ITERATIVE PHRASAL MOVEMENT AND THE MAORI DP*

Elizabeth Pearce
Victoria University of Wellington
elizabeth.pearce@vuw.ac.nz

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ABSTRACT. Following Greenberg's Universal 20, the post-N surface ordering of components of the DP in Māori is the mirror-image of the pre-N ordering of the same components in other languages. In this paper, I propose an iterative phrasal movement approach to the derivation of the surface ordering patterns observed in the Māori DP. This account covers a more extended range of data than that included in previous accounts employing a head-movement approach to the derivation of the surface orderings. Based in an antisymmetry approach to syntactic configurations, the paper distinguishes between movement available to phrases with argument characteristics as against phrases with non-argument characteristics.

1. INTRODUCTION

In Māori, as in other Polynesian languages, the N head of the DP follows the determiner and precedes any adjective or number:

(1) ngā ngeru mangu e toru
the.PL cat black three
N A Num
"the three black cats"

Within a single DP, the items included in (1) can be ordered only as they are shown. The claim of this paper is that the ordering of the post-determiner items in (1) is a mirror-image of the base ordering and that it is derived through iterative phrasal movement.

My approach to the DP-internal syntax of Māori is inspired by the treatment that Cinque (2000) gives to the DP-internal syntax of Arabic, another N-fronting language. In the account that Cinque proposes, with an assumed base versus surface mirror-image ordering, the surface ordering is derived through a series of phrasal movements. Cinque’s account exploits the approach and mechanisms employed in Kayne (1994, 1998a) and is comparable also in its approach to that of Koopman and Szabólszi (2000).

Whilst the surface ordering in the Māori DP can largely be viewed as instantiating a mirror-image ordering with respect to the base, some complications to this schema are introduced by the existence of alternative ordering patterns including demonstratives and possessives. In the proposal that I develop, it turns out that two distinct forms of phrasal movement are required to achieve the available surface outputs. I claim that the differences between the two types of phrasal movement are due to characteristic distinctions between argument and non-argument checking sites.

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In the model that I adopt, checking sites for the phrasal movements are created by successive head raising from out of the constituents that are progressively created in the build-up of the DP structure in the manner of Kayne (1994), Cinque (2000), Koopman and Szabolcsi (2000) and Shlonsky (2000). My analysis proposes that the featural properties of the checking sites so created need to be distinguished in terms of whether or not they bear argument features. The central proposals of this paper are as follows:

1. WPs created by head raising attract non-argument complement constituents to their Specs unless the raised head has argument features.
2. A WP bearing argument features from its raised head may attract a phrase with argument features from a lower Spec position.

These proposals provide an answer to the question: Why do the projections created by head raising sometimes attract phrases from a complement position and sometimes from a Spec position?

The paper is organized as follows. Section 2 explains the basis for the approach that will be developed and provides a demonstration of how the model adopted applies in the derivation of "mirror-image ordered" components of the Māori DP. Section 3 presents a preliminary discussion of the pre-N DP-internal surface composition in Māori. Sections 4 and 5 undertake the analysis of the ordering facts involving post-N demonstratives and possessives. In section 6, it is shown how the pre-N cooccurrences of demonstratives and possessives are to be accounted for relative to the derivations proposed in the previous sections. Finally, the conclusions to the paper are set out in section 7.

2. MIRROR-IMAGE ORDERING AND PHRASAL MOVEMENT

2.1. Background in language universals

Cinque (2000) argues that Greenberg’s Universal 20 points to a universal base ordering for certain DP-internal items:

(2) Universal 20 (Greenberg 1966: 111)
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.

To account for these surface ordering patterns, the basic schema that Cinque proposes allows for derivations involving three possibilities with respect to movement: (i) no movement, as with the base ordering (3a) corresponding to the English surface ordering; (ii) head-movement of the N in (3c), where the N precedes the remaining elements in their base ordering; and (iii) phrasal movement as in (3d) in which all four items appear in a mirror-image ordering in the surface form.

(3) Cinque (2000):

<table>
<thead>
<tr>
<th>Surface order</th>
<th>Derived by</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Dem - Num - A - N these three black cats</td>
<td>= BASE ORDERING</td>
</tr>
<tr>
<td>b. *A - Num - Dem - N</td>
<td>*</td>
</tr>
<tr>
<td>c. N - Dem - Num - A</td>
<td>N-movement</td>
</tr>
<tr>
<td>d. N - A - Num - Dem</td>
<td>successive XP-raising</td>
</tr>
</tbody>
</table>

The (3b) surface ordering, which has not been attested, has mirror-image ordering for those items which precede the N in the base ordering. On the assumption that all of Dem, Num and A are phrases rather than heads off the spine of the DP, iterative
phrasal movement excluding the N is not a possible option. In the case of the (3c) ordering, since only the N is reordered from its base position, again on the assumption that Dem, Num and A are phrases, the derivation of the surface ordering may be through head-movement of the N. With (3d), on the same assumptions again with respect to phrase-hood, the mirror-image surface ordering must be derived by iterative phrasal movement.

The iterative phrasal movement account for the (3d) ordering therefore rests on the following two assumptions: (i) the base ordering is as shown in (3a), and (ii) the pre-N base items Dem, Num and A are phrasal.

Against (i), an alternative view of the base which would account for (3d) with the same relative base hierarchical ordering as in (3a) would be to allow for Specifiers to occur on the right.2 Under such an interpretation, the difference between languages with the (3a) and the (3d) surface ordering is a direct reflex of the respective base orderings. However, as Cinque (2000) demonstrates for Arabic (and see also Shlonsky 2000 on Hebrew), the (3a) base assumption is required for the simplest account of the derivation of the full range of surface orderings that are available, as:

(4a. s-suhuf-u l-jadiidat-u t-talaat-u haadihi
the-newspapers-NOM the-new-NOM the-three-NOM these
N A Num Dem
‘these three new newspapers’

b. haadihi s-suhuf-u l-jadiidat-u t-talaat-u
these the-newspapers-NOM the-new-NOM the-three-NOM
Dem N A Num

c. haadihi t-talaat-u s-suhuf-u l-jadiidat-u
these the-three-NOM the-newspapers-NOM the-new-NOM
Dem Num N A

The underlining in (4) identifies the sub-parts of the DP where new constituents have been formed as the result of phrasal movement. In (4b) after the N has raised above the A. In (4c) after the A has raised above the Num. In (4a) the N-A-Num constituent formed in (4b) has raised above Dem. This approach, therefore maintains a restrictive view of the possible base structures (in line with the Linear Correspondence Axiom of Kayne 1994) and presents a uniform treatment of the possible syntactic derivations.

Before seeing how this approach applies specifically to the data of Māori, what follows next is a demonstration of how the movement applies in the model that we adopt.

2.2. Iterative phrasal movement: mechanisms

In the derivations that Cinque (2000) proposes to create the mirror-image ordering of (3d) the phrasal movement applies successively to the complement phrase of a head that is raised to create a new checking site. Thus, after an AP is merged in a Spec position above the NP, the head of the projection containing the AP in its Spec raises to create a ‘WP’ projection which provides a checking site for the NP complement:

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2 This is the approach taken to the internal constituent ordering of the Māori DP in the head-movement interpretation of Pearce (1998).
At the stage shown in (5), the NP complement of X raises to Spec,WP$_1$, giving the linear ordering: N - A. The NumP can then be merged in a projection above WP$_1$ and then the head of the projection containing the NumP in its Spec raises and creates a new WP, providing a new checking site for the complement of the raised head, which is now WP$_1$:

After WP$_1$ has raised to Spec,WP$_2$, we obtain the linear ordering: N - A - Num. In the subsequent step, the DemP is merged above WP$_2$ and the same process applies producing the ordering: N - A - Num - Dem.

