. For concreteness, we assume, with Massam (2000) that the relevant head that attracts the predicate has an EPP feature that does so, though we differ from Massam in locating this head in the left periphery[26].

If the verbal predicate is in Force2, and nominative subjects are in the low Topic position, some elements should be able to intervene between Force2 and the nominative subject in a particular linear order. Furthermore, some elements are predicted to occur to the left of the predicate, namely Force and Topics.

(39) $\text{Force}_1$ Top* **$\text{Force}_2$** Top* Focus Mod* Top* Fin IP

b. **[..V..]** **$\text{DP}_{\text{NOM}}$**

The Maasai left periphery turns out to be remarkably consistent with this left periphery. Among the elements intervening between the verbal predicates and the nominative subject, there are prime candidates for Mod, Foc and higher Topics.

The restricted set of adverbs that occur between the predicate and the subject in clauses and DPs alike are good candidates for Rizzi's Mod.

(40) ɛ- tánápá ápá eŋ - kɛ̀raí

3S- PAST.carry.PAST long ago SG.F child.SG.NOM

"The child carried him/her a long time ago."

The focus particle *even* appears only to the right of a fronted predicate[27]. This is also a position where *akɨ* 'only' and *sii* 'also' appear.

(41) ńdɨ̀m nɨ̌n̪ɛ́ ye àtàásà

| | | | | | | |
|---|---|---|---|---|---|---|
| ɨ- | indim | nɨ̌n̪ɛ | iye | a- | ta- | asa |
| 2S- | can | even | you | INF.SG | SUBJ- | do-SUBJ |

'even you are able to do it'

All examples in my data either have the focus particle immediately to the right of the fronted predicate, or else they are preceded by an adverb which can be analyzed as occupying the higher Topic position. Wh-phrases are often analyzed as occurring in the Focus position: in Maasai, wh-phrases cannot occur in the post predicate focus position: rather they must obligatorily occur in a cleft construction.

As we have stated several times, the unmarked order in Maasai is SO. However, OS order is possible as well, but only if the object is interpreted as focused, or, as Payne et al (1994) show, if the object is more prominent in the discourse than the subject. For the latter interpretation, an English passive translation is often volunteered, even though the syntax of the Maasai sentence is clearly active. In other words, the object can precede the subject if it makes an interpretative difference.

(42) ɛ̀tánápá ɛ̀ŋgɛ́rái ŋʷɔ̀tɔ̀n̪ɛ́

| | | | | | |
|---|---|---|---|---|---|
| ɛ- | ta- | napa | ɛn- | kɛrai | ŋʷɔtɔn̪ɛ |
| 3S | PAST- | carry | SG.F | child.ACC | mother.NOM |

"The mother carried the child (focus)" or "The child was carried by the mother"

This suggests that the object can cross over the subject only if it reaches a different interpretative region: otherwise minimality will ensure that the subject remains higher than the object.

The data discussed so far is consistent with the mapping below:

| (43) | Force2> | (Top*) | Focus | Mod *>Top*> | | Fin>(TP) |
|---|---|---|---|---|---|---|
| | $[_{Pred}..V..]$ | | only/even | Adv | $DP_{NOM}$ $DP_{acc}$ | |
| | | Adv | only/even | | $DP_{NOM}$ | |
| | | O | | | $DP_{NOM}$ | |
| | | | O | Adv | $DP_{NOM}$ | |

Further research is needed to complete the paradigms and test further predictions. However, the data available at this point are entirely consistent with the verbal predicate being at least in Force2, i.e. the verbal predicate is attracted to a very high position in the left periphery.

An examination of the elements that can or cannot appear to the left of the predicate should further determine if the verbal predicate is even higher than Force2, maybe in Force1. In this section, we briefly examine potential candidates for Force1: complementizers, a force like particle *k-*, subjunctive and infinitival markers, non-argumental PP and CP topics, and clefted wh-questions. Maasai has no overt Cs, except for the verbal complementizer *adjo* 'to say', which seems to selects for Force (see Koopman (1984), and Koopman and Sportiche (1998) for general discussion). A force-like particle *k-* can precede the predicate. *k-* often occurs in yes-no questions and wh-questions, but it does not do so exclusively. In particular, it can also occur in affirmative contexts, and appears to be in complementary distribution with Neg. This suggests k-spells out Neg/Aff, and pied-pipes with the verbal predicate to Force. Question interpretation arises if Force is +Q, affirmative interpretation if Force is declarative.

Maasai has a subjunctive marker *m-* which precedes the Scl-V string. It harmonizes with the verb, and governs the subjunctive form of the verb. This suggests it merges somewhere lower in the structure, and pied-pipes with the verbal predicate. A final potential candidate for a C head is the infinitival marker *a*(sg)/ *aa*(pl). It precedes the 'tenseless form', and agrees with the subject in number. This again makes it an unlikely candidate for an element merged in Force1: it suggests merger within IP, and pied-piping into the C periphery. So far then, potential C candidates do not seem to be merged in Force1, and therefore do not bear on the question whether the predicate is in Force1 or Force2. If the verbal predicate raises to Force2, Topics should be able to precede the verb .

