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Warning: This is a (pretty dense) draft: I will soon revise it, reorganize it, and give it a much clearer structure: I will lead the reader on without any deviations! (this will mean that some of the sections and data discussions will have to go.)

1. Introduction

There are well-known 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, 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) edökö ninjë alayëni mekwëta
   e- d'o- ki ninjë al-ayëni m -ë - kwëta
3S say-appl he.nom ol sg.m-boy.sg.acc m- 3S- run

(2) oldia laalayô k
   ol- dia l- oo il- aye-uk
ms.sg.- dog.acc ms-pl.acc pl.ms-boy-pl.acc
‘the boys’ dog/ ‘a dog of the boys, a dog of some boys’

(3) mmësáí árè sidán
   in - mesa-i are sida - n
pl.f table-.pl.acc f.two.acc.pl nice- pl.acc
“(the) two nice tables/ the two nice tables”

In this paper, I would like to take these typological correlations seriously, and ask how they fall out from the analysis and more generally the theory. I will show in 1.1 that a traditional head movement approach is empirically inadequate, and fails to provide an account for the correlations. In section 2, I will motivate a phrasal movement account, based on the idea that all DPs are in essence relative clause structures, i.e. D CP structures (Koopman, 2000, 2003) generalizing Kayne’s (1994) proposal for relative clauses and post nominal possessor constructions to all DPs. This analysis will be extended to possessor constructions in section 3. In the light of this analysis, the DP/CP parallelism is in fact quite different from the way it is usually presented in the typological literature, and makes specific predictions about clauses. Section 5, 6, 7 and 8 evaluate clausal structures, and show strong support for the approach. The overall picture that emerges from this paper is one of great stability in derivation.

1.1 A standard head movement type account

Let us first examine how one would analyze the data above in a traditional head movement account, and how this accounts for the typological correlations. The VS/ NS parallelism is generally assumed to follow from head movement of V and N to landing sites higher than the
subject or the possessor within the respective CP or DP projections (cf. Valois, 1991, Ritter 1991 among others). Head movement of \( N \) higher than \( \text{Num} \), but lower than \( \text{Dem} \), with \( \text{Num} \) and \( A \) occurring in their merged universal orders (\( \text{Dem} > \text{Num} > A > \text{N} \) Cinque, 2000a), yields the linear order \( \text{Dem} \ N \ \text{Num} \ A \) in Maasai. As to the relative order of Number/As and genitives, which I will henceforth refer to generically as possessors, the two relative orders \( N > G \) and \( N > \text{Num} \) do not lead to any particular expectations as to the relative order of possessors and Numerals and Adjectives, i.e. possessors could remain low. In Maasai, pronominal possessors precede \( \text{Num} \) and \( A \), but lexical possessors follow all modifiers:

\[
\begin{align*}
\text{a. } \text{oldià} & \quad \text{le} \quad \text{njê} & \quad \text{obo} & \quad \text{sidá} & \quad N \quad D_{\text{pronposs}} \quad \text{Num} \quad A \\
\text{ol.dog}_{\text{ms.sg.acc}} & \quad D_{\text{ms.sg.acc}} & \quad \text{their} & \quad \text{one}_{\text{ms.sg.acc}} & \quad \text{nice}_{\text{sg.acc}} \\
\text{‘their one nice dog’}
\end{align*}
\]

\[
\begin{align*}
\text{b. } \text{oldià} & \quad \text{obo} & \quad \text{sidá} & \quad \text{l-áá} & \quad \text{layó ’k} & \quad N \quad \text{Num} \quad A \quad D \quad D_{\text{DPposs}} \\
\text{ol.dog} & \quad \text{one} & \quad \text{nice} & \quad D_{\text{-oo}} & \quad \text{boy-s} \\
\text{‘the boys’ one nice dog’}
\end{align*}
\]

Here, the standard story would say that pronouns must raise to a high position within the DP, whereas DPs remain low in the DP, maybe in their merged position (see Koopman, 1998 for Welsh for example). It is generally unclear in this type of analysis how to capture the complex asymmetric agreement patterns in Maasai, or how to account for the complex morphology that precedes the possessors.

Putting all the pieces of a head movement account together, the \( N \) raises to a position higher than the subject which precedes Number and \( A \). Since \( N \) follows Demonstratives, it raises to some position lower than \( \text{Dem} \), but higher than the subject. In clauses, \( V \) raises into the \( C \) region, higher than the subject (cf. 6.1 and 6.2 for arguments nominative subjects in Maasai must raise). The clausal/DP parallelism thus follow from head movement of \( N \) and \( V \) into the \( D \) and \( C \) regions respectively.

\[
\begin{align*}
\text{Head movement account:}
N & \text{raises into the } D \text{ region} \\
V & \text{raises into the } C \text{ region}
\end{align*}
\]

The analysis of agreement patterns in general does not bear on any analytical aspects of the syntax of DPs in this type of account.

Let’s consider next if \( N \) and \( V \) would raise to the same position within the \( C \) or \( D \) domain. Data about the placement of a particular set of adverbs suggests this is not the case. Maasai has a class of adverbs that intervene between the predicate and the case marked subject (Tucker and Mpaayei, 1955, p.18). The adverbs in the left column refer to the past:

\[
\begin{align*}
\text{naji: } & \quad \text{mentioned a few hours ago} & \quad \text{oji} & \quad \text{usual} \\
\text{duoo} & \quad \text{mentioned this morning} \\
\text{ŋole: } & \quad \text{yesterday} \\
\text{nari} & \quad \text{sometime ago} \\
\text{apa} & \quad \text{long time ago}
\end{align*}
\]

\[
\begin{align*}
\text{e’-} & \quad \text{ás} & \quad \text{oji} & \quad \text{en - keraí} \\
\text{3S} & \quad \text{do usually} & \quad \text{f.sg- child.sg.nom} \\
\text{‘Usually a child does it’}
\end{align*}
\]

Exactly the same set of adverbs occur within DPs. Given the \( V \) Adv order in (7), and raising of \( N \) into the \( D \) region, we expect \( N \) Adv order. This expectation is not borne out: these adverbs follow the determiner-like element \( in \), but precede the nominal root.
The head movement analysis offers no easy solution. Attempts to derive (8b) from the structure in (8a) look doomed, since the complex verb must precede the exact same adverbs. A possible solution, using widely accepted tools to deal with mismatches between syntactic constituency and linear order, would run as follows. The N head moves into the D domain, where the adverbs are also located, though it moves to a position to the right of the head where N moves, yielding (9):

(9) oʃi inkéra
    usual in.childen.pl

V moves a step higher in the CP region than N does in the DP region, yielding V Adv order, but Adv N order. The linear order in (8b) arises post syntactically. Since the adverbs are neither clitics, nor prosodically weak elements, post syntactic reordering must be motivated in some way by the weak element in: let us say it must be initial in the DP. I will not work out the details of this analysis: it simply cannot lead to a coherent analysis once the further distribution of these adverbs is taken into account (3.6.). The more general point here is that we are driven to this type analysis, because of the particular syntactic analysis that underlies the data. I will present a different syntactic analysis for these data below, which does not involve any head movement but only phrasal movements. The placement of adverbs falls out directly from the syntactic derivation, yielding perfect parallelism between DPs and CPs. Thus, no appeal to post-syntactic reordering is necessary – a good result since postsyntactic reordering should be simply unavailable in UG.

1.2 A different proposal

Besides many empirical problems, the standard head movement type account fails to capture the typological correlations. Since DP and CP are different categories containing different functional heads, it is unclear why D and C should each individually attract the head. Indeed, given the particular analysis, and the current Minimalist Program, the typological correlations look accidental. If movement is triggered by a strong EPP feature of a particular head, there is no way to insure that if C has a EPP feature, D must have one too. One might argue that this is indeed correct: typological correlations are just accidental. I will assume in this paper that the correlation between VS and NS order is real, not accidental, and hence should be taken seriously. This raises the question how exactly the parallelism should be construed, and how it follows from the derivations and structure. In previous work on the structure of DPs in Maasai, I have argued that simple DPs are not D NP structures, but in fact D CP structures (Koopman, 2000, 2002), generalizing Kayne’s (1994) proposal for relative clauses to all DPs, and following in the footsteps of Bach 1968 and Campbell 1996 among others. Given an underlying D CP structure for all DPs, the parallelism follows from a common CP structure and a common derivation. This paper tries to evaluate this hypothesis internally to Maasai. This requires covering quite a lot of analytical ground.
2. DPs headed by a common noun.