2.3. *Iterative phrasal movement: Māori*

With the inclusion of the demonstrative in (7) we see a Māori DP which has the full mirror-image for N-A-Num-Dem, as in (3d):

(7) ngā ngeru mangu e toru nei
    the.PL cat black three PROX1
    N   A   Num   Dem
    'these three black cats'

We can therefore suppose that the derivation of (7) could proceed in stages as just demonstrated with (5) and (6), with the further merge of D, ngā, after the complement WP containing N-A-Num has raised above the projection housing the DemP in its Spec:

(8)a. [ngeru mangu e toru]$_i$ nei $t_i$  phrasal movement
    b. ngā [ngeru mangu e toru nei]  merge of D

Based on the example in (7) we have seen how the iterative phrasal movement approach could apply to DPs containing Dem, Num, A and N. But, how can we tell if the raising should be implemented as phrasal movement rather than as head-movement?
2.3.1. **Number constituents**
To begin with, one general consideration with respect to the form of phrases in Māori is that they are systematically head-initial, with the head a grammatical functional particle:

(9) \[\text{TP} \ [\text{T/A} \ \text{whakamārama} \ [\text{I} \ a \ \text{Mere}] \ [\text{ki} \ [\text{te} \ \text{rapanga}]] \ [\text{PERS} \ \text{DO} \ \text{the} \ \text{problem}]] \ [\text{PERS} \ \text{3PL} \ \text{rātou}]]\]

‘Mere explained the problem to them.’

With all of the bracketings and glosses shown in (9), both for the individual phrases with argument roles and for the larger TP, it is apparent that the highest heads of the characteristic head-initial structures of Māori have functional roles. All the substantive lexical items are consistently preceded by a functional head within their phrase.\(^3\)

An important distinction between functional heads and substantives concerns their phonological shape. Only functional heads may consist of a single mora and any substantive word must consist of at least two morae. A phrase including its overt functional head must therefore contain at least a total of three morae. This phonological condition on phrases is significant for the shape of numbers occurring within DPs.

The numbers 2 – 9, consisting of only two morae each, must be preceded either by toko (with human reference) or e (non-human reference). The contrasting effects are shown with three-mora tekau ‘ten’ in (10a) and (11a) versus two-mora rua ‘two’ in (10b) and (11b).

(10)a. ngā ngeru tekau
the.PL cat ten
‘the ten cats’

b. ngā ngeru e rua
the.PL cat e two
‘the two cats’

(11)a. ngā wāhine tekau
the.PL women ten
‘the ten women’

b. ngā wāhine toko-rua
the.PL women toko-two
‘the two women’

Two-mora numbers occur independently without toko or e in stating phone numbers (Harlow 2001: 279) and, in other uses, they may instead be preceded by

\(^3\) One exception to this generalization (for most dialects) applies to the subject when it is a pronoun:

(i) I whakmārama ia i te rapanga ki a rātou.
T/A explain 3SG DO the problem P PERS 3PL
‘He/she explained the problem to them.’

In contrast with rātou ‘3PL’, which is the complement of a preposition, the subject pronoun ia ‘3SG’ lacks the personal article.
tense/aspect particles, or by determiners in cases where the number is itself functioning as the N head of a DP (see also Bauer 1997: 275-282, Harlow 2001: 278-286).

The e particle also occurs as a “filler” head in Verb-initial imperatives where the verb has only two morae (E tū! ‘Stand up!’ versus Kōreo! ‘Speak!’) and with vocatives before a two-mora word (E Mere! ‘Mere!’ versus Tamahae! ‘Tamahae!’). For Harlow (2001: 83, 216), the e particle serves to introduce a following phrase.

The obligatory inclusion of the particle element before the two-mora number within a DP has the prosodic effect of giving the number constituent the shape of a phrase. I conclude that the number constituent following the N within the Māori DP is in fact a phrase. The raising of the number constituent (along with the N) to the left of the demonstrative must therefore involve phrasal movement.

2.3.2. Adjective constituents
Although no such prosodic increment is observed in the case of post-N adjectives, the fact that an adjective can be modified indicates that the raising of an adjective with its modifier should be construed as involving phrasal movement rather than head-movement.

Evidence for the phrasal constituency of adjectives is rather limited in scope because it is generally the case that a Māori DP may not include more than one adjective modifying its head and because adjective modification is itself restricted to the single intensifier word tino ‘very/most’. The examples in (12) - (15) show Māori forms corresponding to English DPs which have stacking and/or coordination of adjectives.

(12) he whare kōhatu, he whare/mea hōu
   he house stone he house/thing new
   ‘a new stone house’ [Harlow 2001: 43]

(13) E toru ā mātou ngeru ātaahua, he mangu.
   e three the.PL.GEN 1PL.EXCL cat beautiful he black
   ‘We have three beautiful black cats.’

(14) I kite au i tētahi kaka ātaahua, he whero, he kākāriki
    T/A see ISG ACC a parrot beautiful he red he green
    te kano, the colour
    ‘I saw a beautiful red and green parrot.’

(15) Ka kitea he kōwhatu nui, he mea taimahā.
    T/A see.PASS he stone big he thing heavy
    ‘A big, heavy stone was found.’ [Bauer 1997: (2013)]

In the examples in (12) – (15) the particle he appears as an indefinite determiner, either with an empty head N, as in (13) and (14), or with the inclusion of an additional noun, as in (12) and (15). In (13) the higher scope of the number is manifested in the use of a focused predicational construction.

Whilst PPs and relative clauses occur in positions to the right within a DP, there are nevertheless two kinds of modifying constructions which raise to the left with the N

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4 This is the view also of Bauer (1997: 451).
5 Left out of the discussion here, as beyond the scope of the present paper, is any consideration of the syntax of comparatives and superlatives (on these, see Bauer 1997, Harlow 2001).
of the DP: (i) the adjective accompanied by the intensifier tino ‘very/most’ and (ii) a modified N modifier or complement:

(16) ngā whakaahua tino ātaahua e toru nei o tērā
    the.PL picture very beautiful e three PROX1 GEN the.DIST
    mountain
    ‘these three very beautiful pictures of that mountain’

(17) te tau tāngata manuwhiri nei
    the bunch people visitor PROX1
    ‘this bunch of visitors’

In (17) the noun and its modifying expression occur to the left of the demonstrative and in (16) the noun and modifying expression occur to the left of both a number and a demonstrative. Thus, although in Māori the forms of post-N modification within the DP may be limited, the examples in (16) and (17) support the view that the syntactic preposing that takes place is phrasal.

2.3.3. **Demonstratives and further derivations**

The syntactic behaviour of demonstratives is such that they can variously be interpreted as heads or as phrases. The complexities in the behaviour of demonstratives will be examined in later sections. At this point, however, we will close off the present section of the paper with a look at another ordering option available to the nominal expression with the meaning of (7).

Whereas in (7) the demonstrative occurred in the rightmost position within the DP, as shown in (18), the demonstrative may alternatively precede the N of its DP. When the demonstrative precedes the N, it occurs as a single word in combination with the singular article te (18b), or as a plural form (18a).