(44) **Force$_1$** Top* Force$_2$ Top* Focus Mod* Top* Fin IP

It is clear that DPs may never occur as Topics here. Maybe temporal adverbials, PP adjuncts, and CP adjuncts can precede the verb as Topics, but so far it seems that these elements receive a cleft interpretation when preverbal. Subjects and objects DPs can precede the verbal predicate, but again they must appear in a cleft-like construction, carry accusative case, and must be interpreted as focused.

(45) iŋgíʃú etalépo láaɾ̥pàpɪt

cows 3S-PAST-milk-a ol.-NOM.PL-hairs.PL.NOM

*" The cows, the long haired one he milked (them); (the cows intended as Topic)

"( it is) the cows the long haired one milked" (OK with the cows clefted)

(46) ɪ̀làýɔk áànáp èndɪ̀tò

ɪl - ayɔk ɔ́ɔ̀- nap en - tito

OL- boys.PL REL.NOM.PL carry OL- girl

It is the boys who will carry the girl.

Wh-phrases also precede the verbal predicate, but must be obligatorily embedded in the (poorly understood) cleft construction:

( 47) kaŋái ɛ́-náp-ɪ́ta tóret

KA.who.ACC 3S-carry-PROG Toret-NOM.

"who is Toret carrying?"

( 48) káŋái ná- nàp-ɪ̀ta torét

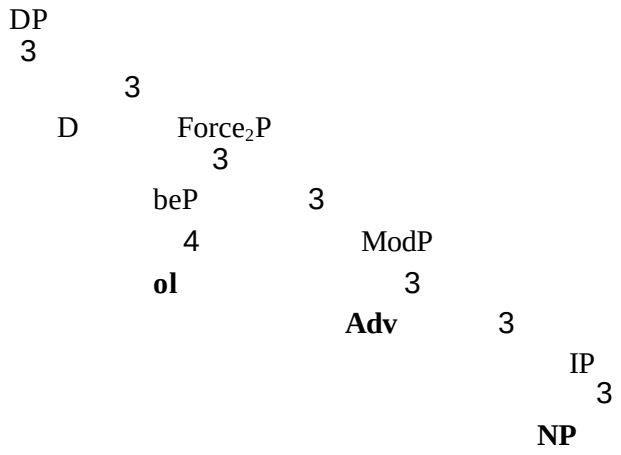
KA..who.ACC REL.-FEM.SG carry-PROG Toret.ACC

"Who (fem) is carrying Toret?"

Informally speaking, clefting seems to provide extra structure enabling the DP to raise out of the CP[28]. In sum, then, the data are consistent with attraction of the verbal predicate to Force1, and this is what we will adopt.

Let us return now to the leftperiphery of the CP within the DP: as we saw the leftperiphery also contains a position that attracts the nominal predicate, which ends up in a very similar position. Relabeling the left periphery of the "CP" in (15) in light of the clausal discussion yields at least the following CP periphery within the DP, where I will simply label the position that attracts the predicate as "Force", though the exact "label" of this position probably needs to be further elucidated. I will use Force here as the position in the leftperiphery that attracts the remnant predicate, and leave the further question of possible Topic and Focus projections within the DP for future research.

(49)




Thus far, the discussion has concentrated on the TP level and the CP level when CP contains a verb: DPs and CPs are parallel here. We next consider what happens in clauses that do not contain a verb. Like many other VSO languages, Maasai has clauses with non-verbal predication, a subject that has engendered much recent work on VSO languages (among others, Carnie (1995), Massam (2000), Adger and Ramchand (2003), McCloskey (this volume)). I will not try to present a general synthesis of the literature here, nor will I try to come up with a proposal that accounts for the properties observed in the different VSO languages. My goal is a more modest and a more immediate one: gain a basic understanding of the syntax of clauses with non verbal predicates within Maasai and evaluate the validity of the proposal that DP/CP cross- categorial symmetries are due to shared structure and derivation.

## 5 Non verbal predication

The schematic distribution of clauses with non-verbal predicates in Maasai is presented in (50a) and (50b):

(50) a. (Neg) AP (Adv) $DP_{NOM3}$

b. (Neg) $DP_{indef}$ (Adv) $DP_{NOM\ 3}$

c. (Neg)[Scl/Ocl T-V-AgrS…] (Adv) $DP_{NOM}$

With third person subjects, APs[29] and indefinite predicate nominals are in complementary distribution with the finite verb ((50c)) suggesting all predicates are attracted to the same position in the left periphery[30]. The contexts in (50a) and (50b) do not support overt tense marking, subject clitics, nor any of the morphemes that cooccur with Vs (section 5.1). This follows from the fact that these clause types do not contain a category V, and hence none of the elements that coocur with V can be present. Locative predicates are introduced by a locative V (*a-tii*)[31], and possessive predicates by a possessive copula (*a-ata*), which only has a present tensed form and an infinitive. It is probably no accident that these verbal forms contain *t-*, the only P in Maasai.