In Koopman (2000, 2003) I argue that DPs headed by a common noun are never D NP structures, as generally assumed, but instead are always D CP structures, containing a small clause nominal predicate. In section 2.1, I review some basic morphosyntactic properties of the common noun in Maasai. Section 2.2 analyses DP internal agreement, followed by the basic derivation in 2.2.

2.1. Basic morphosyntactic properties

This section reviews some basic morphosyntactic properties of Maasai DPs. In Maasai, a common noun, like alayeni ‘boy’, oldía ‘dog’, or enkerai ‘child’ is made up of four segmentally overt pieces, as well as a tonal melody that spells out Case (nominative versus non-nominative):

\[
\begin{array}{llll}
 a^3 & l & ayé & ni \\
\text{sg.ms} & \text{ms} & \text{boy} & \text{sg.acc}
\end{array}
\]

\[\text{‘a boy’}\]

The overt material, from left to right spells out the following features, and we observe complex agreement patterns (i.e. features are spelled out more than once):

\[
\begin{array}{cccc}
\text{number} & \text{gender} & \text{Case} & \text{N} \\
\text{gender} & \#\text{Num}_{sg}
\end{array}
\]

The phonological word consists of at least two units which can be separated by demonstrative roots, the adverbs in (6), and the quantifier ‘other’:

\[
\begin{array}{ll}
\text{ol} & \text{aye ni} \\
\text{al} & \text{(Dem) (Adv) (other)} & \text{[ayeni]}
\end{array}
\]

2.2 Agreement domains

An analysis of the agreement patterns and syntax of DPs in Maasai led me to the proposal that DPs containing a common noun are relative clause structures, of the form D CP, not D NP, thus extending Kayne (1994) proposal for relative clauses to all DPs. In essence, Maasai DP internal agreement shows the following characteristics: certain heads agree for gender only, certain heads for gender and number and others for gender, number and Case. I show that this follows from the structure and the derivation if morphological gender number and case are merged as syntactic projections according to the hierarchy case>..number>..gender>N. The ‘noun’ is gradually grown through NP movement, from genderP, into numP, into caseP.. Heads agreeing with genderP show gender agreement only, heads agreeing with numPs show number and case agreement only, and heads with casePs show (gender), number and case agreement. These are the only possible agreement combinations in Maasai. This structure yields the following agreement “domains” in the order of merger D->I->Num>A>case>..number>..gender>N.

\[
\begin{array}{lll}
\text{Agreement domains} & \text{change and make clearer}
\end{array}
\]

\[
\begin{array}{ll}
\text{D} & \text{case, number& gender} \\
\text{[CaseP][NumP][GenderP][NP]]} & \text{[A case, number& gender, ..]} \\
\text{case ....} & \text{number .... gender}
\end{array}
\]
As indicated, the linear order in (12) arises from remnant movement of a pronominal into the left periphery, yielding the order in (14):

(14) 

\[
\begin{array}{c}
\text{[.. number]} \text{[.. gender]} \text{[Pred]} \\
\text{number & gender} \text{[gender]} \text{[Pred]} \\
\end{array}
\]

\[
\begin{array}{c}
\text{[.. ayeni]} \text{[sidai]} \\
\text{[number case [A]* (gender), number case .. case ..]} \\
\text{[case, number & gender]} \text{[Subject]} \\
\end{array}
\]

This derivation equates \textit{al} with a remnant predicate and the caseP \textit{ayeni} with the structural subject.

2.3. Derivation

Let us consider the derivation underlying the common noun in (10), ignoring the morphological projections for simplicity.

(15) 

\[
\begin{array}{c}
\text{[DP [beP .. al ..]} \text{[D [CP C [IP [beP [e [be]]] [ol [x boy]]]]] [IP [beP [e [be]]] [ol [x boy]]]} \\
\end{array}
\]

The structure contains a nominal predicate, its external argument, and \textit{ol. clean up: and simply treat \textit{ol} as the external argument, even though the situation is a bit more complex.} The nominal small clause is a complement of a (silent) copula, \textit{be}, which projects a \textit{beP}, a projection that has the characteristics of \textit{be}, but lacks the categorial feature V, which will be responsible for the absence of many verbal characteristics of this structure. If category labels are merged as separate syntactic projections, as proposed in Marantz 1997, verbal \textit{be} equals \textit{beP} further embedded under a projection V\textsubscript{cat.}

Several types of movements within the DPs yield the agreement patterns on adjectives and numerals as well as the surface constituency. The derivations furthermore allow for a direct correspondence with the spell-out component and vocabulary insertion, and yield the correct linear order. The derivations include the usual inventory of movement rules: NP movement, predicate inversion (Moro, 1997), which moves a nominal predicate into Spec, \textit{be} and promotes it to subject, remnant predicate fronting of \textit{beP} to the CP region, and possibly A’ movement from Spec, CP to Spec DP. Note that the derivations do not involve any head movement. This is consistent with proposals that head movement either is not an option of UG (Sportiche 1996, Mahajan 2000, among others), or is available only in very restricted environments (Koopman and Szabolcsi (2000: 41).

(16) 

\[
\begin{array}{c}
\text{[DP [beP .. al ..] D [CP C [IP [ayeni] [beP [e [be]]] [sc al = boy]]] [IP [beP [e [be]]] [sc al = boy]]]} \\
\end{array}
\]

LF: ‘\textit{who/which is} \textit{a boy}’

(i) NP-movement:

(ii) Predicate inversion:

(iii) Predicate fronting:

(iv) raising to Spec, DP:
Be is a trigger by excellence for 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*). The predicate ‘ayeni’ ‘boy’ is raised by predicate inversion into the specifier of *be* over the intervening subject. This apparent minimality violation is a quite general characteristic of predicate inversion (Moro1997). Because of predicate inversion, the nominal predicate shows the behavior of a structural syntactic subject, and undergoes regular NP movement up to the Case checking position, notated here as Spec, IP. This movement will trigger agreement on intermediate projections, up to Spec, IP, the case ‘checking’ position, but not higher, again a standard property of NP movement. NP movement of a small piece of structure, a caseP, that contains the N and a number suffix and Case morphology (ayeni) thus accounts for obligatory “concord” on numerals and adjectives. This analysis reduces concord to normal Spec head agreement and the locality of NP movement, and yields the linear order (N > Num > A).

According to (16), the nominal constituent that carries overt case occupies a clausal structural subject position, Spec, IP. In terms of Case checking this again is expected, given the privileged relation between Spec, IP and Case. This position is higher than the equivalent of adverbal projections in clauses (section 6.2.), and APs in DPs, but lower than the left periphery which will attract the remnant predicate containing both the silent external argument of the noun and *al* i.e. the CP and the DP level. Note that the remnant predicate fronts as a phrase in (16). It will therefore be able to skip over filled intermediate Spec positions and head positions, as it presumably contains what the C level attracts (Pred). Again, this is a well-known property of local phrasal movement to the C region. Predicate fronting of the remnant *beP* to the CP level is exactly parallel to predicate fronting of the verbal predicate in clauses responsible for predicate
first or verb first order (see section 7) or predicate fronting in clauses containing nonverbal predication (sections 8 and 9). (16) details further raising of the predicate to the DP level. This can be motivated by Maasai demonstratives. Demonstrative roots intervene between the remnant predicate and the noun in subject position, which suggests that the remnant predicate raises to the D position, higher than Dem.6

(19) [ D[ Dem [ CP [ NP en i i t i da t i mesa fsg -prox mesa ‘that table’

2.4. On the term “DP”
At this point, a short terminological note on DP is in order. The structure in (19) uses DP in the traditional sense where D corresponds to a definite determiner. It is important to point out that en/o/in/il in Maasai are not restricted to definite DPs, but must appear on citation forms, indefinites, predicate nominals, generic DPs and definite DPs as well. The analysis so far implies that these projections are at least CPs, though these maybe tinier CPs than we are used to. Maybe they are DPs, if we extend the way in which DP is usually used to refer to include indefinite Ds as well. I will continue to use DP in the usual fashion, and reserve it to refer to definite DPs. I will refer to the smaller pieces of structure as D/CPs.