(18)a. ēnei ngeru mangu e toru
    PROX1.PL cat black three
    ‘these three black cats’

   b. tēnei ngeru mangu
    PROX1.SG cat black
    ‘this black cat’

One possibility with respect to the ordering in (18) is that, after the Dem is merged, there is just no further phrasal movement of the lower constituent. Thus, for (18a):

(19)a. nei [ngeru mangu e toru] merge of Dem
   b. ē(?) [ngeru mangu e toru] merge of D

In the first stage of the derivation in (19a), phrasal movement has applied to a point below that where the Dem is merged. Some other processes may then apply, along with the merge of D in (19b), perhaps involving independent movement of the demonstrative, or perhaps no further movement at all. These questions will be addressed as the analysis proceeds in subsequent sections.

2.3.4. **Summary**

In the preceding subsections we have seen that numbers within a DP have the prosodic shape of phrases and that modifiers of Ns may themselves be modified. The preposing of an N along with such number and modifying constituents should therefore be viewed as involving phrasal movement.
The subsequent sections of the paper examine issues that arise with further complexities in the content and the surface ordering possibilities of DP-internal components in Māori.

3. ITEMS IN PRE-N POSITION

In section 1, we saw that DP-internal demonstratives may occur in a pre-N or in a post-N position. The pre-N position is alternatively available to be filled by a restricted set of items ((t-)aua 'aforementioned', (t-)ētahi 'some', (t-)ē(w)heā 'which' and possessives), which, like the demonstratives, present forms encoding the singular/plural distinction.

Māori has three demonstratives/deictics which pattern in an identical function when they occur independently with an N:6

(20)a. tēnei/tēnā/tērā ngeru
the.PROX1/the.PROX2/the.DIST cat
'this/that/that cat'

b. te ngeru nei/nā/rā
cat PROX1/PROX2/DIST
'this/that/that cat'

If the DP includes another item which may only occur in the pre-N position, then the demonstrative is forced to occur in the post-N position:7

(21)a. tāua ngeru rā
the.aforementioned cat DIST
'that aforementioned cat'

b. *tērā ngeru aua
c. *tērā aua ngeru
d. *tāua rā ngeru

In addition to the anaphoric aua 'aforementioned' (21), two other items occur obligatorily in the pre-N position. These are (t-)ētahi 'a/some' (22) and (t-)ē(w)heā 'which' (23).8

(22)a. tētahi ngeru
the.some cat
'a/some cat'

b. ētahi ngeru
the.PL.some cat
'some cats'

(23)a. tē(w)heā ngeru
the.which cat
'which cat'

b. ē(w)heā ngeru
the.PL.which cat
'which cats'

6No evidence has been found for any semantic distinction between the forms in (20a) and (20b). See Biggs (1969: 22), Bauer (1997: 366) and Harlow (2001: 97).

7 With some exceptions to be examined in section 6.

8Abstracting away from the possible presence of the N modifying adverbial tino 'intensifier' / 'real' / 'very' (Bauer 1997: 302), which is likely to be located within the raised phrase containing the noun.
Finally, like the demonstratives, possessives may occur pre- or post-N:

(24)a. tana ngeru  
the.3SG.GEN cat  
'his/her cat'  
b. āna ngeru  
the.PL.3SG.GEN cat  
'his/her cats'

(25)a. tā Mere ngeru  
the.GEN Mere cat  
'Mere's cat'  
b. ā Mere ngeru  
the.PL.GEN Mere cat  
'Mere's cats'

(26)a. te ngeru āna  
'the.3SG.GEN cat'  
b. ngā ngeru āna  
'his/her cats'

(27)a. te ngeru a Mere  
'Mere's cat'  
b. ngā ngeru a Mere  
'Mere's cats'

Also like the demonstratives, possessives must occur in post-N position if they cooccur with an item which is obligatorily pre-N:

(28)a. aua pūrākau pakanga a Hemi/āna  
the.PL.aforementioned war  GEN Hemi/3SG.GEN  
'the aforementioned war stories of Hemi's/'  
b. I tūtaki ahu ki tētahi hoa o rāua  
T/A meet 1SG to some friend GEN 3DU  
'I met a friend of theirs.'  
[cBauer 1997: (266)]  
c. I whānau au i tētahi tamaiti āku.  
T/A give birth 1SG ACC some child GEN 3SG.GEN  
'I gave birth to a child.'  
[Biggs 1955: 347]  
d. Ka tae a Manaia ki tāua ika āna.  
T/A reach PERS Manaia to the.aforementioned fish 3SG.GEN  
'Manaia reached that fish of his.'  
[Biggs 1955: 347]

Traditional descriptions of Māori treat all of the pre-N items in (20) - (25) as having a determiner function (they are called 'definitives' in Biggs 1969; and 'determiners' in Bauer 1997: 142 and in Harlow 2001: 65ff.). I believe that the intuition behind this terminology is essentially correct. Possessors, as arguments, are clearly referential. The demonstratives encode a three-way distinction in place/time location. They therefore also have referential characteristics. (T-)aua 'aforementioned' is anaphoric. Both (t-)ētahi 'some' and (T-)ē(w)hea 'which' may have specific reference.

In Minimalist terms (Chomsky 1995), what these characteristics suggest is that the pre-N items are merged in or attracted to a D-related checking site. If the possibility of D-checking is associated with the capacity to bear referential features (Longobardi 1994, 2001, Giusti 1997), then one way to interpret the choice of items which may appear in pre-N position is to suppose that these items in fact bear referential features. This means that there is a high position in the DP, perhaps D itself, or perhaps another functional head, which may be present as a designated referential

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9Pearce (1998) uses a label 'Ident' (IdentP = 'Identificational Phrase') for a projection situated below D and hosting the non-article components of the pre-N items in (20) - (25).
checking position. This supposition will be investigated in the further elaboration of the DP-internal syntactic processes in the subsequent sections of this paper.

In the next section we examine the ordering patterns in DPs containing both a demonstrative and a possessive, focusing on the post-N ordering.

4. DEMONSTRATIVES AND POSSESSIVES TOGETHER: AFTER THE N

4.1. On either side of the N

We have already seen in (21) and in (28) that demonstratives and possessives are forced into a post-N position when the N is preceded by an item which can only occur in the pre-N position. In the case where an N is accompanied by both a demonstrative and a possessive, either of these items may precede the N with the other item following the N.

(29)a. tēnei ngeru āna the.PROX1 cat GEN.3SG 'this cat of his/hers'
   b. tāna ngeru nei the.PL.GEN.3SG cat PROX1 'this cat of his/hers'

(30)a. tēnei ngeru a Mere the.PROX1 cat GEN Mere 'this cat of Mere’s'
   b. tā Mere ngeru nei the.GEN Mere cat PROX1 'this cat of Mere’s'

On the basis of the discussion in section 2, if the pre-N position is a designated checking site, then, given the availability of the patterns in (29b) and (30b), the pre-N position must be distinct from the projection housing the DemP which we have assumed in the base hierarchical ordering: Dem > Num > A > N. The data in (29) and (30) are therefore uninformative as to the relative ordering of the projections which house the demonstratives in (29b) and (30b) and the possessives in (29a) and (30a). In order to be able to identify the relative placement of demonstratives and possessives, we need to be able to observe how they are ordered when neither one of these items occurs in the pre-N position. The data for post-N demonstratives and possessives to be considered in section 4.2 will examine the data from this perspective.

4.2. Post-N

4.2.1. Non-pronominal possessives
When the possessive is a non-pronominal expression, it follows a demonstrative after the N:

(31)a. te ngeru mangu nei a Mere the.cat black PROX1 GEN Mere 'this black cat of Mere’s'
   b. te ngeru mangu nei a te tamaiti the.cat black PROX1 GEN the.child 'this black cat of the child’s'
We see from the English translations in (32) that, when the demonstrative follows the possessive, it is interpreted as applying to the N of the possessive, rather than to the head N of the expression as a whole. In (31), where the demonstrative modifies the head N of the DP, it precedes the possessive in the post-N ordering.