(51) etíi (níṇɛ̀) áŋ

3S.be-LOC he.NOM home

"He is at home"

(52) ɛ̀ɛ́tà (níṇɛ̀) áŋ

3S.have s/he.NOM home

"She has a home"

Clauses expressing possession contain a verbal base, and differ in this respect from possessive constructions within DPs (cf. (12)). The discussion below is restricted to predicate nominals, since these are directly relevant for the evaluation of the parallelism between clauses and DPs.

5.1 Predicate nominals

The distribution of predicate nominals is complex and their analysis challenging. Several factors play a role in the distribution: the features of the argument (1st and 2nd person, versus 3rd person), the definiteness of the predicate, and interactions with A' extraction.

5.2 The argument is 3rd person, and the predicate is indefinite.

(53) armálímúí ńɪ̰ɲɛ̀

SG.M.teacher.ACC he.NOM

"He is a teacher."

The predicate nominal is interpreted as an indefinite, and shows up in Force, with adverbs intervening between the predicate and its argument which carries nominative case.

(54) máàrmálímúí òʃí ńɪ̰ɲɛ̀

NEG. SG.M.teacher.ACC usual he.NOM

"He is not usually a teacher"

These non verbal forms are translated as present tense outside of context.

In order to clarify what tense is intended, temporal adverbs must be used.

(55) armálímúí ápá ńɪ̰ɲɛ̀

SG.M.teacher.ACC long ago he.NOM

"he was a teacher"

I assume they do contain a silent T node, which can be present, is compatible with past, but not with future. The fact that clauses with non verbal predication in Maasai cannot

support verbal tense, agreement or aspectual marking (23) accounts for the absence of these elements from DPs as well.

The forms in this section are straightforwardly derived by the now familiar derivations: the subject raises to Spec, TP and to Top (where it can be topic dropped), and the nominal predicate fronts to Force in the C region:

(56) [$_{Force}$ [$_{Top}$ he$_i$ [$_{TP}$[e]$_i$] [ *be* [$_{SC}$~~he~~$_i$ [[$_{DP}$ OL ..[malimui ]]

The derivation in (56) correctly accounts for the fact that dependents of the predicate pied-pipe (though some dependents, like the possessive, may also be stranded). Pied-piping is illustrated in (57) for possessors:

(57) armálímúí l ɔɔ indóye níńɛ̀

SG.MS.teacher.SG.ACC MS.PL.ACC girls.PL.ACC he.NOM

'He is a teacher of girls' 'He teaches girls'

This derivation differs in one important respect from the DP internal ones however: predicate inversion within DPs is *obligatory*, yet it appears not to have applied in (56) . This is a serious problem for the basic hypothesis in this paper, which predict that predicate inversion should obligatorily apply in all cases of non verbal predication involving nominal small clauses. I return to this specific issue in 5.4. below, after we have gained a better understanding about predicate inversion in clausal contexts. As we will see, there is a surprising twist which yield insight into this basic problem, further strengthening the basic hypothesis.

## 5.3 First and second person subjects

With a first or second person arguments, a subject clitic appears with the verbal base –*ra*. The tense interpretation is fixed as present tense, and incompatible with past adverbs. *ra* thus spells out both the category V and (verbal) present tense. Past and future tense each use different verbal bases, and the form of the morpheme fuses both the category V and a specific tense specification. The subject-clitic verb sequence distributes as any tensed verbal predicate, and shows up in initial position stranding any dependents. The nominal predicate shows up after the nominative subject, as expected, and is compatible with both a definite and an indefinite interpretation:.

(58) árá òʃiàkɨ́ nanú. armálímúí

1S.ra always I.NOM SG.MS.teacher.ACC

"I am usually a/the teacher"

In Maasai, as in many other languages, first and second person pronouns consistently behave differently from third person pronouns. A third person pronominal object for example can be silent, but first and second (singular) objects cannot, and must show up as portmanteau clitics preceding the finite verb[32]:

( 59) *Subject and subject /object clitics*

| | 1S | 2S | 3S |
|---|---|---|---|
| 1O | | kɨ́ | áa |
| 2O | áá | | kɨ́ |
| (3O) | á | ɨ́ | ɛ |

I will slightly adapt Kayne (2000: 165) proposal for French pronominal arguments to capture the distribution of first and second person structurally case marked arguments:[33]

(60) first and second structurally case marked pronominal arguments in Maasai

must be doubled by a clitic[34]

Maasai clitics in turn require the presence of a verbal base, hence the obligatory presence of a verbal base with 1st and 2nd person nominative arguments[35]. Note that (60) does not say anything about 3rd person pronominal subjects. These in fact may appear in either verbal or non-verbal contexts:

| | | | | | |
|---|---|---|---|---|---|
| (61) | a. ɛrá | kúmòk | | b. kúmòk | níncè |
| | 3-ra | many | | many | they |
| | "they are many" | | | | |

If the (potentially silent) pronoun is doubled with a subject clitic, a verbal base must be present (61a). As (61b) shows, third person pronominal arguments may occur without a verbal base.

