Predicate Nominals and Equatives in Maori[*,†]

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[†] Note on data: All of the data presented in this paper were checked for (un)grammaticality by a native speaker of Maori (Ngati Awa dialect, from Te Teko). Sentences where no source is indicated were supplied by the native speaker, otherwise the origin of the sentence is given next to the gloss.

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1 Introduction

This paper is about the syntax of predicate nominals and equatives, exemplified in (1) and (2), respectively:

(1) John is a teacher.
(2) John is the Prime Minister.

Predicate nominals express class membership: (1) states that the subject *John* is a member of the set of teachers. In comparison, equatives express identity: the two DPs in (2) refer to the same person.

The issue addressed in this paper relates to the mechanisms that determine word order in predicate nominals and equatives. Of particular interest are languages that have [Predicate Subject] order in predicate nominals. With the hypothesis that the base-generated order is always [Subject Predicate], the Predicate-initial order must involve movement of the predicate to a position above the subject (Higgins 1973, Carnie 1993, 1995, Moro 1997, Massam 1998).

The problem is that it is unclear what motivates the predicate's movement. An obvious hypothesis – that word order in predicate nominals and equatives correlates with order in verbal clauses – is falsified by the fact that some VSO languages have the order [Predicate Subject] in predicate nominals while others have the order [Subject Predicate].[1] While there has been agreement regarding some aspects of the predicate's movement in previous research – namely that the predicate ends up in some A'-position (Carnie 1995, Moro 1997, Déchaine 1999 *cf* Massam 1998), there is little agreement as to which A'-position this is (Carnie 1995 *cf* Moro 1997, Déchaine 1999). The issue of why the predicate moves is rarely discussed; the few proposals there are also conflict on several points (Carnie 1995, Massam 1998).

The aim of this paper is to present a proposal about landing sites and triggers for movement in predicate nominals and equatives. To do so, relevant constructions in the Polynesian language Maori will be analyzed in detail. Maori – a VSO language – has the order [Predicate Subject] in predicate nominals:

[1] VSO languages that have the order [Subject Predicate] in predicate nominals/equatives include Kilivila (Oceanic, Senft 1986), Pipil (Uto-Aztecan, Campbell 1985), Standard Arabic (Semitic, Déchaine 1993), and Turkana (Nilo-Saharan, Dimmendaal 1982). The order [Predicate Subject] is found in Maori (Polynesian, Bauer 1993), Tagalog (Central Philippine, Ramos 1990), Irish Gaelic (Celtic, ò Dochartaigh 1992), and Plains Cree (Déchaine 1999).

(3) he māhita a Hera
D teacher D Hera
"Hera is a teacher." Bauer 1997#204[2]

Apart from the word order, there are a slew of other properties specific to this construction:

- Subjects cannot be *wh*-words in predicate nominals:[3]

(4) * he aha he whero
D what D red_one
"What is red?"

- Negative predicate nominals have the order [Subject Predicate]:

(5) ēhara rātou i te wahine
NEG they ACC D woman+SG
"They are not women." (lit. "They are not the woman.")

- There is number agreement between subject and predicate in positive predicate nominals, but not in their negative counterparts (compare (6) to (5)):

(6) he wāhine rātou
D woman+PL they
"They are women."

Equatives in Maori have similar properties.

I conclude that nominal predicates end up in the A'-position [spec,CP], so accounting for the cooccurrence restriction with *wh*-words (since *wh*-words are also required to occupy this position).

I argue that Case is the primary motivator of movement, albeit indirectly. In positive predicate nominals, the nominal predicate must move into a checking relation with Tense so that its nominative Case features can be eliminated. To do so, the predicate is forced to appear in a position above (and therefore before) the subject. This proposal accounts for the different order in negative predicate nominals: in negatives, the predicate is assigned accusative Case by the negative morpheme; this obviates the need to raise to Tense to eliminate Case features. The agreement facts are also shown to follow from the fact that the predicate ends up in a checking relation with Tense in positive predicate nominals, but not in the negative construction.