The semantic distinction seen in (31) versus (32) is supported by the evidence of a cooccurrence restriction which applies in what one of my consultants describes as a formal level of use. In this use, among the demonstratives, only rā ‘DIST’ may cooccur with (t-)aua ‘aforementioned’:\footnote{The cooccurrence restriction does not apply in the following examples from texts:}

\begin{itemize}
  \item[(33)a] aua ngeru mangu e toru ?nei/?nā/rā the.PL.aforementioned cat black three PROX1/PROX2/DIST ‘these/those/those aforementioned three black cats’
  \item[(33)b] ngā ngeru mangu e toru nei/nā/rā the.PL cat black three PROX1/PROX2/DIST ‘these/those/those three black cats’
\end{itemize}

The examples in (34) and (35) below show that the cooccurrence restriction is operative when the demonstrative precedes the possessive, but not when the demonstrative follows the possessive. In the latter case, the demonstrative modifies the possessive and, in the former, the head of the larger DP expression.

\begin{itemize}
  \item[(34)] aua pūrākau ?nei/?nā/rā a Hemi the.PL.aforementioned story PROX1/PROX2/DIST GEN Hemi ‘those aforementioned stories of Hemi’s’
\end{itemize}

\begin{itemize}
  \item[(i)a] ko tētahi o aua wai iti nei ko TOP a GEN the.PL.aforementioned water small PROX1 FOC Te Wai-o-raropō te ingoa Te Wai-o-raropō the name ‘one of these creeks is called Te Wai-o-raropō’ [Biggs 1997: 5.2]
  \item[(b)] Ka rongo tētahi tangata i ngā kōrero a taua T/A hear some person ACC? the.PL speak GEN the.aforementioned tangata nei,… person PROX1 ‘One man heard this aforementioned person speaking,…’ [Waititi 1985: 151]
\end{itemize}

An example of the form accepted by my consultant in colloquial usage is the following:

\begin{itemize}
  \item[(ii)] taua tamaiti nei/nā/rā (a Mere) the.aforementioned child PROX1/PROX2/DIST GEN Mere ‘this/that/that (aforementioned) child (of Mere’s)’
\end{itemize}

Another of my consultants, who also shows a preference in some contexts for the (t-)aua . . . rā cooccurrence, does not however distinguish between formal and colloquial usages.
Furthermore, it is possible for such a nominal expression to contain two demonstratives, one associated with the head N of the expression and the other associated with the N of the possessive:

(36)

a.  

(aua pūrākau rā a Hemi nei
the.PL.aforementioned story DIST GEN Hemi PROX1
'those aforementioned stories of this Hemi')

b.  

taua ngeru mangu rā a te tamaiti nei
the.aforementioned cat black DIST GEN the child PROX1
'that aforementioned cat of this child'

On the basis of the interpretations for (31) versus (32) and on the basis of the cooccurrence restrictions illustrated in (34) – (36), the finding, therefore, is that the only possible post-N ordering of a demonstrative and a possessive modifying the same head N is that the possessive follows the demonstrative. This, at least, is the case when the possessive is non-pronominal.

(37)  

Post-N Dem/Poss (with Poss non-pronominal)

4.2.2. Pronominal possessives

In contrast with non-pronominal possessives, when the pronominal possessive is accompanied by a demonstrative after the N, the possessive precedes the demonstrative:

(38)

a.  

. . . ka mea atu taua whaea ōna rā
T/A say away the.aforementioned mother 3SG.GEN DIST
ki tētahi wāhine hoahoa anō ōna
to some woman friend again 3SG.GEN
' . . . that mother of his asked one of her friends . . . ' [Bauer 1997: (2659)]

b.  

(40)

(39)

a.  

(aua pūrākau weriweri āku rā
the.PL.aforementioned story terrible 1SG.GEN DIST
'those aforementioned terrible stories of mine')

b.  

*te whare nei/nā/rā ōku
'this/that/that house of mine'

(40)

a.  

gā pukapuka a koutou nei/nā/rā
the.PL book GEN 2PL PROX1/PROX2/DIST
'these/those/those books of yours'

b.  

?*gā pukapuka nei/nā/rā a koutou

As seen in (38b), (39a) and (40a), the choice of the demonstrative is not dependent on the person of the possessor. That is, if the 1SG possessor in (39a) is modified by a demonstrative, we would expect that the demonstrative could occur only as the PROX1 form: ōku nei 'of me here', ōku nā 'of me near you', ōku rā 'of me yonder'. Equally, the expected demonstrative with the 2PL pronoun would allow for the PROX2 demonstrative 'near you' but not PROX1 'near me' or DIST 'yonder' (see also Harlow 2001: 107). This means that, with the availability of the full range of
demonstratives in (39) and (40), it must be the case that the position following the pronominal possessive is available to a demonstrative that modifies the head N of the DP.

In contrast, therefore, with the surface ordering when the possessive is non-pronominal, the pronominal possessive must precede a demonstrative:

(41) Post-N Dem/Poss orderings
   a. D - N - (A - Num) - Dem - Poss Poss: non-pronominal
   b. D - N - (A - Num) - Poss - Dem Poss: pronominal

A simple iterative phrasal movement account will not suffice to derive the distinct surface orderings in (41a) and (41b). Whilst N, A, Num can be iteratively raised to precede either Dem or Poss, given that there are the two orderings of Dem and Poss in (41), we remain with the problem of accounting for the differing positions of these two constituents.

5. DERIVATIONS WITH DEMONSTRATIVES AND POSSESSIVES

5.1. A sketch outline

Given the non-pronominal versus pronominal possessive ordering contrast (41a,b), our first assumption must be that the ordering contrast reflects some distinction in the syntactic properties of pronouns as against those of DP's containing common or proper nouns. It is not unusual in languages for there to exist distinctions in the placement of pronouns versus other kinds of DP's (see Cardinaletti and Starke 1999, Déchaine and Wiltschko 2002, for more wide-ranging discussions). Obviously such a positional distinction occurs with objects in French:

(42)a. Il me/le regarde.
     3SG 1SG/3SG look at.3SG ‘He is looking at me/him.’

b. *Il regarde moi/lui.
   3SG look at.3SG 1SG/3SG

c. Il regarde Jean.
   ‘He is looking at John.’

d. *Il Jean regarde.

The verb raises to a high position in the finite clause in French and the pronoun is in a higher position than its non-pronominal counterpart.

For the analysis of the contrast in (41), we might suppose that the pronominal possessive raises independently to a position above that reached by the non-pronominal possessive. The solution that I will propose follows such an interpretation. This solution will also turn out to have ramifications in the account to be provided of pre-N demonstratives and possessives which will be taken up in section 6.

