INVERSELY ORDERED DPS IN NIUEAN[*]

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0. Introduction

This paper examines substantive noun phrases in Niuean, a Polynesian language of the Tongic subgroup with VSO word order, isolating morphology, and an ergative case system. We will describe the allowable orderings of elements in the Niuean noun phrase, which include certain variations in the placement of the genitive possessor, then we will provide an analysis for these variations.

There has been a large quantity of work, both recent and traditional, attempting to understand why certain orders of elements in clauses seem to be universally ruled out. To account for this, some linguists have posited that there is a universal order of elements and that allowable variations on this order are derived by various movement patterns (e.g. Cinque 1996, 1999, to appear, Belleti to appear, Rizzi 1997, to appear). This position allows for the theory to rule out ungrammatical orders by universal constraints on movement, rather than by typological stipulations. Our exploration of the Niuean DP takes place in light of this type of work. Given that Niuean DPs have a N-initial order, similarly to the V-initial order of clauses, our analysis will also address the relation between nominal structure and sentential structure, finding striking parallels between the two clause-types. We will also confirm a movement constraint observed by Rackowski and Travis (2000), which states that purely relational functional projections such as Agreement, which have no semantic content, are invisible to certain types of movement.

1. Description of the Niuean DP

The Niuean DP is described in Seiter (1980), and in Massam and Sperlich (2000). In a DP without a possessor, the order of elements is as shown in (1) below. First, there is a portmanteau morpheme, which indicates the case of the DP as well as whether it is common or proper (where proper includes pronominal). In

(1a,b) this particle is *e* (absolutive common), whereas in (1c) it is *a* (absolutive proper). (Ergative common DPs begin with the particle *he*, and ergative proper DPs begin with *e*.) This is followed by an optional marker for number, which also has classifier-like properties, as can be seen in (1a) and (1b) where a different plural marker appears depending on the nature of the noun. Other plural classifiers include *lafu* for a family group, *atu* for a row, and *na:* for a pair. This is followed by the head noun, which is in turn optionally followed by one or more adjectives as in (1a), and an optional demonstrative as in (1a). (1c) shows a proper DP. The order of elements in the DP is fixed.

1. Order of Elements without Possessors (C=common P=proper/pronoun)

Case+P/C	#/Classif	Noun	Adjs	Dem

a. *e   tau   manu kula   fulufuluola   e:*
    AbsC Pl   bird red   beautiful   that
    "those beautiful red birds" (Field Notes.01)

b. *e   kau   kaiha*   [*lafu* "family group*", atu* "row*", na*: "pair"]
    AbsC group thieves
    "a group of thieves" (Seiter.100a)

c. *a   Moka*
    AbsP Moka
    "Moka" (Field Notes.97)

In DPs with possessors, the situation is a little more complex. There are two possible orders, as shown in (2). The first order finds the genitive case marked possessor in prenominal position. In this order, there is a ligature item *a* appearing between the possessor and the noun, as in (2a). The second order finds the genitive marked possessor at the end of the entire DP (after the demonstrative if there is one), as in (2b).

2. Orders of Elements with Possessors

a. Case+P/C	**Poss *a***	#/Classif	Noun	Adjs	Dem	
b. Case+P/C		#/Classif	Noun	Adjs	Dem	**Poss**

a'. *e   ha   Sione a   leo*
    AbsC GenP Sione *a*   voice
    "Sione's voice" (Seiter.92b)

b'. *e   leo   ha   Sione*
    AbsC voice GenP Sione
    "Sione's voice/voice of Sione" (Field Notes.97)

The pre-nominal possessive construction has two particular properties distinct from the properties of the construction with the possessor at the end of the clause. First, the pre-nominal possessor gives a definiteness reading to the DP as a whole, similarly to the situation in Hebrew and Arabic (see, e.g. Ritter 1988, Shlonsky 1988, Borer 1999), as shown in (3). (3a) has a definite reading, whereas (3b), like non-possessed Niuean DPs, can be definite or indefinite.