3. Possessor constructions.
Let us next turn to the question how possessor constructions7 fit into the proposal that all DPs are D CP structures or D/CP structures. Kayne (1984) proposes that post nominal possessors derive from a relative clause structure D CP which contains a nominal small clause that expresses the possessor relation. This analysis directly extends to Maasai, and yields a full understanding of the agreement patterns, and morphological pieces that make up the possessor construction. In a nutshell, possessor 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. The analysis presented below agrees with many features of Storto’s (2000), (2001) analysis of Maasai possessors, and 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.

3.1. Basic properties
Possessor constructions in Maasai involve several morphological pieces, and complex agreement patterns. Morphological pieces and word order vary depending on whether the possessor is a lexical or pronominal DP.
A small representative paradigm is included below for a masculine possessed DP and a DP/pronominal possessor. The general agreement properties of the possessor construction, as well as the differences between lexical possessors and pronominal possessor are stated in (21) below.

(20) a. oldià  l- á (a)layéni a’ oldià  l- inó
ol-dog D ms,acc.sg sg.acc al-boy acc ol-dog m,acc.sg D ms 2sg,acc
‘the/some dog of the/some boy’ ‘your dog/some dog of yours
Note that both possessum and DP possessor are D/CPs, as can be concluded from the fact the nominal roots are preceded by *ol, il, etc.*

The general properties of the possessor construction are summarized below:

\[(\text{D/CP possessed}) \ W - X [\text{D/CP lexical possessor]} \]

- \(W\) agrees with possessed in gender, number and case.
- \(X\) agrees with possessor in number (and sg gender)
- lexical possessor carries accusative case

\[(\text{D/CP possessed}) \ W - [\text{pronominal possessor}] \]

- \(W\) agrees with possessor in gender, number and case
- pronominal possessor agrees with the possessed in number

There is no agreement in definiteness in Maasai possessor constructions, as shown in the translations.

Lexical and pronominal possessors differ in their distribution. Lexical possessors obligatorily follows all nominal modifiers, and pronominal DPs obligatorily precede all nominal modifiers:

\[(22) \]

a. *oldià [lenjë] obo sidáí* N D pronpos Num A
   ol.dog ms.sg.acc D ms.sg.acc their one ms.sg.acc nice sg.acc
   ‘their one nice dog’

b. *oldià obo sidáí l- aá layó ’k N Num A D DPpos* 
   ol.dog one nice D oo boy-s
   ‘the boys’ one nice dog’

These facts will be analyzed in the following sections. Superficial differences between different DP constructions should follow from the type of predicate they contain. What happens at the D/CP level or clause internally should be largely invariant. In other words, we should simply take
the structure in (17), and plug in different predicates: the derivations should proceed in the same fashion. In addition, if these structures are D CP structures, we expect the same derivations in clausal CPs, i.e. we expect perfect parallelism.

3.2. Lexical possessors

A D CP structure underlies all DPs. The difference with a DP containing a common noun, is that possessor constructions contain a different type of nominal small clause, where the appropriate thematic relations are encoded, as in Kayne (1994), or Den Dikken (1998).

(23) \[ DP \ldots \] D [CP C [IP I [beP be .. [SC oldog to olboy]]]]

As we can see from the distribution of *ols*, both the external argument and the predicate are D/CPs. The derivation proceeds in essence as before. Predicate inversion raises the predicate to the specifier of *be*, effectively turning it into a structural subject. It will trigger number and gender agreement though Spec head agreement on *be* which is spelled out as *ε* or *σ*, or as *ς*, and move on to Spec, IP, as subjects always do. The subject of the small clause (*oldog*) undergoes relativization (A’ movement), raising first to Spec, CP, and 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.

(24) \[ DP \ldots \] D [CP C [IP[al-boy], I [beP[e] be .. [SC oldog to il-boy]]]]

(i) Predicate inversion:
(ii) NP-movement: 

(25) \[ DP \ldots \] D/CP C [IP "CP" I beP be .. [SC oldog to olboy]]

(iii) Predicate inversion:
(iv) NP-movement: 

(iii) Predicate inversion:
(iv) NP-movement:
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 (1993) 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 seem correct. As we will see in section 7, 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 are always attracted by the same head at the CP level.

3.3. On the difference between lexical and pronominal possessors

Lexical possessors must follow all modifiers of the possessum, but pronominal possessors must precede these. Lexical possessors and pronominal possessors partly share the same morphology, showing movement of a “DP” to Spec, CP and to Spec, DP and agreement. But they also differ. In particular, the head spelled out as ∞ morphology is obligatorily absent from pronominal possessors. Moreover pronominal possessors agree in number with the possessum. Lexical possessor don’t.

The question arise how the current analysis can account for these facts. In an optimal analysis the differences should fall out from overt observable properties. It is crucial in this respect that pronominal possessors in Maasai look like (nominal) adjectives, as observed in Storto, 2000. (Singular) pronominal possessors agree in case and number with the head noun. Like (nominal) adjectives, number morphology can be spelled-out as a head with segmental content. (eg. sida-i/sida-n ‘beautiful-singular, beautiful-pl).

This raises the general question how pronouns turn into adjectives. I will assume, following Marantz (2000) that category labels are syntactic projections, and that pronouns ‘become’ adjectives by raising to an AP projection. Crucially for the argument below, this is not achieved by head movement, but by NP movement. The basic idea to be developed is that the adjectival nature of the pronominal possessors forces the formation of a tiny relative clause at a very early point in the derivation, i.e. the pronominal possessor is in a deeply embedded D/CP. This D/CP itself is embedded in a nominal small clause structure (‘which is my dog’). The initial determiner is the predicate of the higher small clause. :

\[
(26) \quad [\text{DP} \ldots ] \quad [\text{CP} \quad [\text{IP} \quad [\text{beP} \quad \text{be} \ldots \quad [\text{SC} \quad \text{ol} = [\text{D/CPposs} \quad [\text{dog} \quad \text{D my}]]]]]
\]

With lexical possessors however, the modifiers are forced to be merged with the subject of the small clause. This will lead to final lexical possessors:

\[
(27) \quad a. \quad [\text{DPposs} \ldots ] \quad [\text{CP} \quad [\text{IP} \quad [\text{beP} \quad \text{be} \ldots \quad [\text{SC} \quad \text{oldog nice} \quad \text{to olboy}]]]]
\]
3.4. Why lexical possessors are final

This will probably go elsewhere or be taken out.

Let us first examine why numerals and adjectives are forced to be merged below be with a lexical DP possessum, taking as starting point that As can be merged either below or above be.

Recall that predicate inversion promotes the predicate to a subject in the presence of be. If a merger higher than be, only the predicate can undergo further NP movement and “become” an A, as shown in the tree structure below. Moving the possessum up to the Spec of the A ‘nice’ leads to a Minimality violation. This derivation is hence excluded for any type of modification of the possessum:

(28)

Thus, higher merged As can only modify the predicate, yielding the correct strings (il-dogs D oo boys nice” ‘the/some dog of the/some nice boys). Given predicate inversion, this underlying structure simply fails to produce illformed strings like *[oldog] D aa boys nice ‘a nice dog of boys’. The question now arises how the possessum can ever be modified. The only option open here is to achieve modification before predicate inversion takes place. This is shown in the following tree, where a modified DP is simply merged as the subject of the small clause. The derivation will proceed as usual, with the modified DP raising to Spec, CP and Spec, DP, and the remnant predicate raising to the C level.
This derivation will yield the possessor final surface form and agreement patterns in the usual fashion given Spec head agreement.

\[(30) \quad [\text{DP}[\text{D/CPil-dog nice}] \quad [\text{D}] \quad [\text{beP..aa..}] \quad \text{DP}]\]

Note that at spell-out DP final possessors are not low in the DP structure, in fact they have raised quite high, as we can see from the fact they trigger agreement on the predicate, which ends up preceding it. Note finally that these derivations provide strong evidence against any type of head movement analysis, as Storto 2000 points out, and provide strong support for Kayne’s proposal that postnominal genitives are derived from a D CP structure.