5.2. Genitive checking

5.2.1. Genitive case in Māori

As part of the examination of the syntax of possessives within the Māori DP, we should have an understanding, not only of where the possessives are going to, but also of where they are coming from.
With regard to the base positions of possessives, there are good reasons to suppose that, in Māori, possessives are located within the extended N projection, either within NP or nP. Without going too much into the details here, we will see how the form of a Māori possessive (whether it is preceded by the ā or ō genitive case marker) depends on its relation to the head N (or nominalized V) of the expression.\footnote{A form of the ā/ō genitive contrast occurs in most Polynesian languages, including all Eastern Polynesian languages. For further discussion of the phenomenon, see Hohepa (1967: 24), Biggs (1969: 43), Clark (1976: 42-44), Bauer (1997: 390-394), Harlow (2000, 2001: 157-163). The syntactic account presented here builds on Waite (1994) and Pearce (1998).}

With a nominalized V, the ā or ō realization of the genitive marker depends on whether the possessor argument is construed as an Agent or as a Patient/Theme in relation to the head:

\begin{enumerate}[(a).]
\item \text{te patu-nga ā te tangata ō te wahine}  
\text{hit-NMZ GEN the man GEN the woman}  
\text{‘the man’s hitting (of) the woman’}
\item \text{ta ā te tangata patu-nga ō te wahine}  
\text{hit-NMZ GEN the man GEN the woman}  
\text{‘the man’s hitting (of) the woman’}
\item \text{te patu-a-nga ō te wahine e te tangata}  
\text{hit-PASS-NMZ GEN the woman by the man}  
\text{‘the hitting of the woman by the man’}
\end{enumerate}

With the active nominalized forms (43a,b), the ā genitive marker is applied to the Agent \text{te tangata ‘the man’} and the ō genitive marker is applied to the Patient \text{te wahine ‘the woman’}. With the passive nominalized form in (43c) the Patient is again marked with the ō genitive marker and the Agent is preceded by the passive e marker. For comparison, corresponding tensed sentences with the same argument roles are as follows:

\begin{enumerate}[(a).]
\item \text{I patu te tangata i te wahine.}  
\text{T/A hit the man ACC the woman}  
\text{‘The man hit the woman.’}
\item \text{I patu-a te wahine e te tangata.}  
\text{T/A hit-PASS the woman by the man}  
\text{‘The woman was hit by the man.’}
\end{enumerate}

Although the semantics of the effects with N-related possessives are not straightforward, the parallels are suggestive in data like the following (see also Bauer 1997: 392, and the references of footnote 11):

\begin{enumerate}[(a).]
\item \text{te waiata ā te tangata}  
\text{the song GEN the man}  
\text{‘the man’s song’} = \text{composed or sung by the man}
\item \text{te waiata ō te tangata}  
\text{the song GEN the man}  
\text{‘the man’s song’} = \text{about or concerning the man} \quad \text{[Biggs 1969: 43]}
\end{enumerate}

(46a). \text{te rongoa ā Mere}  
\text{‘Mere’s medecine’} = \text{Mere prescribed/produced/gave/owns the medecine}
b. te rongoa o Pou
   'Pou's medecine' = Pou was given/inherited the medecine

If the distinct semantic roles in (45) and (46) are assimilated to those occurring in
the nominalized forms of (43), the conclusion to be drawn is that N projects a layered
NP constituent in parallel with the vP constituent projected by the V. In other words,
the base positions for genitive phrases are vP- or nP-internal.12

Within a single DP, however, there can be only one N-related possessive:

(47)a. *te rongoa a Mere o Pou
   b. te rongoa a Mere mō Pou
       'Mere’s medecine for Pou'

In (47b) mō is a benefactive preposition. The ungrammaticality of (47a) is not due to
a restriction against the number of arguments within a DP, but against the presence
of more than one genitive argument. For this reason, I therefore assume that a DP
containing an N as its head has only one genitive checking position in its functional
structure.13

If, therefore, a possessive argument starts out in a low position in the structure
where the thematic roles relative to the N or to a head within NP or nP are located,
then a further assumption is that the possessive argument can raise independently
for feature checking with a Gen head.

5.2.2. Genitive case checking: two accounts
Proposals for Gen checking sites have been put forward elsewhere in the literature,
including in Cinque (2000) and in Longobardi (2001).14

For Longobardi (2001: 597) there are two proposed Gen checking sites, which are
ordered in the base structure as follows:

(48)   D > GenS > Num > A₁ . . . A₄ > GenO > Arguments > N
       [adapted from Longobardi 2001: 597]

The GenS position in (48) is for the Semitic construct state genitive and the GenO
position is for a post-nominal genitive. Since, in Longobardi's approach a fronted N
raises by head-movement, the particular Gen checking locations that he proposes are
not however immediately transferable to the present account.

In the phrasal movement account that Cinque (2000) proposes for Arabic, the Gen
checking site which is required in the construct state is positioned in accordance with
a direct mirror-image output for the surface ordering with respect to the base. In the
base ordering the Gen projection is located below the lowest adjective and above the
NP, as shown in (49).

(49) Base ordering: Cinque (2000)
   Dem > Num > A > Gen > N

12 Some other “possessor” roles, such as those involving part-whole relations, are potentially
merged above the nP (in which case the default genitive marker is o). The essential point,
however, is that the system must be able to account for the forms of DPs including possessives
housed nP-internally in the base.
13 The nominalizing morphology reflects an additional functional layer licensing a further
genitive case checking site, as needed for forms like those in (43).
14 Longobardi (2001) also provides a review of recent proposals.
With the (49) base ordering, the construct state orderings of (50a,b) are simply derived through iterative phrasal movement.

(50) Arabic construct state (Cinque 2000: (9a,b))
   a.   N - Poss - A3 - A2 - A1
   b.   N - Poss - A - Num - Q

Cinque argues that the same base ordering is behind the Celtic surface ordering in (51), in which the surface pattern is derived by Spec-to-Spec phrasal movement of the remnant NP.

(51) Celtic (Cinque 2000: (18))
    Q - Num - A1 - N - A2 - A3 - Gen/Dem - (P - DP)\(^{15}\)

In effect, Longobardi’s GenO position shown in (48) is equivalent to the single Gen checking site that Cinque argues for, but with head movement of the N, rather than phrasal movement.

Arabic, however, also has another post-N genitive position, as seen in (52).

(52) muhaarabat-u l-hukuumat-i l-muntadarat-u
     fighting-NOM the-government-GEN the-expected-NOM
     li-l-irtiSaa?-i
     of-the-corruption-GEN
     'the expected fighting of the corruption by the government' [Cinque 2000: (13)]

In the Arabic example in (52) the two genitive arguments are morphologically distinct, in that the final possessive has a prefix li- which is not present on the immediately post-N possessive. That the distinction is not (solely) a distinction to do with thematic roles is shown by the fact that the immediately post-N possessive (the construct state possessive) may be a Theme, rather than an Agent:

(53) tatwiir-u wa tahdit-u l-lugat-i
     development-NOM and modernization-NOM the-language-GEN
     d-daa?im-a-ni
     the-constant-dual
     'the constant development and modernization of the language' [Cinque 2000: (15)]

In (53) the post-N possessive is a Theme and it precedes the adjective, rather than following it, as does the Theme possessive in (52).

In the derivation that Cinque proposes for (52), he adopts the proposal of Kayne (1998a) that the relevant surface-final internal argument raises independently to check a P head projected above the entire DP, with subsequent phrasal movement of the lower (large) constituent to the left-most Spec position.

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\(^{15}\)The 'Dem' in (51) is assumed to be a 'low deictic' following Brugè (1996) and Brugè and Giusti (1996), thus distinct (in its position) from the higher Dem that we have been assuming so far.
The P is merged above the large DP (here contained within WP1) and, from within that DP the P-relating DP raises to check the P. Then the P raises to create a new WP, WP0, and WP1 containing the larger DP raises to Spec,WP0. In the final output, the P-checking DP is thus ordered to the right of all other DP-internal items that have been included in the derivation.