3. a. *ko e   haana   a   fale*
      Pred his   *a* house
      "It's his house." [definite] (Sperlich.103)

   b. *ko e   fale   haana*
      Pred house   his
      "It's his house/a house of his" (Sperlich.103)

The second property of the pre-nominal possessor construction is that the pre-nominal possessor must be proper as in (2a), or pronominal as in (3a). It is ungrammatical to have a common pre-nominal possessor, although such a possessor is fine in final position, as shown in (4a,b).

4. a. *Ko   e   pepa he   faiaoga*
      Pred AbsC book GenC   teacher
      "the book of the teacher" (Field Notes.01)

   b. **Ko*   e   he   faiaoga a pepa*
      Pred AbsC GenC teacher *a* book
      ("the teacher's book") (Field Notes.01)

Given the facts described above, we will address the following two questions: How do we derive the order of elements? How do we account for the two positions (and corresponding properties) of the possessor?

2. Setting the stage

Let us first address the question of the order of elements. One logical possibility is to assume that N is base-generated in the same place it surfaces in (2a), i.e. between the #/Classif and the Adjectives. Given the impossibility of N taking Adjectives and Demonstratives as complements, the only way to have this option is to assume a combination of right and left branching, contra Kayne's (1994) antisymmetric system, which disallows left branching universally. Note that this would violate even a weaker version of an antisymmetric system, which would allow cross-linguistic variation in branching direction, but not different directions of branching within a single language or within a single phrasal category. We thus take N in (2a) to be base-generated at the end of the phrase as in (2b), as shown in (5), and we derive its surface position in a manner to be elaborated below.

    5. Case+P/C   #/Classif   Adjs   Dem   N

One way of deriving the order in (2a) is to allow N to move over Dem and Adjs to the medial position. This movement is shown in (6).

    6. Case+P/C   #/Classif   Adjs   Dem   N

We do not adopt this option for two reasons. First, if this is an instance of head-movement, it violates the Head Movement Constraint. If taken to be XP-movement, some constraint on the movement would still be required. Otherwise, it would have to be stipulated that this element moves between #/Classif and Adjs, and not, for instance, between Case and # or Adjs and Dem, etc. More importantly, linguists who assume a basic universal order and have constraints on movement to account for the order of elements, account for some typological generalizations that would be hard to capture if we allowed the type of movement in (6).

Let us look at some of these typological facts and see how they are accounted for by assuming a universal order of elements. The universal order of elements in the Noun Phrase was perhaps first observed by Greenberg. This is given in (7).

    7. Universal 20 (Greenberg 1966:111, see also Hawkins 1983)

> "When any or all of the items – demonstrative, numeral, and descriptive adjective – precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite."

The generalization in (7) is partially summarized in (8). We have left out numerals as we are not dealing with them in this paper.

8. Cinque (1996) and subsequent work, see also Kayne (1994)

a. Dem – A – N   =Base Ordering
b. *A – Dem – N   =Impossible
c. N – Dem – A   =Noun Movement
d. N – A – Dem   =Successive XP raising   ➤   Niuean

Cinque (1996) accounts for the ordering restrictions in (8) in the following manner. (8a) is the basic order. The order in (8c) is the result of N-movement.[1] Finally, the mirror-image order in (8d) is the result of successive XP-movement, which we suggest is what happens in Niuean. Crucially, if the XP-movement is successive and local, (8b) is impossible.[2]

Another related fact is the order of descriptive adjectives. It has been suggested that there is a universal order of descriptive adjectives, given in (9).

9. Universal order of adjectives (Laenzlinger 2000, Scott 1998, Sproat & Shih 1991)

Quantification > Quality > Size > Shape > Color > Nationality

If in a language like Niuean there is successive XP-movement to derive the mirror-image order, one would expect the adjectives to appear in reverse order as well. This prediction was borne out with all the examples we came across in texts. We saw an example of this in (1a) with 'color' and 'quality' in the opposite order. The same phenomenon is observed in (10a) for 'color' and 'size' and in (10b) for 'size' and '*oti*' which we take to be a quantificational adjective.

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[1] More recently, Cinque (2000) uses remnant NP-movement to account for this order. This technical difference, however, is irrelevant to the present paper.