More generally, the aim of this paper is essentially reductionist. The proposal that nominal predicates have Case means that they are little different from argument DPs in verbal clauses. The differences in word order in predicate nominals/equatives and verbal clauses are shown to reduce to the fact that the two constructions present different opportunities for Case assignment.

This paper has the following structure: Section 2 presents a proposal that accounts for the surface syntactic structure of predicate nominals and equatives in Maori. In section 3, a theory that accounts for the movements postulated in predicate nominals and

[2] By orthographic convention, phonetically long vowels are written with a macron (e.g. ā, ē, etc.).

[3] There is obligatory *wh*-movement to initial position in Maori; the non-*wh*-moved version of (4) is ungrammatical: **he whero he aha*.

equatives is advanced. Section 4 contains a discussion of the typological implications of the proposals. Overall conclusions are given in section 5.

2 Structure

As mentioned in the introduction, Maori has the order [Predicate Subject] in predicate nominal constructions:

(7) he tama pōrangi a Tama
D boy crazy D Tama
"Tama is a crazy boy."

Equatives have a similar inversion of order, suggested by the fact that the first DP of a Maori equative corresponds to the second DP in its English translation, and supported by a number of other facts (see §2.1.2 for details). In addition, the first DP in Maori is always topicalized, as shown by the obligatory presence of the topic marker *ko* (see §2.1.2):

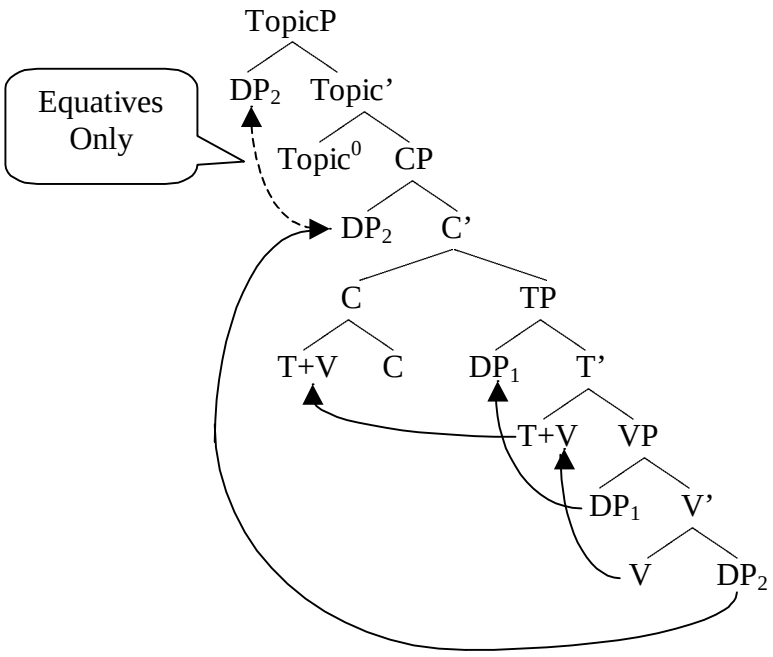
(8) Ko te tangata i kōhuru+hia e Hone a Tama
TOP D man T murder+PASS by John D Tama
"Tama is the man that John murdered."

There is no overt tense marking or overt verb in either predicate nominals or equatives.[4] On the surface, both constructions simply consist of the juxtaposition of two DPs.

In this section, I argue that both these constructions have the following surface structure, with lines and arrows indicating movement from base-generated positions:

[4] It has been claimed in several works that *he* is a tense marker in predicate nominals (e.g. Reedy 1979, Waite 1994:59, *cf* Clark 1996, de Lacy 1996). I reject this view due to the fact that the putative tense marked *he* is in complementary distribution with the nonspecific determiner *he*, suggesting that they are one and the same. See Appendix 2 for further discussion.

(9)



In both equatives and predicate nominals, the 'subject' DP (DP_1) appears in the surface subject position [spec,TP]. T obligatorily moves to C. Most significant for surface order, the initially lowest DP (DP_2) moves to [spec,CP]. One more move takes place in equatives: DP_2 moves to the specifier of the Topic phrase.

Below, I will provide empirical evidence for the structure in (9). Section 2.1 presents evidence from *wh*-words and topics that supports the contention that DP_2 ends up in an A'-position above C. In addition, predicate nominals and equatives are shown to be syntactically identical; the extra movement in equatives is due to independent requirements relating to specificity.