Aside from the fact that the "high DP" possessive position in Māori appears to be different from that of the construct state possessive in Arabic (it precedes, rather than follows the N), another difference between the two languages is that the post-N possessive in Māori does not appear to be prepositional (recall (47a) versus (47b)). Also, whereas the form of the post-N possessive following adjectives in Arabic is distinct from that of the immediately post-N genitive (the construct state possessive), in Māori, the form of the possessive pre-N and post-N is the same. We also have seen evidence that the pre-N possessive in Māori is located in a designated checking position which is not particular to possessives alone.

On these grounds, I am led to assume that the Gen checking site in Māori is the one manifested in the post-N surface ordering and that it therefore cannot be equated with the location for Gen identified by Cinque in (49). The solution that I henceforth will propose for Māori will take the surface ordering of the post-N non-pronominal possessive of (41a) as the essential indicator of the location of the Gen checking site.16 (This fits with the view that the different ordering of the post-N pronominal possessive of (41b) is accounted for with an additional movement of the pronominal possessive to a higher position.)

5.3. Genitive case checking in Māori

5.3.1. Post-N genitives
If the Māori base ordering including the Gen checking site is as shown in (55) below, then the surface ordering for DPs containing a post-N non-pronominal possessive, as in (56b), is derivable through iterative phrasal movement up to the point where the Gen head is merged (56a).

(55) Base ordering
D > Dem > Gen > Num > A > N

(56)a. (D – Dem –) Gen – [N – A – Num]


16Superficially, this position more closely resembles the GenS site put forward in Longobardi (2001) as shown in (48).
Once the Gen head is merged in the structure, as in (56a), and is checked by a DP/KP with the relevant features, the Gen head may raise to create a new WP projection above the GenP:

(57) \[
\text{\begin{align*}
\text{W}_{\text{Gen}} & \rightarrow \text{GenP} \\
\text{W}_{\text{Gen}} & \rightarrow \text{PossP}_1 \\
\text{Gen} & \rightarrow \text{Gen'} \\
\text{WP}_1 & \rightarrow \text{N-A-Num}/t_i
\end{align*}}
\]

The so-far “standard” form of iterative raising that we have been implementing would have WP, in (57) raising to check $W_{\text{Gen}}$. But, looking ahead from here, if we allow WP, to raise to Spec,$W_{\text{Gen}}$,P, we will ultimately have a problem with the relative ordering of post-N Dem and Poss (non-pronominal). At some point non-pronominal Poss will need to be stranded on the right. Does the raised Gen have any particular characteristics that will bar raising to the Spec, $W_{\text{Gen}}$P position?

Two different characteristics of the Gen head could be invoked to distinguish Gen from other functional heads that have been encountered lower down in the structure. First, Gen is the only selected functional head to be checked by raising (of PossP), rather than by direct merge. Second, we can note that the phrase that Gen checks has argument status. Formally speaking, as far as the first characteristic is concerned, it is not clear how we may mark the difference between a selected head whose features are satisfied by merge as against a head whose features are satisfied by raising (aside from geometric considerations that might be applied to the presence of copies where raising is involved).\(^{17}\) Let us look therefore to the argument/non-argument parameter.\(^{18}\)

Suppose that, even in its raised position as $W_{\text{Gen}}$ in (57), the Gen head cannot attract a non-argument constituent. Therefore, WP, cannot be raised to Spec,$W_{\text{Gen}}$,P. Suppose also that no other candidate phrase can enter the derivation at Spec,$W_{\text{Gen}}$,P because a Spec,WP position can only attract a phrase which is already present in the derivation. The raising of the Gen head, therefore has no overt consequences for the derivation. If we apply the proposal, originally from Koopman (1996), set out in (58), then the projection containing the unchecked $W_{\text{Gen}}$ is uninterpretable:

(58) **Principle of Projection Activation (PPA)**

A projection is interpretable iff it has lexical material at some stage in the derivation.

[Koopman and Szabolcsi 2002: 3]

On the assumption that such uninterpretability does not lead to derivation crash at the interfaces, then the projection, as well as having no spell-out effects, will consequently be invisible for the interpretive components.\(^ {19}\)

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\(^{17}\) It might also be the case that certain possessives may enter the structure at Spec,GenP by direct merge, given that this possibility has been entertained in fn. 12.

\(^{18}\) In Reuland (2003), Frisian versus Dutch surface verb ordering differences are accounted for in terms of argumental versus non-argumental properties of infinitives. In the Frisian case, a whole infinitive phrase complement is attracted to the specifier of an argument-checking head, but, in the Dutch case, an argument from the specifier of the non-argument infinitive is attracted to the specifier of the corresponding argument-checking head.

\(^{19}\) Such as would be the case as well in languages which do not exploit the head raising possibility for the implementation of remnant phrasal movements, otherwise equivalent to
At the next stage in the derivation after (57), the projection housing the DemP in its Spec is merged above \( W_{\text{GenP}} \). And, here again, we allow the head of this new projection to raise above it to create a new WP. (The structure shown in (59) below abstracts away from the "effectless" raising of the Gen head.)

![Diagram](image)

At this point, in order to successfully derive both (41a) and (41b), we need to be able to bar the raising of GenP or of WP\(_1\). But we need to permit the raising of PossP if it is pronominal, but not if it is non-pronominal. Let us consider now the status of \( W_X \).

Recall the conclusion in section 3 that the possibility for a demonstrative or a possessive (as members of a set of specifying items) to fill the position immediately to the right of the determiner indicated that these constituents should be considered to bear (interpretable) referential features. Thus, although we may not envisage that the demonstrative should have the status of an argument, we can align the demonstrative with the possessive if both kinds of phrases can be said to have referential features. In this sense, they are arguments as regards their behaviour with respect to Gen and \( X \), fulfilling the relevant criteria through the referential features that they bear. The potential candidates for raising to Spec, \( W_{\text{GenP}} \) could then be GenP (assuming that it gets referential features from its head) or PossP, but not WP\(_1\).

Now \( X \) in its original position has already checked an argument phrase in its Spec. Suppose, however, that in its raised position it is (weakly) available as a checking site for a pronominal argument. On this assumption, the pronominal PossP can now raise to Spec, \( W_X \).

At this point in the derivation the resultant orderings are: (i) \( \text{Poss}_{+\text{pron}} - \text{Dem} - [WP_1N - A - \text{Num}] \); or (ii) \( \text{Dem} - \text{Poss}_{-\text{pron}} - [WP_1N - A - \text{Num}] \).

At the next stage in the build up of the derivation a new checking head is merged above \( W_X \) and it is this head which is the attractor for WP\(_1\). Subsequently, D is merged above the newly created projection. The final outcomes then reflect the two surface orderings shown in (41a,b).

\(^{20}\)Against other views of specific locations for weak pronouns (as in Cardinaletti and Starke 2001), the mechanism that is proposed here might be seen as providing an alternative approach to weak versus strong pronoun positions. Such a notion would need to be explored more extensively.

\(^{21}\) The nature of the new checking head will be examined in section 5.4.2.

the non-realization of a second specifier in an approach like that of Chomsky (1995) which makes use of a double specifier option.
With the derivations just proposed we have accounted for the outcomes in which a Poss and/or a Dem occur in post-N positions. In the section to follow we will see how the derivations proposed work in with the orderings in which either of Poss or Dem may occur in a pre-N position.

5.3.2. *Pre-N genitives*

Examples illustrating the occurrence of a single Poss or Dem before the N are repeated here in (60) from the earlier (30).