## 5.4 The mystery of predicate inversion.

The derivation in (56) poses a quite serious problem with respect to the parallelism between clauses and DPs. Indeed, as shown in section 2 and 3, *be* always triggers predicate inversion, and the predicate becomes an intervener for further movement of the subject. Yet, in the clausal context discussed above, predicate inversion either fails to apply, or if it does apply, it does not block the movement of the argument to the nominative case position. Further consideration of predicate nominals and predicate inversion in clauses reveals considerable opacity, with predicate inversion applying in some contexts, but not in others, and, at fist sight, no clear triggering conditions.

In this section, I will try to unravel some of the problems surrounding predicate inversion in clauses in Maasai. The task is to gain insight into the question why predicate inversion cannot occur in certain predicate nominal contexts, why it must apply in others, and why it must occur in DPs.

As in many other VSO languages, indefinite nominal predicates and definite nominal predicates do not have the same distribution.

(62) armálímúi nḭ́ɲɛ̀

SG.MS.teacher.ACC he.NOM

"He is a teacher"

(63) nɨ̃ɲjɛ́ armàlímuí

he .ACC teacher.NOM

"He is the teacher"

The definite predicate in (63) carries nominative case, and shows the distribution of nominative subjects. The fronted argument carries (default) accusative case, and shows up in the left periphery where verbal predicates appear. Thus, negation precedes the predicate, and the high adverbs precede the definite predicate carrying *nominative* Case.

(64) mɛ̂ nɨ̃ɲɛ́ òʃí armàlímuí

NEG- he.ACC usually SG.MS teacher.NOM

"He is not usually the teacher"

Predicate inversion and predicate fronting yield the expected structures in (63) and (64), where the predicate is interpreted as definite:

(65) [$_{ForceP}$ [ [$_{Top}$ teacher$_i$ [$_{TP}$ [e]$_i$] [[e]$_i$ *be* [$_{SC}$he [[$_{DP}$ the teacher]]

Why must predicate inversion apply when the predicate nominal is definite? A natural hypothesis is that predicate inversion in Maasai is somehow triggered by the definiteness of the predicate. This hypothesis is not empirically supported, however, since there are environments where predicate inversion does not appear to have occurred, and where the predicate can nevertheless be interpreted as definite. As we have seen before, some nominal predicates appear in verbal constructions. 1st and 2nd person pronominal arguments, for example must be doubled by a clitic, which in turn require the presence of a verbal base (5.3.). In these environments, predicate inversion fails to occur: the predicate carries accusative case, the external argument carries nominative case, controls agreement, and importantly, the predicate can be interpreted as either indefinite or definite.

(66) árá (nànú) armálímúi

1S-ra I.NOM SG.MS.teacher.ACC

"'I am a/the teacher"

This holds for all contexts in which a verbal base must appear. For example, embedding (64) within an infinitival complement, neutralizes the indefinite/definite distinction.

(67) εέkù tórét àa armálímúí

3S. FUT he.NOM SG.INF.be SG.MS.teacher.ACC

"Toret will be a /the teacher."

(68) εɨdɨm tórét a- taa armálímúí

3.be.able he.NOM INF.SG- t.aa OL.teacher.ACC

"Toret can become the/a teacher"

If definiteness triggered predicate inversion, the interpretations above should not be available at all in this environment. Moreover, there would be no link with predicate inversion within DPs, which is clearly not related to definiteness.

If we examine the environments where predicate inversion *fails* to apply, a clear generalization emerges: predicate inversion must apply if the derivation would lead to a definite predicate in Force at spell-out, otherwise it does not apply. This suggests the following generalization:

(69) A definite predicate may not be in Force at spell-out.

According to (69), predicate inversion must apply in (63), because otherwise the definite predicate would end up in Force. It fails to apply in (62), because it does not have to. This way of looking at predicate inversion offers an interesting possibility: there could be other contexts in which predicate inversion is forced to apply because otherwise the derivation would not converge. This seems to happen in wh-movement environments, where *indefinite* predicates appear to be able to undergo predicate inversion: indefinite predicates in fact *must* invert when the argument is wh-moved in non-verbal clauses.

(70) káŋaí armàlímuí tɛ̀nɛ́

K.A.who MS.SG.. teacher.NOM here

"who is a/the teacher here"

We should probably understand predicate inversion here as follows: predicate inversion satisfies the EPP requirement of TP, and leaves the wh-phrase within the small clause

predicate. This allows it to extract both as a remnant predicate satisfying the EPP feature of Force, and as a wh-phrase, which needs to be promoted into the cleft:

(71) a. [ who a teacher]

b. *predicate inversion*:

[ a teacher *be* [$_{SC}$who ~~teacher]~~

c. *NP movement to Spec, TP (nominative case )*

[**teacher.NOM** …[ ~~teacher~~ be [$_{SC}$who ~~teacher~~]]

d. *wh- movement to Focus:*

[$_{Foc}$~~teacher~~ *be* **who** ~~teacher~~] [teacher.NOM

e. *PredP fronting to Force*.