3.5. Pronominal possessors

Let us next turn to the question why pronominal possessors must precede modifiers of the N. Here two observations are relevant: the agreeing morpheme (a remnant predicate) is absent with pronominal possessors. If this morpheme spells out agreement on be with a PP small clause, this might simply indicate obligatory absence of beP. Secondly, pronominal possessors are adjectives. Pronouns become adjectives by moving to a projection of the category. I will continue to assume, as before, that head movement does not play any role in the derivations, and hence that pronouns become adjectives by moving to the Spec, AP. Give this background, let us examine what possibilities the derivation offers, starting with the possessive small clause. The pronoun is attracted to the Spec of the adjectival projection: in effect making the pronoun in the category of a nominal adjective. Merging additional adjectives according to the hierarchy will yield a Minimality violation for movement of dog (which importantly is no bigger than a NumP):
Since any higher category that attracts the subject of the small clause will cause a minimality violation, this derivation can only support a single A projection. Merging beP to trigger predicate inversion will not help: as we have seen this projection must be absent from the derivation. Probably, this is due to the fact that the pronominal predicate has moved into Spec, AP, and APs cannot undergo predicate inversion. Thus the derivation can only continue by inducing a step of A’ movement, i.e. by merging C/DP, and A’ moving dog to Spec, CP and to DP, followed by agreement. The remnant predicate containing only the visible pronoun will raise into the position where remnant predicates are attracted:

In order to modify the possessum, the D/CP in (32) must be further embedded in a D CP, with a nominal small clause, which creates the space for the merger of A. Predicate inversion will raise the D/CP [dog-l-his] into Spec, be, which allows it to reach the Spec, A, and show up in the structural subject position. The remnant predicate containing ol, will moves a remnant predicate to the CP level, and hence on to the DP level, just as the derivation in (17).
So far then, we have shown why pronominal possessors must immediately follow the possessed Noun, given a particular order or merger. However, a full account also needs to answer the question why only this order of merger is available: why, for example, cannot pronominal possessors distribute like lexical possessors and end up in final position. In other words, why is the merged structure parallel to (32) unavailable for pronouns:

(34) * … [ be [D/CPol-dia nice to] him]  

At this point, I can only suggest that the category A is no longer available for merger in the structure in (34), since both the predicate and the subject have grown too large. The derivation that leads to final possessors has both a D/CP subject and D/CP predicate. The subject of the small clause with the pronoun starts out as a much smaller part of structure, i.e. at most a NumP. The impossibility of (34) then would follow if the category label A is only available for merger at a very early stage in the derivation, perhaps at the level of roots, as Marantz (1997) proposes. This type of account thus raises new questions about the order of merger, and what is allowed to merge where and when

3.6. On adverb placement within DP.

The particular analyses of the various DP constructions makes specific predictions about the placement of adverbs, which intervene between the fronted predicate and the subject.
3.6. Relative clauses

The D CP analysis treats DPs as some kind of relative clause. This calls for a comparison with relative clauses in Maasai. We should be able to account for any differences between the constructions by the component parts that make up relative clauses or possessor clauses, i.e. for example by the predicate they contain. I will not present a full analysis of relative clauses here. There are two types of relative clauses in Maasai: affirmative third person relative clauses, and negative relative clauses and relative clauses with first or second person objects on the other hand. Affirmative third person relative clauses have a subject/object relative clause marker that is in complementary distribution with the regular subject/object clitic. The head of the relative agrees in gender, number and Case with the relative clause marker, just like the possessive marker agrees with the possessum in case and number. They differ though in the spell out: in the relative masculine agreement is o O, and feminine na, naa.

(10) alayénì ó lò (10) aláyènì ó lò
boy.acc ms.sg.acc go boy.nom ms.sg.nom go
‘(I saw) the boy who will go’ ‘the boy who will go (is …)’
In negative relative clauses, and first and second person relatives the masculine spell-out agreement / l reappears, but feminine agreement / n also appears which is not found in possessor constructions.

The agreement patterns in relative clauses seem to come about by raising a D/CP into the Spec, DP. This accounts for the basic agreement properties straightforwardly, though it does not account for the slightly different agreement morphology that appears in possessor constructions and relative clauses. Feminine agreement with possessor agreement is a zero morpheme, feminine agreement in relative clauses is / na, masculine agreement with possessors in one type of relative clause is spelled out as / l, but as zero with the other type of relative. Ultimately, this sensitivity depends on the properties of the predicate that the clause contains (i.e. a verbal predicate versus a non-verbal P/DP small clause) Since the predicate raises high into the C periphery the sensitivity in spell-out can most probably be handled as local selection.

4. On the parallelism of DPs and clauses

Given the analysis of DPs so far, we expect perfect parallelism in distribution, all things equal, for clausal CPs which contain the relevant types of predicates. Thus, we expect CPs with non verbal nominal predicates to be exactly parallel to the nominal small clauses that underly the common noun, or CPs which contain non verbal possessive small clauses to parallel possessor constructions. If not, we should be able to pinpoint the difference exactly. Furthermore, we expect subjects to raise in clausal contexts, predicates to raise high into the left periphery, and predicate inversion in the relevant environments. In the next section, we turn to these issues, so as to further evaluate the similarity with clauses, as well as the differences.

5. Clauses.

The next section lays out basic properties of clauses, showing there is a distinction between clauses which contain a verbal predicate and clauses which contain non-verbal prediction.

5.1 Basic properties

Consider the following examples:

(37) m-ed'okë résoi alayëni mekwëta
m e - d'ò - ki (resoi) ( al- ayeni) m e kweda
neg he- say-appl Resoi (nom) sg.m boy(acc) m- 3sg run- a
Resoi tells/will tell the boy to run
The “finite verbs” is quite complex. It consists minimally of a subject (or fused subject/object) clitic, and a verbal root, augmented with prefixes and suffixes depending on verb class, tense and aspect, clause type, argument structure, and features of the subject. The complex is preceded by negation. The entire string forms a phonological domain as can be concluded from ATR vowel harmony, and conforms to the descriptive template below (cf. Rasmussen 2002 for a recent description).

(39) a. Neg- Scl-(Ocl) (perf) - V- towards - do - Fut - Inst - AgrS\textsuperscript{14} - pass\textsuperscript{15} (i(n)) away -Middle/refl Caus (caus)\textsuperscript{16} dat/ben perf

b. Neg- Scl-(Ocl) (perf)/i(n)/caus V Progressive AgrS-pass\textsuperscript{17}

Clauses with non-verbal predication are predicate first, and cannot carry any of the morphemes that coocur with V in (39), expect for negation.

(40) sidāi ènā
    sidai ena
    nice this
    ‘this is/was nice’

(41) armálimùí níñẽ
teacher(acc) he (nom)
he is a teacher/he was a teacher

This immediately explains one major difference between clauses and DPs. Since a clausal structure with a nominal predicate underlies the DP structure, the exclusion of verbal within DPs parallels the exclusion of these very same elements in clauses with nominal small clauses (41). This leaves open the possibility that these D CP and CP structures have some type of T node, as suggested by the fact that the same (temporal) adverbs occur in both environments (cf. (6)).

As (41) shows, the nominal predicate occurs in the fronted predicate position, and the external argument shows up as the subject: this is in fact unexpected, given the obligatory occurrence of predicate inversion in DPs. I return to this issue in section 9.3.

Lexical DPs, including pronouns, may double subjects or object markers. DPs carry overt Case, expressed as tonal morphemes (cf Koopman, 2002 [NOTE: tones]. Nominative Case appears on subject of tensed clause and “DP objects” of the single P in Maasai (t-). Accusative, or rather non-nominative appears on citation forms, predicateinals, indefinite objects, definite objects and possessors. The unmarked order is V S O CP/PP, though O S order is possible as well, depending on the information structure (see Payne, Hamaya and Jacobs 1994, and 7.1). Maasai has a single all purpose preposition, t-, which is immediately followed by an agreement.
morpheme which agrees with the object of the P in number and gender. The object of the P is marked with nominative case, suggesting some clausal source for these PPs.