[2] Our approach is different in technical details from that of Cinque, but the idea is the same. One technical difference, for instance, is that Cinque places the pre-nominal modifiers in Specifier positions, whereas we allow them to be Heads. Our analysis is in line with Rackowski and Travis (2000) in these respects.

10. Prediction: Inverse order of adjectives in Niuean

a. *e   letio kula tote*
AbsC radio red   little
"the little red radio" (Nelisi.6)

b. *e   tau   koloa ikiiki   oti   ia   haaku…*
AbsC Pl   store small(Pl)   all   that   my
"all those small stores of mine" (from de Sousa.50)

In the next section, we discuss the details of how the inverse order is derived in Niuean.

3. Deriving inverse order (Cinque 2000, Pearce 2002, Shlonsky 2002, among others)

The base order we assume for Functional Heads is given in (11). This order is based on a body of work on functional categories within the noun phrase.

11. Basic DP tree (see Schoorlemmer 1998, Ritter 1991, 1995, Phan 2001)

K	D	Poss	Dem	A	#/Classif	N

The order of K and D in (11) follows standard assumptions in the generative theory (see; for K, Bittner and Hale 1996 and for D, Abney 1987). We further assume, however, that D in Niuean, which is home to the Proper/Common feature, moves and adjoins to K, which hosts case, and the whole complex is realized as a portmanteau morpheme as we have seen in the examples so far (see Massam 2000).

With respect to the Poss head, it has been suggested in the literature that there are two positions across languages, one lower position much closer to the noun, which is utilized, for instance, by Semitic languages and one higher one, which we suggest is the one used in Niuean.[3] Schoorlemmer (1998) discusses these two possibilities and the properties she attributes to the languages that use the high position coincide with properties of Niuean. We will return to this point below.
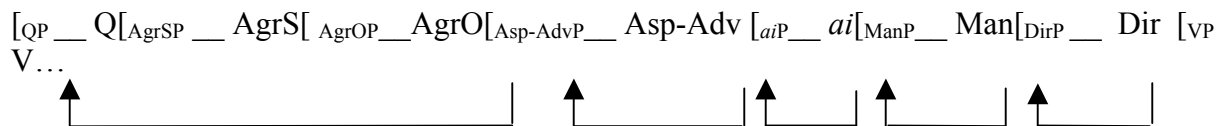
For Dem and A, we are following Cinque as discussed above. For Number, we are following Ritter (1991) and subsequent work. The position of the classifier, which is perhaps the least studied is based on Phan (2001).

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[3] English possibly uses both positions, e.g. John's damaged car door.

The order (2a) is derived in a manner illustrated in (12) which involves successive 'intraposition' movement of the complements to their empty specifiers. As shown in (12), the nP (which has Number inside it, see Travis (1992) among others), moves to the spec of AP, then the whole AP moves to the spec of DemP, DemP cannot move to the already filled spec of PossP and finally PossP moves to the spec of DP. As mentioned earlier, D moves independently and merges with K and is realized as a portmanteau morpheme.

12. Prenominal possessor derivation (2a)

$$[_{DP}\_\_\_\_\_ D [_{PossP} \underline{DP}_{\underline{Poss}} Poss [_{DemP} \_\_\_\_\_ Dem [_{AP} \_\_\_\_\_ A [_{nP} \# [_{NP} N]$$

a

This prenominal order of possessor has two properties given below.

Property 1: Prenominal possessor gives a definiteness reading to the DP as a whole (3a).

According to Schoorlemmer (1998), in languages with the high PossP, Poss is a potential carrier of a value for definiteness. We posit that *a* in Niuean is one such element. The Poss head, which is home to *a*, an element with semantic content, gives the whole DP the definite reading.

Property 2: The prenominal possessor must be proper or pronominal (2a, 3a).

We posit that the Poss morpheme *a* has a [proper] feature which must be shared with its specifier. This is supported by the fact that *a* has three other uses in Niuean, all of which bear the feature proper (Absolutive proper case, proper article in goal DPs and Genitive proper case). Thus, *a* has two roles, giving the definite reading to the whole DP and the [proper] feature to the possessor.

Let us now turn to the order (2b). This is shown in (13).