[$_{Force}$ [[~~teacher~~ *be* who ~~teacher~~]… … [teacher.NOM

f. *wh-movement into cleft:*

[[~~teacher~~ *be* **who** ~~teacher~~]$_i$ [$_{Force}$ [e]$_i$… … [**teacher.NOM**

Notice now that this reveals a surprising parallel with simple DPs and possessive DPs. The derivation above exactly parallel to the derivation of simple DPs and possessive DPs repeated here for convenience for (*al-ayeni* 'a/the boy'):

(72) [$_{DP}$ [$_{beP}$..**al…**] D [$_{CP}$ C [$_{IP}$[**ayeni]**$_i$ I [$_{beP}$[e]$_i$ *be* [$_{SC}$ al [~~ayeni~~]$_i$ ]]]

Our initial problem was explaining why predicate inversion is obligatory within DPs, but not in clauses that contain a non-verbal predicate. We now seen that predicate inversion must also apply in certain clausal environments, and can understand this as follows: the derivation with predicate inversion must be the only possible derivation if the argument must be A' moved in a non-verbal predicate nominal construction. But what rules out the alternative derivation? Suppose that predicate inversion did not apply. This would force the wh-argument to move to the nominative position and the remnant predicate to Force, yielding the following snapshot of the derivation:

(73) [ [$_{Force}$ teacher.acc] .. [$_{TP}$who.nom … ]

In the next step, the nominative wh-subject would have to undergo A' movement to form a licit wh-question. This is notorious problematic configuration for subject extraction: it might very well be excluded by whatever explains that-t violations. It seems then that Maasai should be added to the list of languages that disallow extraction of nominative subjects. Predicate inversion is one way to save this derivation, enabling extraction from the small clause predicate, both in DPs and in clauses containing a nominal predicate.

Footnote:

Adding a specialized nominative relative clitic which in turn needs a verbal base, is another way to insure convergence:

| | | | | |
|---|---|---|---|---|
| (74) | káŋaí | à -ra | armálímuí | tɛ̀nɛ |
| | it-is who.ACC | REL.SG.NOM-be | SG.MS.teacher.ACC | here |

" Who is a/the teacher here"

In conclusion, we have established the following distributional generalizations governing the quite opaque distribution of predicate inversion of non-verbal predicates in Maasai:

(75) a. a definite predicate may not end up in Force at spell-out.

b. A'-extraction of the argument of a non verbal nominal predicate forces predicate inversion because the alternative derivation yields a that-t violation.

It is important that the derivation of A' extraction exactly parallels the DP internal derivations, which also involve A' movement of the external argument. This further strengthens the DP-as-relative-clause hypothesis, and attributes the source of the typological correlations as due to shared structure and hence shared derivations.

## 6. Conclusion.

In previous work, I have argued that Maasai DPs headed by a common noun are relative clauses, i.e. D CP structures, and proposed a structure and derivation that accounts for the asymmetric agreement patterns and the linear order. This proposal predicts strong parallelism between DPs and clauses, and presents a different perspective on typological properties: the typological properties of Maasai should simply follow from a shared CP syntax. This paper evaluates this claim, and uses it to map different areas of the syntax of Maasai. The overall results are highly encouraging: it allows not only expressing what DPs and CPs have in common, but it also leads to specific proposals as to how they differ. Future research will have to further determine how this hypothesis fares for other languages, but it seems clear how to proceed.

## References.


Adger, D. and Ramchand G. 2003. "Predication and Equation." *Linguistic Inquiry* 34**:** 325–359.

Bach, E.. 1968. "Nouns and Noun Phrases." In *Universals in Linguistic Theory*. E. Bach and R. Harms (eds): 90-122. New York: Holt, Rinehart and Winston.

Bowers, J. 1993. "The syntax of predication." *Linguistic Inquiry,* 24: 591-656.

Bowers, J. 2002. "Tansitivity." *Linguistic Inquiry* 33: 183-225

Campbell, R. 1996. "Specificity operators in Spec DP.". *Studia Linguistica* 50: 161-188.

Carnie, A. 1995. *Head Movement and Non Verbal predication*. PhD dissertation, MIT.

Chomsky, N. 1995. *The Minimalist Program*. MIT Press. Cambridge, Mass.

Cinque, G. 1988. "On *Si* Constructions and the Theory of *Arb*." *Linguistic Inquiry,*

19: 521-581.

Cinque, G. 1999. *Adverbs and functional projections: A cross-linguistic perspective.* New York: Oxford University Press.

Cinque, G. 2000. “On Greenberg’s Universal 20 and the Semitic DP.” Ms. U. of Venice.

Cinque, G. 2001. “Restructuring and Functional Structure,” *University of Venice Working Papers in Linguistics*, 11: 45-127.

Dikken, M. den. 1998. “Predicate Inversion in DP.” In *Possessives, Predicates and Movement in the Determiner Phrase.”* A. Alexiadou and C. Wilder (eds). pp. 177-214. Amsterdam: John Benjamins.

Epstein, M. 2000. “Noun Phrases in Maasai.” ms. UCLA.

Greenberg, J. 1959. “The Origin of Maasai Passive.” In *Africa* 29:171-176.

Hale, K. 2000. "A Uto-Aztecan ('O'Odham) Reflection of a General Limit on Predicate Argument Structure.” In *Uto-Aztecan: Structural, Temporal, and Geographic Perspectives. Papers in Memory of Wick R. Miller by the Friends of Uto-Aztecan* E. Casad and T. Willet (eds.) U de Sonora Editorial UniSon: Hermosillo, Mexico.