(42) tɛndító
    tɛndito
    for Agrsg girl.nom
    for the girl

(43) tôondóyě
    tōo indoye
    for Agrpl,nom girl.pl-nom
    for the girls

6. VSO
On the basis of DP structure, the subject should raise as high as Spec, TP, and the finite verb or the nominal predicate should raise high into the C domain. Furthermore, predicate inversion should occur in nominal small clauses. We examine these issues in 6.1, 6.2. and 9.

6.1. The position of the nominative subject and agreement

Is the nominative subject in Spec, TP or somewhere lower. Let us examine what can the structure of the fronted verbal predicate can teach us:

(44) [(neg) Scl Ocl [[[.. V..] AgrS]]] ..DPnom

The verb agrees with nominative subjects and precedes them. The verbal complex itself is preceded by subject (and object) clitics. If agreement is strictly triggered in a spec head configuration, and Agree is not available, as I argue in Koopman, 2000, 2002, this forces the subject to raise first to a local Spec position triggering Agr on V, and then to a higher clitic position. Since negation precedes the verbal complex, and right adjunction is not allowed (Kayne, 1994), the subject must raise higher than the subject clitic projection. If the verbal complex undergoes remnant movement and not head movement, as I assume without further discussion, the nominative DP must have raised outside the moved constituent, presumably to some Topic position if the DP is definite:

(45) [TopP DP, [... [(neg) [[DPe]], Scl Ocl [[[[Asp V] AgrS]]]]

(Definite) objects will be forced to move through the object clitic position into the left periphery as well. Movement to the Topic position obeys Superiority, as the linear order S>O suggests. And since the verbal predicate precedes the nominative DP, it must have raised beyond it to some position higher than Topic, raising questions about the structure of the left periphery (see section 7. for further discussion. Maasai subjects and objects can be freely dropped, a characteristic property of pronominal argument languages (Jelinek, 1988). If nominative and accusative DPs are indeed in a Top position, in fact in Rizzi’s (1997, 20002) low Topic position, subject and object pro-drop in Maasai might be analyzed as Topic drop. As is well-known from the Germanic literature, Topic drop is only possible if the verb raises into the left periphery, which it does in
Maasai. Dropped DPs do not need to be realized as clitics on the verb, and Maasai allows for multiple topic drop.
I have motivated raising of the nominative DP and fronting of the verbal predicate into the left periphery so far through Spec head agreement. This is a strong result, in so far as the readily accessible overt forms narrow down the analytical options of the language learners. These results concur with independent evidence for raising of the nominative DP to at least Spec, TP.

6.2 Further evidence for subject raising

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

(46) edóki ninjé alayéní mekwétà
e - d'o - ki ninjé al- ayeni m e kweta
V                       S                       O                     CP
3S/3O- say-appl he (nom) sg.m boy.acc m- 3 run- a
He tells/will tell the boy to run

The usual diagnostics for the position of subjects are uninformative, either because the linear order is not informative, or because I simply lack the relevant information. Negation precedes the subject clitic and the verbal predicate, and hence says nothing about the relative height with respect to the position of the subject. Indefinite and definite subjects seem to have the same distribution, superficially at least. Quantifiers follow the head noun in the DP, and our data so far do not allow us to show if Maasai has Q-float or not. Maasai has very few genuine adverbs, and these often appear between the predicate and the nominative subject in the left periphery. Raising predicates however show that nominative subjects must obligatorily raise into the tensed clause, and therefore do not stay in their merged positions. Consider the following example

(47) eítéra ŋera ánap
ε- itera inkera aa -nap
V                     S                    O
3 start.past children inf.pl carry
The children started to carry it

Embedding this example under what can reasonably be assumed to be raising predicates a shows that the nominative subject has raised into the tensed clause:

(48) esioki ŋera aaité (* ŋera) ánap
3- children inf.pl inf.pl carry
soon start
The children will soon start to carry it

(49) eidim ŋera aaitéfa (* ŋera) ánap
3-be children inf.pl inf.pl carry able.
start.a
The children will be able to start to carry it

Many of the heads corresponding to adverbs or bound morphemes in Cinque (1999) show up as verbs in Maasai (see Koopman 2003b) for a (very) preliminary mapping), and are restructuring predicates, i.e. clitics ‘climb’ to the finite verb.
These facts thus indicate that nominative subjects are at least in Spec, TP. This yields a nice parallelism with the DP structure, where we have seen from the position of NP modifiers that subjects also move to the structural subject position. Whether definite subjects are in a Topic position or not in both D/CPs and CPs remains at this point an open question.

7. The position of the verbal predicate in the left periphery

The verbal predicate raises into the left periphery, and the question where it raises exactly. In a series of papers on the fine structure of the left periphery, Rizzi (1997, 1999, 2002) arrives at the following (universal) structure, where Mod stands for Modifier, basically a position for adverbs that precede the subject.

(50)  kisioki             iye aitër’ânáp
      ki-           iye a- iter a- nap
2S.1O soon you.no inf.sg start inf.sg

‘You will soon carry me’

(51)  Force>(Top*)> Interrogative> (Top*) Focus> Mod *>Top*> Fin>(TP)
(Rizzi, 2002)

(51) will guide the discussion of the left periphery in Maasai. If nominatives are in Top, the verbal predicate cannot be in Fin at spell-out, since all possible Topic positions are to the left of Fin. There are two potential landing site for the predicate, assuming neither Top nor Focus are suitable hosts. The verbal predicate could be in Force (Force$_1$). It must be at least in Int (which I refer to as Force$_2$), if we assume that Rizzi’s (1999) Interrogative position is really a more general position for clause type (declarative, imperative, interrogative..) (cf. Koopman 2001). Thus the verbal predicate must be at least in Force$_2$, and could maybe be in Force$_1$.

(52)  Force$_1$             Force$_2$       Top*   Fin
      [.V..]                 [.V..]          DP$_{nom}$

7.1. The verbal predicate is at least in Force$_2$.

If the verbal predicate is at least as high as Force$_2$, and nominative subjects are in the low Topic position, some elements should be able to intervene between Force$_2$ and the nominative subject, in a particular linear order:

(53)  Force$_1$>(Top*)> Force$_2$> (Top*) Focus> Mod *>Top*> Fin>(TP)
      [Pred-V..]             DP$_{nom}$

This seems correct. Among the elements intervening between the verbal predicates and the nominative subject, there are prime candidates for Mod, Focus and perhaps Topic. The restricted set of adverbs that occur between the predicate and the subject in clauses and DPs alike are thus good candidates for Rizzi’s Mod.
'The child carried him/her a long time ago.

A focus particle *even* appears only to the right of a fronted predicate. This is also a position where *aki* 'only' and *sii* 'also' appear.

The mother carried the child (focus). /"the child was carried by the mother

This suggests that OS order is only possible if the object raises over the subject to Focus or to the higher more prominent Topic position. In all other cases, the object must follow the subject, suggesting Superiority is at work for attraction to the same type of position. The data so far is consistent with the mapping below:

7.2. *The verbal predicate in Force₁ or Force₂?*

An examination of the elements that can or cannot appear to the left of the predicate should help further determine if V is in Force₁ or Force₂. We briefly examine complementizers, a force like particle *k-*, (non-argumental) PP and CP topics, and wh-questions, which occur in a cleft construction.

Maasai has a subjunctive marker *m-* which precedes the_SCL-V string. It harmonizes with the verb, and dictates the subjunctive form of the verb. This suggests it has merged lower in the structure, and pied-pipes with the verbal predicate to Force. The infinitival marker *a (sg)/ aa(pl)* precedes the ‘tenseless form’, and agrees with the subject, which again makes it highly unlikely this
marker is merged in Force. Maasai has no overt Cs, except for the verbal complementizer adjo ‘to say’, which seems to select for ForceP (see Koopman, 1984, and Koopman and Sportiche 1998 for a general discussion of this type complementizer). A force-like particle k- can precede the predicate. k- often occurs in yes-no questions and wh-questions, but it does not occur there exclusively. In particular, it can also occur in affirmative contexts. Furthermore, k- is in complementary distribution with Neg. This suggests it 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. So far then, potential C candidates have no bearing on the issue of whether the predicate is in Force1 or Force2.