13. Post-nominal possessor derivation (2b)

$$[_{DP}\_\_\_\_\_ D [_{PossP} \underline{DP}_{\underline{Poss}} Poss [_{DemP} \_\_\_\_\_ Dem [_{AP} \_\_\_\_\_ A[_{nP} \# [_{NP} N]$$

The first two movements are exactly the same as (12), nP to spec of AP and AP to spec of DemP. The only difference here is that there is no *a* in Poss. To get the

right order, we need the whole DemP to move over PossP to the spec of DP, as shown in (13). Bear in mind that D moves to K independently as before. The question remains, however, as to why in (13) DemP, rather than PossP, moves to spec of DP. Recall that in (12), it was PossP that moved, which is expected under some version of relativized minimality or shortest move. To explain the phenomenon in (13), we make use of an idea in Rackowski and Travis (2000), where they derive the order of adverbs in Malagasy and Niuean from Cinque's universal order of adverbs. Let us look at their analysis briefly.

Their derivation for the Niuean verb phrase is given in (14).

14. Niuean clausal derivation (adapted from Rackowski & Travis 2000)

$[_{QP}$ ___ Q$[_{AgrSP}$ ___ AgrS$[$ $_{AgrOP}$___AgrO$[_{Asp-AdvP}$___ Asp-Adv $[_{aiP}$___ $ai[_{ManP}$___ Man$[_{DirP}$ ___ Dir $[_{VP}$ V…

Note the striking parallel between (14) and (13), which essentially involve the same series of movements. Thus, in (14), VP moves to spec of DirP, DirP to spec of ManP, and so forth. Crucially, when the movement sequence gets to the AgrO and AgrS phrases, they are skipped and they cannot themselves move. To account for this fact, Rackowski and Travis suggest a restriction on movement given in (15).

15. Rackowski & Travis (2000:127)

"To avoid this ungrammatical derivation, there must be a restriction in the grammar such that non-contentful phrases like AgrP are invisible to movement and cannot themselves move. In contrast to this, contentful phrases like AdvPs can and, in this case must, move."

The restriction is that non-contentful phrases like AgrP are invisible to movement and cannot themselves move. We suggest that the same restriction is in place for PossP in (13). Note the plausibility of this suggestion, given the parallel between AgrP and PossP. In fact, we seem to have come across a striking example to support their proposal. Here, we have a head, which is contentful in one case and non-contentful in the other. When it is non-contentful as in (13), it is skipped and cannot itself move. In (12), on the other hand, the Poss head is contentful; it contains the feature definite realized by *a*. In this case, as predicted by Rackowski and Travis, the PossP moves which results in the prenominal possessor order.

4. Conclusion

Following Cinque (2000), we have presented an intraposition analysis of Niuean DPs that derives the correct word orders and accounts for the position and properties of possessors. Within this and other intraposition analyses of word order, many questions remain. In particular, it is not clear why the chain of movement sometimes stops, so that some nodes are skipped by the movement algorithms. Shlonsky (2002) refers to this as freezing. We have claimed, following Rackowski and Travis (2000), that this freezing in Niuean is tied to the content of functional heads, but it remains to be determined if this extends to other languages. A second, much more difficult question, concerns why the movements happen at all. This is a general question in grammatical theory, usually answered in Minimalism by positing features, which attract other elements. If the movements discussed above are feature driven, then each head has a feature that attracts its complement to its specifier. The difficulty, however, is that most of these projections are optional. If Dem in (12) has an A feature which attracts its AP complement to its specifier, we must consider what happens when there is no Adjective in the nominal phrase. In this case, Dem would have to contain a light n feature instead. Another option is that it is actually just the top node, D, that attracts the bottom node, the light n. Both of these are arguably always present. The intermediate movements would then be forced by locality, but would not involve independent feature attraction. This problem has not been dealt with in this paper, but we note that the same issue arises in sentential movements such as predicate fronting. At this point, then, the issue of why these movements occur is left open.

Putting aside these open questions, we note that the analysis proposed in this paper accounts for the different word orders and for the special properties of the prenominal possessor constructions in Niuean. With respect to the movements proposed, it is striking that the same properties are found in the noun phrase as were posited for the verb phrase analysis proposed for Niuean by Rackowski and Travis (2000).

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