Hale, K. and LaVerne Masayesva J. and Platero P. 1977 "Three Cases of Overgeneration." In *Formal Syntax*. P. Culicover, T. Wasow, and A. Akmajian (eds) . pp. 379-417. Academic Press: New York.

Hawkins, J. 1983. *Word order Universals*. Academic Press: New York.

Hollis, A. 1905. *The Maasai, their Language and Folklore*. [reprinted in 1971 in *The Black Heritage Library Collection*. Books for Libraries Press, Freeport, New York, 1971. New York]

Jelinek, E. 1984. “Empty categories, case and configurationality.” *Natural Language*

*and Linguistic Theory* 2: 39-76.

Kayne, R. 1994. *The Antisymmetry of Syntax*. Cambridge, Mass: MIT Press.

Kayne, R. 2000. *Parameters and Universals*. New York: Oxford University Press.

Koopman, H. and Sportiche, D. 1989. "Pronouns, Logical variables, and Logophoricity in Abe." *Linguistic Inquiry* 20: 555-589.

Koopman, H. 1984. *The syntax of Verbs: from Verb movement rules in the Kru languages to Universal Grammar*. Dordrecht: Foris Publications.

Koopman, H. 1999. "The Internal and External Distribution of Pronominal DPs." In *Beyond Principles and Parameters*. K. Johnson and I. Roberts (eds). pp. 91-132.

Koopman, H. 2001a "The locality of agreement and the structure of the DP in Maasai." To appear in *Proceedings of the 5th Meeting of the Texas Linguistics Society*. *http://www.linguistics.ucla.edu/people/koopman/koopman.htm*

Koopman, H. 2001b. "On the Homophony of Past Tense and Imperatives in Kisongo Maasai" In *Papers in African Linguistics 1, UCLA Working Papers in Linguistics-no.6.* H. Torrence (ed.) pp. 1-13.

Koopman, H. 2001c. "Topics in Imperatives." To appear in *Imperatives in Generative Grammar*. W. van der Wurff (ed). Amsterdam: Benjamins Publications.

Koopman, H. 2001d. "Maasai nominal tones." ms..http://www.linguistics.ucla.edu/people/koopman/koopman.htm

Koopman, H. 2002. "Derivations and Complexity Filters." In *Dimensions of Movement: From Features to Remnants.* A Alexiadou, E. Anagnostopoulou, S Barbiers, H. Gaertner (eds) pp. 151-189. Amsterdam: Benjamins publications.

Koopman, H. 2003a. *Inside the Noun* in *Syntax at Sunset : Head Movement and*

*Syntactic Theory*. A. Mahajan (ed). pp. 77-116. UCLA/Potzdam Working Papers.

Koopman, H. 2004. "Korean and Japanese Morphology from a Syntactic Perspective." ms. UCLA.

Koopman, H. and Sportiche D. 1991. "The Position of Subjects." *Lingua* 85: 211-258.

Koopman, H. and Szabolcsi A. 2000. *Verbal Complexes. Current Studies in Linguistics* 34. Cambridge, Mass: MIT Press.

Massam, D. 2000. "VSO and VOS: Aspects of Niuean Word Order." In *The syntax of Verb Initial Languages.* A. Carnie and E. Guilfoyle (eds). pp. 97-117. New York: Oxford Studies in Comparative Syntax .

McCloskey, J. 1991. "Clause Structure, Ellipsis and Proper Government in Irish." *Lingua* 85, 259–302.

McCrary, K. 2001. "Low Harmony, ATR harmony and Verbal Morphology in Kisongo Maasai. " In *Papers in Phonology* 5. A. Albright and T. Cho (eds.). pp. 179-206. UCLA Working Papers in Linguistics.

Moro, A. 1997. *The Raising of Predicates. Predicative Noun Phrases and the theory of Clause Structure*, Cambridge University Press, Cambridge.

Payne, D., Hamaya M. and Jacobs. P 1994. "Active, inverse and passive in Maasai." In T. Givón (ed.) *Voice and Inversion*, John Benjamins: Amsterdam/Philadelphia.

Poletto C. and Pollock J-Y. 2003. " On the Left Periphery of some Romance *Wh*-questions." In *The Structure of IP and CP. The Cartography of Syntactic Structures 2*" G. Cinque (ed.) New York: Oxford University Press.

Rasmussen, K. 2002. "Verb tone in Il-Keekonyokie Maa." MA thesis U. of Oregon, http://darkwing.uoregon.edu/~dlpayne/Nilotic/RasmussenKMaaTone.pdf.

Rizzi L. 1999. “On the position “Int(errogative)” in the Left Periphery of the Clause.” Università di Siena http://www.ciscl.unisi.it/pubblicazioni.htm

Rizzi L. 2004. “Locality and Left Periphery.” In *Structures and Beyond. The Cartography of Syntactic Structures*. A. Belletti (ed.) vol. 3. Oxford: OUP.