If the verbal predicate is in Force2, it should allow topics to its left. Temporal adverbials, PP adjuncts, and CP adjuncts may precede the verb.

(58) ñvolatile etalépo láarpàpt ñgijú

ñvolatile e-ta-lep:o ñl-aa- irpàpt in- kijú

yesterday 3S. perf.milk.perf ms-aa-nom.pl hairspl.acc pl.f cowsacc

Yesterday the long haired one milked the cows

(59) tian e-ta-lepo ñl-aa- irpàpt in kijú

t-an 3S. perf.milk.perf ms-aa-nom.pl hairspl.acc pl.f cows

In the pen the long haired one milked the cows

These can occur in different positions in the clause, as illustrated below

(60) \√ etalépo √ láarpàpt √ ñgijú √
milked S O

However, DPs may never precede the verb as topics. Subjects and objects can precede the verb, but they must appear in a cleft-like construction, must carry accusative case. They are obligatorily interpreted as focused, not topics.23

(61) ñgijú etalépo láarpàpt

*The cows, the long haired one he milked (them); OK (it is) the cows Resoi milked

(62) ìlayák áânáp èndità

il - ayák ñd- nap en - tito

p.m.D boysacc relative, s.f.D girl nominative

It is the boys who will carry the girl.

Although ‘leaking’ to the left of the predicate data suggests the verbal predicate is in the Force2 position (i.e. Force1>Top>Force2), it must be explained why DPs do not seem to be able to reach this Topic position.

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

(63) kañaji ë-náp-ìta tòret

k.a.who.acc 3rd-carry-progr. Toret-nom.

It’s who Toret is carrying?
(64) kánjái ná- nap-íta tóret
   it is who_fem that is carrying Toret?

Maasai shares this typological property with other rigid VSO languages like Malagasy (Carnie and Guilfoyle, 2000, and [this volume]), raising the question why this should be the case. If we see clefting as a way to embed ForceP, and raise the clefted phrase out of the clause into the cleft, the question becomes why this extra step of embedding is necessary. This might in fact be related to the fact that the verbal predicate finite verb must raise to Force1/2 in Maasai, in conjunction with Rizzi’s left periphery. Let us briefly examine what form exactly a non-clefted wh-question is expected to have, given the left periphery in (51), in conjunction with obligatory predicate raising to Force1 or Force2. (65) lists some possibilities, which will not lead to convergent derivations.

(65)  Force1>(Top*)>Force2> (Top*) Focus> Mod *>Top*> Fin>(TP)
   a. wh to Focus, V to Force
      *[ForceP [.V ..] .............. wh DP_nom
   b. wh to Focus; Focus pied-pipes everything to Force:
      *[ForceP [Focus wh ..(DP)nom[..V ..]

(65a) is expected if the wh-phrase moves to a wh-position, say in the vicinity of Focus, and the verbal predicate moved independently to Force1/2. If interrogative Force requires checking by the wh-phrase, this derivation can be ruled out by the fact that the wh-phrase simply fails to associate long distance with Force in this context. In other words, Wh must be physically in Spec, Force at spell-out. But the verb also needs to be in Force. The only way to satisfy both requirements would be through pied-piping of FocusP, moving a constituent to Force that has both the wh-phrase to the left of V, and the verbal predicate somewhere further embedded. This arguably clashes with the V1 property: for whatever reason, the V1 property disallows pied-piping. Note that Force in Maasai only tolerates a relatively small piece of verbal structure (given in (44)). Pied-piping would embed the verb deeper, simply making the constituent too big to fit in Force1/2. If Force allowed pied-piping of some bigger constituent, Maasai would simply not look like a V first language. The suggestion then is that the language cannot form any well-formed wh-questions with the pieces that the left periphery makes available, because of Force> Focus), and predicate movement to Force. This leaves no other option than embedding the left periphery under additional structure, i.e. by embedding Force in a cleft: presumably the wh-phrase can use the Focus position and transit into the cleft clauses. It is interesting that the wh-landing site ends up being to the right of the projection that hosts the verbal predicate. Note that this is exactly the conclusion we arrived at for the derivation of possessor constructions in section 3.2. on the basis of purely theoretical considerations.

In conclusion then, the data so far are consistent with attraction of the verbal predicate to Force2, with a slight edge for Force2, since it allows certain kinds of Topics to the left of the verbal predicate. The strict V1 character of Maasai follows from the fact that the verbal predicate raises so high within the left periphery. It may be the case that wh-phrases must occur in cleft constructions because no wellformed output can be derived from the simple left periphery.

8. Clauses with non verbal predicates
We next turn to clauses with non-verbal predication. If DPs contain a clausal structure with a nominal small clause, the distribution of nominal small clauses in clauses is of course directly relevant, since these form the proper comparison set. asdd references to Carnie etc. The general distribution of non verbal predicates in Maasai is schematically presented in (66a) and (66b).

(66) a. (Neg) AP (Adv) DP_{nom3}  
b. (Neg) DP_{ndef} (Adv) DP_{nom3}  
c. (Neg)[Scl/Ocl T-V-AgrS...] (Adv) DP_{nom}

With third person subjects, APs^{25} and predicate nominals are in complementary distribution with the finite verb (66c), suggesting all predicates are attracted to the same position in the left periphery. The contexts in (66a) and (66b) do not support overt tense marking or subject clitics, nor any of the morphemes that occur on Vs (section 5.1). This follows from the fact that these clause types do not contain a category V, and hence all elements that coocur with V are necessarily absent. Locative predicates are introduced by a locative V (a-tii{"i}^{26}), and possessive predicates by a possessive copula (a-ata), which only has a present tensed form and an “infinitive”. Possessive clauses thus contain a verbal base, and are different in that sense from D/CP possessive constructions which contain a non-verbal small clause. It is probably no accident that these forms contain -t-, the only P in Maasai.

(67) et{"i} (ninje) aŋ  
3. be-loc he.nom home  
he is home

(68) eęt{"a} (ninjɛ̥) aŋ  
3S.have s/he.nom home  
he has a home

Discussion will be restricted to predicate nominals, since these are directly relevant for the discussion of the parallelism between clauses DPs.

9. Predicate nominals

The citation form, roughly translatable ‘it’s’ is equivalent to the D CP form

(69) a. armałîmûî b. emesa  
‘who is a teacher’≈ it is a teacher  ‘which is a table’≈ it’s a table

With an argumental external argument, the distribution depends on the features of the external argument (1st, 2nd person, versus 3rd person) on the one hand, on the definiteness of the predicate on the other, and on wh-extraction patterns.

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

(70) armałîmûî nînê  
al.teacher(acc) he (nom)  
he is a teacher/he was a teacher
The non-verbal predicate, which is interpreted as indefinite, shows up in Force, and carries default (accusative case). Its external argument shows up with nominative case.

(71) me armaлимўи oshi нінжɛ
    neg al.teacher.acc usual he.nom
    he is/was not usually a teacher

These forms do not contain any verbal element, nor do they receive any specific tense interpretation. In order to clarify what tense is intended, temporal adverbs must be used.

(72) armaлимўи apa нінжɛ
    al.teacher(acc) long ago he (nom)
    he was a teacher

This is an important property of non verbal predications, and immediately answers one question that our parallelism raises: If DPs are D CPs with a nominal predicate, why cannot Maasai DP support normal tense, agreement or aspectual marking? This simply follows from the fact that the parallel clausal constructions in Maasai cannot support tense, agreement or aspectual marking either.

The nominal predicate fronts into the C region, and the subject raises to Spec, TP and to Top, yielding the following partial derivation:

(73)  [Force [Top he                [Nom [be [SChe [D/CP al [malimui ]]]]]]

The derivation in (73) correctly predicts that dependents of the nominal must pied-pipe. This is illustrated in (74) for possessors:

(74) armaлимўи l ḹa indoye нінɛ
    [teacher.sg.acc D pl.acc girls.pl.acc he.nom
     ‘He is a teacher of girls’ ‘He teaches girls’

This again is a quite general characteristic of VSO languages, as shown by Carnie & Guilfoyle (2000) and this volume +++.