(60a) te nei ngeru a Mere
    the.PROX1 cat GEN Mere
    ’this cat of Mere’s’

(60b) tă Mere ngeru nei
    the.GEN Mere cat PROX1
    ’this cat of Mere’s’

In (59), above the projection housing the DemP, we have merged a non-argument checking head which attracts the WP containing N-(A-Num) in (59). On the basis of our earlier conclusion that the high end of the DP has a head which attracts a phrase with referential features, the Spec of this head will be available either to Poss or Dem. The representation of the structure in (61) treats the highest head as D itself and shows the raising of either Poss or Dem to Spec,DP.

(61)  
```
    DP
    /\                        /\  
  PossP/GenP  D'             D  ZP
          /\         /\  
         D  WP     Z'  
         |   |      /\  
         N-A-Num Z
```

The D containing te now raises above DP, deriving the surface ordering in which the article is the left-most component of the whole DP.

5.4. *Issues and summary*

5.4.1. *Iterative and non-iterative raising*

In the account that we have presented, the use of iterative phrasal movement has been successful up to a point. It has enabled us to derive the mirror-image surface ordering for N, A, and Num. On the other hand, although the surface position of the post-N Dem also presents as the mirror-image pattern with respect to the proposed base ordering for Dem > Num > A > N, the projection containing the Dem is not itself implicated in the mechanical implementation of iterative raising. The exclusion of Dem in the iterative raising sequencing was required to account for the two surface realizations including post-N demonstratives and possessives. The same point applies to PossP checked by the Gen head. As a more cohesive alternative, however, why could we not have derived the surface orderings from a Poss > Dem > Num > A > N > base ordering? In order to answer this question we need to consider how such a derivation might proceed.

For the iterative raising account to include both Poss and Dem, at the stage of the derivation that is represented by (57), the structure would have the XP for Dem in the place of the GenP. If the WX P created by the raising of the X could then attract the lower WP, the output structure at that stage would be:
Continuing on from (62), we can assume the merge of Gen above $W_xP$ and the subsequent raising of the PossP (contained inside WP in (62)) to Spec,GenP. At the next stage, the whole of $W_xP$ could raise up to a newly created Spec,$W_{Gen}P$. The structure is now as follows:

This derivation directly accounts for the surface N – A - Num – Dem – Poss ordering, the correct ordering when Poss is non-pronominal. In order to obtain the correct ordering for when the Poss is pronominal we would like to be able to raise a pronominal Poss to a position preceding the Dem. But inspection of the structure in (63) shows that, if such a movement were to be implemented in that structure, it would require an illegal lowering of the PossP within the WP of Spec, $W_{Gen}P$.

Thus, although across-the-board iterative raising including Dem is successful in deriving the post-N ordering with a non-pronominal possessive (the ordering shown in (63)), this account will not work for the possessive pronominal counterpart.

Suppose then, that we return to the earlier account that we proposed in which heads like Gen and X (the latter, the merge head for DemP) are heads which fail to attract non-argument constituents to the WPs that they can create. Going back to the point at which PossP is raised to GenP (with the same base ordering as for (62) and (63)), we have (leaving out what is now posited as the uninterpretable $W_xP$ between Gen and XP):

In the earlier account, with the structure in (59), we allowed for the pronominal PossP to be attracted to Spec,$W_xP$ above it. The counterpart derivation applied to (64) would have DemP raising to a Spec,$W_{Gen}P$ if the PossP in (64) is non-pronominal,
but not if it is pronominal. Since the characteristics of the $W_{Gen}$ probe and DemP goal should be independent of the content of the Spec,GenP, it is not all clear how such a distinction could be motivated.

The only other possible alternative, given (64), would be to implement raising of WP to a position above GenP if PossP is pronominal, but to have raising of XP above GenP is PossP is non-pronominal. The possible motivations for making a distinction between WP and XP along these lines are even less clear.

We must therefore remain with the view that both DemP and PossP remain outside of the iterative raising part of the derivation.

5.4.2. The non-argument checking head in the DP
A second issue that we should consider with respect to the derivations proposed is that of the need for an additional (non-argument related) functional projection in between the merge locations of D and DemP.

In the system that we have proposed, iterative raising applies up to a point at which further iteration is blocked by the presence of argument checking projections. This solution maintains a portion of the phrasal movement approach that Cinque (2000) uses to account for the effects of Greenberg’s Universal 20 (in the present case the Dem is not included as part of the iterative analysis). But we have now also proposed that an additional non-argument checking head is required in the structure immediately below the position for the D head. The apparent sole purpose of this new functional head is to provide a site for the raising of the remnant non-argument WP in the lower part of the structure (cf. (61)).

Although, other interpretations may arise once the implications of the phrasal movement approach to the position of the N within the DP have been investigated over a greater range of languages,\textsuperscript{22} in terms of the head movement approach of Longobardi (2001), different languages use different (designated) DP-internal positions as the target for N-movement. The nature of these positions in general remains an open question. In the case of the Māori target for movement of the phrase containing the N, one possibility that can be suggested is that the ZP of (61) may be a DP-internal counterpart to the EPP predicate checking position that Massam and Smallwood (1997) and Massam (2001) propose for IP-internal VP predicate raising in Niuean, another Verb-initial (Tongic) Polynesian language.\textsuperscript{23}

Another possibility that can be considered here is the possibility that Māori may have a non-overt number head (in addition to, and distinct from, the NumP for numerals that we have posited here). For Horton (2000) the Cook Islands Māori items glossed as 'NUM' in (65) - (67) are heads of such a NumP projection:

\begin{verbatim}
(65)a. tēia au tamariki
   the.PROX1 NUM children
   'these children'

b. tēia ngā tamariki
   the.PROX1 NUM children
   'these two children'

[Horton 2000: 42]

(66)a. tāna au pipi
   the.3SG.GEN NUM disciple
   'his disciples'

\end{verbatim}

\textsuperscript{22}See also Bhattacharya (1998) and Den Dikken (2003).
\textsuperscript{23} For discussion of the case marking and internal ordering facts of Niuean DPs, see Massam (2000), Massam and Sperlich (2000).
b. ngā pipi tokotoru
   NUM disciple PART.3
   'the three disciples'

   [Horton 2000: 39, 28]

(67)a. te au vāito tapa
    the NUM pattern tapa cloth
    'tapa cloth patterns'

b. te au tangata katoa
    the NUM person all
    'all the people'

   [Horton 2000: 24, 27]

In the terms of mechanisms employed in the present paper, Horton’s NumP would be positionally equivalent to the ZP of (61). It would seem also that Horton’s NumP can be characterized as having a functional head which checks a non-argument constituent.

5.4.3. The D head
We have taken the view that items that have referential features and that are positioned between the article te and the N are phrases checked off against D and that the D is subsequently raised above the DP projection:

(68)

As the D element is always overt in the Māori DP, the obligatory raising of the D in (68) falls under the restriction against doubly filled projections which is argued for in Koopman and Szabolsci (2000):24

(69) Generalized "Doubly filled Comp filter" (modified Linear Correspondence Axiom)
    No projection has both an overt specifier and an overt head at the end of the derivation.

     [Koopman and Szabolsci 2000:4]

A possible implication of this interpretation of the syntax of the D head is that it could be extended to account for other cases of head-initial constructions in Māori.

5.4.4. Summary
The derivations that have been proposed have been based on the following interpretation of the attracting potential of WPs created by the raising of a head:

(70) Iterative remnant movement can target (raise to) a Spec of a WP if the raised head of that WP is a non-argument checking head.