Rizzi, L. 1997 .“On the Fine Structure of the Left-periphery.” In *Elements of Grammar* L. Haegeman (ed.). pp. 281-337. Dordrecht: Kluwer Academic Publishers. [Also in Rizzi, L. 2000. *Comparative Syntax and Language Acquisition*, London: Routledge].

Ross, J. 1972 “Double–ing” *Linguistic Inquiry* 3.2: 61-86.

Storto, G. 2001. “Agreement in Maasai and the syntax of possessive DPs (II)”. To appear in *Proceedings of the 5th Meeting of the Texas Linguistics Society*.

Stowell, T. and Beghelli, P. 1977. "Distributivity and Negation," In *Ways of Scope Taking*. A. Szabolcsi, ed.. 71-107. Dordrecht: Kluwer.

Tucker, A. and Mpaayei, J. 1955. *A Maasai Grammar with Vocabulary*. London: Longmans, Green and Co.

Valois, D. 1991. “The Internal syntax of DP.” UCLA PhD dissertation.

* Data on Kisongo Maasai (Eastern Nilotic) were collected during the 1999/2000 Field Methods class at UCLA, as well as in fieldwork since then. I would like to thank Saningó Maliary for his help, patience and insights on Kisongo Maasai. The excellent grammars of Hollis (1905) and Tucker and Mpaayei (1955) have been consulted heavily for the purposes of this paper, as have been the papers by Storto (2000, 2001), Melissa Epstein (2000) and Payne et al (1994).This paper reflects my current understanding of the syntactic properties of Maasai, and not surprisingly further exploration is often needed. This paper has been presented in various stages of development at MIT 2002, Cornell 2003, UBC 2003, and at the conference on VSO languages in Tucson 2003. Thanks to Andrew Carnie, and two anonymous reviewers for extensive comments on a previous, extremely dense version. Support from the COR program of the Academic senate at UCLA is hereby gratefully acknowledged.

[1] Hawkins lists Milpa-Alta-Nahatl (Uto-Aztecan:Aztecan) as V1/Pr/GN/AN, and Pima/Papago (Uto-Aztecan:Sonoran) as V1/Po/Gn/AN. Pima/Papago is most probably misclassified as V1 languages (Marcus Smith personal communication). Hale, LaVerne and Platero (1977), and Hale (2000), for example, treat Papago as OV. Both Papago and Pima have a second position complex containing agreement, clitic, aspectual marking and evidentiality morphemes, and probably a first position phrasal requirement, suggesting a strong link with verb second phenomena. It is possible that Milpa-Alta-Nahatl is misanalyzed as V1 as well, and that the correlation holds without exception. In some VSO languages, pronominal genitives precede the N , but full DP genitive follow (see Koopman (1999))

[2] I will often refer to this unit as *ol* , thus abstracting away from the different spell-out forms /ɔl, ɨl, ɛn, ɨn/ which further harmonize in ATR, and are subject to vowel deletion and lowering ( ɔ-> a). (McCrary (2002)).

[3] It is unclear at this point how exactly this quantifier should be analyzed. It shows an overt morphological distinction between indefinite and definite DPs, where other Maasai DPs do not show any such morphological distinctions.

[4] For the purposes of this paper I treat *ol* as the external argument of the noun. See Koopman (2001a, 2003a) for possible further decomposition.

[5] They can be absent in polarity licensing contexts where bare nouns are often licensed. The omission seems to be lexically dependent:

(i) a. ɛn- tókì

F.SG.F -thing

"a thing"

b. mɛ̤̀-̤ tíi tókì

Neg-be-located thing

"There is nothing there"

In general, the omission of the article *ol* in Kisongo Maasai seems much more restricted than what Tucker and Mpaayei (1995: 46) describe.

[6] *BeP* might be a particular instantiation of the more general projection PredP (cf Bowers (1993), (2002)).

[7] In fact, the predicate containing *ol* first undergoes A' movement (relativization), followed by movement to the position where predicates are occurring, followed by

further A' movement.(see Koopman, 2003b). I will ignore these finer movements at this point, but see (14) and (72).

[8] Notice that I assume, contra Cinque (1999) that these adjectives are heads, not specifiers.

[9] My analysis shares many features of Storto's (2001) analysis of Maasai possessors. In particular it assumes a same type of underlying nominal small clause. The analysis differs however in the actual details of the derivation and the account for agreement.

[10] As the reader will notice, Maasai differs from Niuean in this respect (Massam, this volume).

[11] There are two morphological classes of verbs (class 1, and class 2). (Tucker and Mpaayei 1965). Class 2 verbs have a prefix (*in*) which seems (loosely) related to v. Maasai has two causative morphemes, one of which is spelled out as *i(n)* and combines with unaccusative predicates. The *in*- prefix is in complementary distribution with the perfective suffix (tV-), suggesting some connection to the familiar *have/be* distinction. For further details, see Koopman (2001b).

[12] Labeled "antipassive" in Rasmussen (2002).

[13] Perfective verb forms show number agreement (singular versus plural). Present tense/ future tense verbs show 2nd person plural overt agreement in the form of reduplication.

[14] This morpheme is traditionally called passive, but in fact it is more like nominative *si* in Italian (Cinque 1988). See Greenberg (1965) for an analysis of the passive in Maasai.