The derivation in (70) poses a problem with respect to clause/D/CP parallelism. 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 this context apparently predicate inversion fails to apply, or it has applied twice, making it seem as if it did not apply. Though I will not attempt to explain this, it is clear that from the perspective of this paper that predicate inversion should apply. It is then no wonder that we find other contexts in which predicate inversion has applied, and that these contexts do not appear to form a natural class: what needs explaining is why predicate inversion fails in the cases above.

9.2. First and second person subjects

With a first or second person external arguments a subject clitic appears with the verbal base –ra, and the tense interpretation is fixed as present tense, i.e. ra spells out V and verbal present tense. Past and future tenses use different verbal bases. The subject clitic verb sequence distributes as
any tensed verbal predicate, and hence shows up in initial position stranding any dependents. The nominal predicate shows up after the nominative subject, as expected.

(75) ara ofíakí nanú. armálímúi
   1S.ra always I.nom teacher.acc
   I am always a teacher

First and second person pronouns consistently behave differently from third person pronouns in Maasai. Thus for example, a third person pronominal object can be silent, but first and second (singular) objects cannot, and must show up as portmanteau clitics on the finite verb:

\[
\begin{array}{|c|c|c|}
\hline
\text{Subject and subject/object clitics} & 1S & 2S & 3S \\
\hline
1O & kí & áa & \\
2O & áá & kí & \\
(3O) & í & ε & \\
\hline
\end{array}
\]

Suppose we slightly adapt Kayne (2000: 165) proposal for French pronominal arguments as follows:

(77) first and second pronominal arguments in Maasai must be doubled by a clitic.

This will force the presence of a subject or object clitic for 1st and 2nd person. Clitics in Maasai require a verbal base, hence the obligatory appearance of a verbal base with 1st and 2nd person nominative arguments. (77) does not say anything about 3rd person pronominal subjects. These may appear in non-verbal predications, but can also be doubled as subject clitics in certain environments. For example, when the predicate is a numeral or a quantifier like many, the pronominal argument may be doubled by a clitic, or not:

(78) a. ñra kumok
   3-ra many
   ‘they are many’

   b. kumok nince
   many they

9.3. The mystery of predicate inversion.

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

(79) armálímúi nínjë
    ol.teacher(acc) he.nom
    he is/was a teacher

(80) menínjë armálímúi
    ol.teacher(acc) he.nom
    he is/was the teacher

The definite predicate in (80) carries nominative case, and shows up in subject position; the fronted argument carries (default) accusative case, and shows up in the Predicate position, as we
can conclude from the following diagnostics: Neg precedes Pred, and adverbs precede the definite predicate carrying nominative Case.

(81) mè nínjè oši armàlimui
neg- he.acc usually the teacher.nom
‘he is not usually the teacher’

Predicate inversion and predicate fronting yield the structures in (80) and (81):

(82)  

(83)  

The question is then why predicate inversion must apply in this particular context. Either predicate inversion in Maasai is in some ways directly triggered by definiteness, or it is forced to apply in this environment in some other fashion. For example, if it did not apply, the derivation would lead to some violation. The latter seems to be the case: predicate inversion only applies if the derivation would otherwise bring the definite predicate to Force at spell-out.

(84)  A definite predicate may not end up in Force at spell-out.

Furthermore, predicate inversion is not restricted to definite predicates, but can also apply to indefinite predicates in certain specific environments: this is a consequence of the derivation that underlies wh-movement.

Let us first examine environments where predicate inversion does not place, and where the predicate can nevertheless be interpreted as definite or indefinite. As we saw before, in all environments wherever a verbal base is forced to appear, predicate inversion does not take place; the predicate carries accusative case, the external argument carries nominative case, or controls agreement. In these environments, the predicate can be interpreted as either indefinite or definite. This can be illustrated with 1st and 2nd person pronominal arguments, which must be doubled by a clitic, which forces the presence of a verbal base.

(85)  ara nanu armálímuí
1S-ra I.nom teacher.acc
‘I am a/the teacher

This is true in all contexts where a verbal base must appear. For example, if the structure in (81) is embedded inside an infinitival complement, the distinction is neutralized:

(86)  ējooki nínjè aa armálímuí
3. soon he.nom aa teacher
He soon will be a /the teacher

(87)  ēidim nínjè a taa armálímuí
3.be.able he.nom a.sg taa^30 teacher
He can become the/a teacher
If definiteness is triggering predicate inversion, it is unclear why the interpretations above would be available at all in this environment. These environments have in common that some verb occupies Force. Thus, descriptively speaking, it looks like the “definite predicate” may not end up being in Force: this forces obligatory predicate inversion. Predicate inversion is in fact what is always expected on the basis of the derivations in the D/CP. It is not surprising therefore that we also find cases of predicate inversion with indefinite predicates as well.

Indefinite predicates can invert when the external argument is wh-moved.

(88) káŋaľ armáľmůŋ tènē
    it-is who ol. teacher.nom here
    who is a/the teacher here

We can now see this as a way of leaving the external argument in the small clause and allowing it to extract as a remnant predicate, and a wh-phrase:

(89) a. [ who a teacher]
    b. predicate inversion:
       [ 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
       [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], [Force [e]... ... [teacher.nom

Note that this is exactly parallel for the derivation of a simple DPs (16) repeated here for convenience.

(90) [ DP [beP.. al... ] D [ cp ayeni [IP [teacher be [sc al = boy]]]]

We can indeed take (16) and plug in the small clause structure in (89), and the surface order in (88) falls out:

(91) [ DP [beP.. is whoacc ... ] D [ cp teacher [IP [teacher be [sc al = boy]]]]

These derivations raise the further question why the alternative derivation with nominative or accusative who is not available.

(92) *káŋaľ armáľmůŋ
    it-is who_nom/acc ol.teacher.acc
There is, in fact, an alternative way to ask the question in (88):

(93) káŋjaí ara armálmuí tène
     it-is rel.sg.nom.-be ol.teacher.acc here
     who.acc
     who is a/the teacher here

The ungrammaticality of (92) is most probably related to a general subject/non subject asymmetry. Extraction of the nominative forces the presence of a relative clitic. This clitic is in complementary distribution with the subject clitic and marks the case of the extraction site. This suggests extending the generalization in (77) to include the following:

(94) a. first and second pronominal arguments in Maasai must be doubled by a clitic
    b. a nominative A’ bound trace must be doubled by a clitic

Clitics require a verbal host, whence the presence of V in (93), and V quite generally blocks predicate inversion.

In conclusion, we have established the following distributional generalizations governing the distribution of predicate nominals:

(95) Whether predicate inversion applies in clauses depend on the following conditions:
    a. a definite predicate may not end up in Force at spell-out.
    b. predicate inversion does not apply in clauses containing V.
    c. clitics force the presence of V.
    d. wh-extraction of the argument of a non verbal predicate forces predicate inversion; wh-
derivation exactly parallel the DP internal derivations.

How these generalizations further follow is a question for future research.