In effect, aside from the case of the pronoun raising to the specifier of a WP with argument-checking characteristics, in the derivations that have been proposed, a phrase that has raised to a Spec, WP has always been the phrase which is the complement of the W in its original position. This geometry of phrasal movement,

24The restriction against doubly filled DPs in earlier work by Brugè and Giusti (1996) and Giusti (1997) for language particular cases is based on a model which does not include the D raising possibility shown in (68).
termed the ‘One-step down hypothesis’ in Reuland (2003), is proposed as a general condition on phrasal movement in Kayne (2003), with the following two statements:

(71)a. The complement of a given H can never move to the Spec of H.
   b. Move to Spec,H the category closest to H (that is not excluded by (71a)).

[Kayne 2003: (296), (297)]

In fact, for the derivations that we have proposed, the combination of the One-step down hypothesis of (71) and the restriction on remnant movement suggested by (70) serve to place an even greater limit on the available derivations permitted under the WP-creation possibility.

In the particular implementation of (70) in the derivation of surface forms in the Māori DP, the directly merged heads are hierarchically ordered as:

(72)  D > F_N > X/Dem > Gen > Y/Num > Z/A > N

Of the functional heads included in (72), the argument checking functional heads are D, Gen and Dem.

A difference in the syntactic positioning of pronominal versus non-pronominal possessives has been accounted for through a raising option which is instantiated in the case of pronominal possessives, but not in the case of non-pronominal possessives.

The available surface orderings that have been derived are shown schematically as:

(73)a.  D – Poss/Dem – N – A – Num – Dem – Poss_{pron}
   b.  D – Poss/Dem – N – A – Num – Poss_{pron} – Dem

in which only one of Poss or Dem may be present in each of (73a) and (73b).

Our treatment of the internal syntax of the Māori DP is not yet complete however. One further aspect of the composition of the Māori DP involves an additional ordering possibility in which the N may be preceded by a Poss – Dem sequence in which the Poss is pronominal. We next move to the analysis of these cases.

6. PRE-N DEMONSTRATIVES AND POSSESSIVES

In section 3 we saw that only one constituent may appear between the D and the N of a DP. As this constituent is clearly phrasal in some cases, notably in the case of proper name and common noun phrase possessives, we have argued that it is merged in one particular specifier position, represented as Spec,DP. There are nevertheless some further cases in which it appears that a DP demonstrative and a pronominal possessive may cooccur before the N of a DP.

Whereas a demonstrative following a non-pronominal possessive is consistently interpreted as part of the possessor phrase (74), more than one interpretation can be available in the case of a pronominal possessive followed by a demonstrative (75).

(74)  tā te tamaiti nei/nā/rā pukapuka
       the.GEN the child PROX1/PROX2/DIST book

'this/that child’s book’/*this/that book of the child’s'
When associated with a 3rd person pronoun, a demonstrative has the function of identifying the referent with respect to time/space location (recall also the discussion in section 4.2.2). In other uses a demonstrative can have an emphatic function. For example, the demonstrative following the 1st person singular pronoun in (76) has an emphatic function.

(76) ki öku nei whakaaro
P the.PL.1SG.GEN PROX1 opinion
‘in my opinion’ (though others may think differently) [Harlow: 2001: 107]

Since the speaker ‘I’ is necessarily uniquely identifiable, the demonstrative in (76) does not serve to pick out a speaker who is located here as distinct from the one who is somewhere else. In this case, therefore, the demonstrative has an emphatic function.

Whilst the interpretative judgments are sensitive, both of my Māori speaker consultants allow the forms shown in (75). Given that the possessive in (75) is 1st person singular, of the three demonstratives shown, only the PROX1 nei can be interpreted as modifying the possessor rather than the N whare ‘house’. This means that we need to be able to account for the cases in which a cooccurring pronominal possessive and demonstrative may precede the N of the DP.

In order to work this through, we will return to the stage in the derivation following on from that shown in (59) in which the lowest WP has raised above the DemP. Here, there are two possible configurations for structures containing a demonstrative and a possessive, depending on whether the possessive is pronominal (77a) or non-pronominal (77b):

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25 Harlow (2001: 107), however, does not include rā among the demonstratives available in forms like those in (75).
For both (77a) and (77b), we have assumed that one of PossP or DemP may raise to Spec,DP (projected above ZP).26 For the particular case on which we are focusing here, we want to be able to raise a constituent containing both the PossP and the DemP from (77a), but not from (77b). In (77a) the constituent containing both PossP and DemP is W_xP.

Now, in (77a) W_xP is complement of a head and, in all other cases in which an argument has raised to a specifier position (as distinct from the iterative raising of complements to non-argument attracting Spec,WPs), that constituent has raised from a specifier position. In the interests of retaining constraints on the variety of possible movements, it would be desirable to preserve the restriction implied by such a specifier/complement divide. In the first instance, the application of such a restriction would account for the failure of the raising of W_xP, or of XP, in (77b),27 but still leaves open the question of the means of accounting for the apparent availability of raising of W_xP in (77a). A possible attack on the problem can be found in a consideration of the nature of the demonstrative morphemes implicated in the raising.

The demonstratives themselves give the appearance of enclitic morphemes. In traditional descriptions they are consistently called ‘particles’ (Biggs 1969: 18, Bauer 1997: 69, Harlow 2001: 66). In their surface distribution, either they follow the substantive head of a phrase or they combine with a determiner, with or without a following N. Thus, Bauer (1997:69) states: ‘[these particles] are never heads alone, but combine with te to form demonstratives which can occur as heads of phrases.’

Suppose then, that at some point in the derivation, a demonstrative must attach to another constituent in the structure. Whatever the precise syntactic mechanism of cliticization (for some different views, see Cardinaletti and Starke 2001, Manzini 2003), let us therefore assume that the demonstrative morpheme, clitic or suffixal, in (77a) can bond with the PossP in the Spec above it. In the case where such bonding applies, PossP can raise to a higher position pied-piping the demonstrative along with it. In (77b) the obligatory bonding of the demonstrative could be to the phrase in Spec,ZP, or else, in both (77a) and (77b) the bonding of the demonstrative could take place subsequent to the independent raising of the DemP to Spec,DP.

26 The choice could possibly be made to depend on the presence of Topic or Focus features on one or other of these phrases.
27 In (77b) the W_xP has no content, and, as such, we have taken it to be inactive in the structure (see (58)).
By this account, only phrases in specifier positions are checked by argument-checking heads and iterative phrasal movement to specifiers of WPs applies only to phrases in complement positions.

8. CONCLUSIONS

Assuming an LCA approach to syntactic structure, the observation of the mirror-image effects in DP-internal surface orderings which are encapsulated in Greenberg’s Universal 20, is clearly suggestive of derivations involving iterative raisings, either by head movement or by phrasal movement. Under the phrasal movement approach adopted by Cinque (2000) and by Shlonsky (2000), the mirror-image surface ordering of all four of the items mentioned in Greenberg’s Universal (Dem, Num, A and N) are involved in such iterative phrasal movement. In the analysis of the surface orderings of the Māori DP that I present here, the surface patterns involving demonstratives are achieved by other means.

The alignment of characteristics shared by demonstratives and possessives has led to a treatment under which phrasal movements within the DP are distinguished in terms of whether or not the attracting heads have argument checking features. In essence, non-argument phrases in the complement structure of the DP are attracted to derived head positions which are non-argument checking, whereas argument checking heads (in raised or in merged positions) attract phrases which have referential features and which are located in specifier positions rather than in the complement structure of the DP spine.

This analysis contributes to the consideration of DP-internal syntax a new set of facts from Māori with respect to DP-internal composition. I believe also that it puts forward a new perspective on the characterization of distinctive properties of different forms of phrasal movement.

References