[15] Both *in* and *t* form causative with class 1. Causative on class 2 is homophonous with the instrumental suffix.

[16] Progressive is in complementary distribution with the verbal suffixes.

[17] See Koopman (2001d) for a list and a general description.

[18] Note that the object of the P carries nominative case, suggesting agreement is mediated in a similar way as in clauses. This strongly suggests some clausal structure within these PPs.

[19] It is unclear at this point why negation is excluded from DPs, while it is possible in cases of non-verbal predication.

[20] For the historical record: in Koopman and Sportiche (1991) we discuss whether subjects can be in-situ in VSO languages. We explicitly argue that subjects in VSO languages are forced to raise into the government domain of T, i.e. to a position where they can be immediately c-commanded by T and hence be assigned Case. As we show for Welsh, this movement is visible if one examines what happens when there are projections present between T and VP.

in Koopman and Sportiche (1991), we argued that subjects in VSO languages must be immediately c-commanded by T to be assigned Case: this forces raising when there are projections between T and V, as in Welsh.

[21] Certain adverbs like 'yesterday' may also come in between the subject and the object or the restructured clause, which shows that the nominative subject can be topicalized, and occur in the high topic position (see section 4.4.) Maasai may also have some kind of ellipsis (McCloskey, 1991). Thus, the following discourse " I can't sing, but …" can be continued with:

(i) kidim iye

k.be.able you

"You can"

This topic needs to be further explored.

[22] At this point, we should point out that stacking of infinitives is quite restricted. On the one hand, the temporal restructuring verbs seem to only combine with activities. Furthermore, certain sequences resist recursion in a manner that recalls "doubl-ing" (Ross (1972)) or Dutch preverbal infinitives (Koopman and Szabolcsi (2000), Koopman (2002)). For example, (i) cannot be further embedded as such, unless the lowest verb is turned into a gerund:

(i) kéɨđip ɨláyok áà- to- kito olcòni

Q. 3.finish PL.MS. boys INF.PL-.SUBJ.scrape.SUBJ SG.MS.(big) hide

"Will the boys finish scraping the big hide?"

(ii) kéɨdim ɨláyok aiđipá ɛnkitoto olconi

Q. 3.be.able PL.MS.boys.NOM INF.PL.finish SG.F.scrape GENSG.MS(big)hide

"Will the boys able to finish scraping the big hide?"

[23] Maasai differs from some other VSO languages (Massam (2000), and has a third person expletive clitic that must appear with certain verbs, called third person auxiliaries in Tucker and Mpaayei (1955) , p.101 (for example: ɛ ʃɛʃ 'it often (happens)', ɛ tɔn ' it (is) still, not yet (the case)', from the verb to 'sit', ɛɨtʊ (it was not the case, negative past).

[24] Quantified subjects might very well raise to the respective quantifier positions Stowell and Beghelli (1997). I will ignore these positions here, as I have no understanding of the distribution of different types of quantifiers in Maasai.

[25]For relevant discussion see Poletto and Pollock (2002).

[26] The main argument in Massam (2000) for fixing the landing site of the remnant VP within IP is the fact that negation intervenes between C and the finite verb. This shows indeed that the verbal predicate must be lower than negation. However the verbal predicate itself could have pied-piped negation to a high landing site in the CP region, as I have shown for Maasai in (35), section 4.3. Under this view, Massam's claims about complementary distribution between predicate fronting languages and DP raising to TP languages no longer follow.

[27] *Even* is homophonous to the strong form of the third person pronoun 'him'.

[28] This raises the further question why the expected wh-position to the right of ForceP is not (and maybe is never) available for wh-question formation if the landing site of the predicate is above it.

[29] Maasai has two classes of adjectives: 'verbal' adjectives which carry relative clause morphology within DPs and nominal adjectives which carry nominal case and number morphology.

[30] McCloskey (this volume) shows that within Irish further categorial distinctions between fronted predicates are necessary.

[31] Locative sentences corresponding to 'here is' (*nele*) seem to treat the locative as the non-verbal predicate, but the argument as an accusative, rather than a nominative.

(i) nele alaŋɛ́t

here MS.SG.bridge.ACC

Here is the bridge

[32] Payne et al. (1994) argue that *ki* and *aa* are inverse morphemes.

[33] Kayne (2000: 14) "Pronominal arguments that are structurally case-marked in French must be doubled by a clitic".

[34] That first and second pronominal argument must be doubled by a clitic seems to raise a problem for the following type of structures: (Tucker and Mpaayei, 1955:91)

(i) nanu armalimui

me.ACC OL.teacher.NOM

" it is me.acc (who is) a/the teacher"

Here a first pronominal argument does not have to be doubled, as the absence of a verbal base shows. We might assume that the pronoun is merged as the predicate. This will weaken my general assumption that it is always clear what the predicate and what the argument is. I will assume instead that the raised argument is not a first person argument, but a third person one, as suggested by 'it is me who is/*am a teacher'. This is consistent with the general pattern of wh-movement of the argument in this configuration (see the discussion in 5.4.)

[35] First and second person plural objects do not require an overt clitic. I will assume these have a zero object clitic .