10. Conclusion.

This paper directly flows from my previous work on Maasai, where I argued that DPs containing a common noun are D/CP structures, and proposed a 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, and that they do not follow from head movement and NP movement, but from a more complete array of derivational processes in involving NP movement, predicate inversion, predicate fronting, but no head movement. This paper evaluates this claim, and tries to see where it leads us in understanding the syntax of Maasai, if it is taken literally. The results are encouraging: the D/CP hypothesis which was based just on an analysis of the asymmetric agreement properties in DPs with a common noun and the linear order in these DPs, fully extends to possessor constructions, and their agreement properties. Differences in the distribution of pronominal possessors and lexical possessors fall out from the adjectival category of pronominal possessors, which will keep it low in the structure, in conjunction with the derivation. The derivation in clauses and DPs are parallel to a suprizing extent: NPs/DPs always raise to subject position, higher than adjectives within DPs, and higher than raising verbs or restructuring verbs in clauses. Predicates always raise to the same position very high into the left periphery: D/CP predicates and AP predicates are clearly phrasal;
verbal predicates “strand” their dependents. I did not discuss why verbal predicates must strand their dependent DPs and CPs. This is a case where head movement could potentially play a role in Maasai. However, to analyze this as a case of head movement would be against the logic of the account: head movement simply has played no role in the account. If nominal morphology is assembled via NP movement, and remnant predicate fronting happens in the simplest of all DPs, movement of the verbal predicate into the C region is most likely a case of remnant phrasal movement as well. I don’t see why this should be problematic: after all, the verbal predicate is highly complex, and contains a great number of syntactic projections that only coocur with V: subject clitics, object clitics, present, past and future tense, aspect, causative, benefactive, instrumental, v, reflexive, middle etc. The point here is simply that there is plenty of opportunity to form a verbal predicate remnant in the course of the derivation. Nonverbal predicates lack these projections, except for a zero past and present Tense node that licenses the initial adverbs. This simply provides less derivational space, and hence less chance for opacity to arise: the phrasal nature of predicate fronting shows up clearly. Finally, predicate inversion plays an important role in the derivation of DPs, and is also at work in derivation of clauses containing a nonverbal DP, though not in all derivation. I have suggested that predicate inversion does not apply if the derivation would bring a definite predicate into the landing site for fronted predicates in the CP region. Predicate inversion furthermore does not apply to verbal predicates, including verbal be, for reasons that are unclear at this point.

The overall picture that emerges from the exploration of Maasai syntax is one of great uniformity in structure and movements, and seems to bring strong support for the theoretical underpinnings of this paper. Future research will have to further determine how the project fares for other languages, but it seems clear how to proceed. The right linguistic theory should yield insightful accounts of individual grammars, and should predict what patterns can or cannot cooccur in the languages of the world.

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I will take out the bullets in the final version; references need to be completed, some dates need to be checked

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Data on Kisongo Maasai (Eastern Nilotic) were collected during the 1999/2000 Field Methods class at UCLA, and can be accessed at http://www.humnet.ucla.edu/linguistics/people/Koopman/Maasai, as well as in fieldwork since then. I would like to thank Saning’o Maliary for his help and patience with the data from Kisongo Maasai. The excellent grammars of Hollis (1905) and Tucker and Mpaayei (1955) have been a constant help for the purposes of this paper. In addition, the papers by and Storto (2000, 2001) have been particularly helpful. This paper represents my current understanding of the properties of Maasai, and not surprisingly, where the paper heads off in less charted waters, further exploration is needed. I am grateful to the organizers of this conference for inviting me to talk at the VSO conference in Tuscon. This has forced me to delve deeper into Maasai and further develop the line of argument. This paper has been presented in various stages of development at MIT 2002, Cornell 2003, UBC 2003, and at the conference on head movement in Tucson 2003. Thanks to ++

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 an 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 When o̱i combines with the focus particle aki it means ‘always’. The focus particle can only occur within verbal clauses.


4 It is unclear how this quantifier should be analyzed. It shows an overt morphological distinction between indefinite and definite DPs. Other Maasai DPs do not show any such morphological distinctions.

5 Most likely, the predicate containing ol first undergoes A’ movement (relativization), followed by movement to the position where predicates are occurring, followed by further A’ movement. I will ignore these finer movements at this point, but see (25).

6 This leads to the very reasonable universal hierarchy (D Dem Num A N) (Cinque, 2000). Alternatively, we could assume that Dem is merged much lower in the structure, with the remnant VP predicate containing enda pied-piping to C. I will leave this question open. Note that vocabulary insertion is sensitive to the presence of the demonstrative root, i.e. the remnant predicate takes on a slightly different shape. I will assume this information is encoded in the course of the derivation, by Spec head agreement with Dem (see Koopman, 2003b for general discussion)

7 The Maasai construction has the same range of interpretations as English genitive constructions; I simply refer to them as possessor constructions.

8 Number and case are realized as tones patterns which spread onto X.: Singular possessor with accusative or nominative agreement tigger a High tone agreement; Plural
nominative possessor triggers a HL pattern, and plural accusative possessor trigger a LH pattern. W is spelled out as / for ms and as zero morpheme for feminine.

Here there is some opacity: W agrees in Case and number with the possessed: this agreement is realized as a tonal pattern that docks to the right of W. However, singular pronominal possessors in addition mark plural agreement with a suffix: (ai, ‘my.sg’ ainei ‘my.pl’, ino ‘your.sg’, inono ‘your.pl’ ènjé ‘his.hers’ sg ènjána ’his.pl’. ) This shows that they independently agree with the possessed in number (and case).

An ε appears in some forms between the D and the pronominal root. I assume this ε is not an agreement morpheme but a n epenthetical vowel.

This claim is very similar to Shlonksy (1999) and Cinque (2000) who argue that the Semitic construct state is formed very low in the structure.

A note to the reader: while I was writing this paper, I realized that this structure makes strong predictions about the distribution of the adverbs that occur between C and Spec, IP. At this point I have not bee able to elicite a full paradigm, because the speaker is out of the country until December. However, I have been in e-mail contact, and he offered all three forms below (and only these) when asked where exactly he would put apa in the strings. Given the importance of these forms however, (i.e. they distinguish between alternative analyses), I would like to do get a more complete paradigm in December, which will hopefully be in time before the final version. I will then adjust the main text if necessary.

There are two morphological classes of verbs. (class 1, and class 2). Class 2 verbs have a prefix (in) which seems (loosely) related to v. For example, the verb a-i-soma “to read”, a borrowing from Swahili, contains the prefix. Maasia has two causative morphemes, one of which is spelled out as in (and combines with unaccusatuive predicates. The in- prefix is in complementary distribution with the perfective suffix (tV-), suggesting some connection to the familiar have/be distinction. For some details on the morphosyntax see Koopman, 2001a.

Perfective verb forms show singular plural agreement .Present tense/ future tense verbs show 2nd person plural overt agreement in the form of reduplication.

This morpheme is traditionally called passive, but in fact it is more like nominative “si” in Italian. (Cinque, 1988) [check to see if this is the right reference] See Greenberg (1965)

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

Progressive is in complementary distribution with the verbal suffixes.

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 source for these PPs.

Quantified subjects will raise to the respective quantifier positions, which I will ignore here.

Certain adverbs may also come in between the subject and the object, which shows that the nominative subject can be topicalized, and occur in the high topic position (see section 7.2)
Cinque 2001 proposes that restructuring predicates are directly merged into the corresponding functional projections in the hierarchy, and cannot have argument structure. If this is correct, all restructuring predicates that trigger clitic climbing in Maasai are raising predicates, whether they are control predicates or not. The fact that nominative DPs follow the finite verb in these string as well, is consistent with Cinque’s proposal, but is neutral between a traditional control analysis and a raising analysis. 

Even is homophonous to the strong form of the third person pronoun ‘him’.

This strongly recalls Malagasy (Keenan ++), Pearson).

In Koopman and Szabolcsi (2000) and Koopman (2002) this is implemented by means of ‘complexity filters’, which regulate the maximal allowable phonological size of specific head positions.

Maasai has two classes of adjectives: ‘verbal’ adjectives (within DPs these show up with relative clause morphology) and nominal adjectives which show up with nominal morphology ( case and number morphology))

Locative sentences corresponding to ‘here it is’ (nele) seem to treat the locative as the predicate: 

(i) nele osagam: (Tucker and Mapaayei.1955: 19)
here ol-bidge:
Here is the bridge

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

This leaves open the possibility that pronouns can be merged as predicates. This seems to be possible in the cleft construction: (see also Tucker and Mpaayei, 1955:91)

nanu armalimui
it’s me the teacher_{nom}

it is me.acc (who is) the teacher’.

First and second person plural objects do not cooccur with an overt clitic. I will simply assume these have a zero object .

T is the morphology selected by aidim ‘to be able to’

A derivation involving a verbal base is available in this case as well:

(i) kaŋai a ra  arma⁺limui
its who- rel-ra teacher_{nom}
It is who who is the teacher/a teacher

Extraction of the nominative subject to the cleft position requires the presence of a relative clitic, which as all clitics requires a verbal base to attach to, hence the presence of –ra.

Wh words only have accusative case.