Since there are no phonologically contentful T's or V's in predicate nominals and equatives, and Maori has no overt Cs at all, the first part of section 2.2 provides evidence that these morphemes are really present in the constructions. Adverb placement and subject-predicate agreement lend support to the idea that V and T end up adjoined to C.

2.1 DP_2 is in [spec,CP]

The structure in (9) assumes something that is, in fact, disputed: that DP_2 is really a phrase, not a head (Déchaine 1993 *cf* Carnie 1993). The following sentence settles this issue in favour of DP_2 as an XP:

(10) [he tangata i ngau+a e ngā kurī]$^{\text{Predicate}}$ [a Hone]$^{\text{Subject}}$
D man T bite +PASS by D dogs D John
"John is a man who was bitten by dogs."

For the predicate to be a single complex head, every element in it would have to adjoin with every other head in head-to-head fashion (Carnie 1993, Waite 1994). However, the predicate XP contains a passive *by*-phrase *e ngā kurī*. In the initial structure, this is either

XP-adjoined or in a specifier position (Pearce 1999). As such, it could not possibly head-adjoin with any other element, given standard phrase-structure assumptions (Chomsky 1986b:4*ff*, 1995).

With DP_2's phrasal status established, evidence for its surface position can now be presented.

2.1.1 *Wh*-words

Evidence for DP_2's surface position in [spec,CP] comes from *wh*-words. Like English, Maori has obligatory *wh*-movement to [spec,CP] in question formation, shown in the following sentence:[5]

(11) he aha i muru +a e te tangata (*he aha)
D what T plunder+PASS by D man
"What was repossessed by the man?" Bauer 1997#2849b

Also like English, only one *wh*-word can occupy [spec,CP]:

(12) * ko wai he aha i kōrero pēnā ai ki a Pani?
ko who D what T speak that_way PART P D Pani
"What did who say to Pani?"

Significantly, the subject cannot be a *wh*-word in a predicate nominal:[6]

(13) * he aha he whero
D what D red_one
"What is red?"

This does not mean that *wh*-words are banned from clauses with nominal predicates, though. The predicate itself can be a *wh*-word:

(14) he aha te mea whero rā
D what D thing red there
"That red thing is what?" Bauer 1997#2843b

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[5] As in many varieties of English, leaving a *wh*-word *in situ* in Maori results in an echo question (Bauer 1997:443*ff*).

[6] One apparent counter-example to this claim involves *tē:hea* "which", which can appear with nominal predicates (Sandy Chung, p.c.): e.g. *Ko te:hea he whero*? = TOP which D red_one = "which is red?" (Ngata 1994). This example by no means invalidates the syntactic claims made in this section, though. As pointed out by Pesetsky (1987) there are two types of *wh*-words; ones such as *which* are D(iscourse)-linked, while *who*, *what*, etc are not. Evidently, Maori makes a syntactic distinction between the two, with D-linked *wh*-words moving straight to [spec,TopicP] without first moving through [spec,CP]. This explains why *ko tē:hea he whero* is grammatical: *ko tē:hea* does not move through [spec,CP], leaving it open for the predicate *he whero*. *Tē:hea* is also unlike other *wh*-words in several other ways: it inflects for number and Bauer (1997:273) notes that morphologically-speaking it has the properties of a determiner, unlike the N-like qualities of other *wh*-words. For other languages that make syntactic distinctions between the two types, see Pesetsky (1987).

This cooccurrence restriction is straightforwardly explained if the nominal predicate occupies the same surface position as the *wh*-word – i.e. [spec,CP]. Since there can only be one [spec,CP], a subject *wh*-word and a nominal predicate DP could not occur together in the same clause.

2.1.2 Equatives and Topics

While the DP_2 of predicate nominals appears in [spec,CP], DP_2 in equatives appears in topic position. The first piece of evidence for this comes from the fact that DP_2 is marked with the topic marker *ko*.[7] An equative is given in (15); example (16) – a verbal clause with a topicalized DP – is for comparison:

(15) ko te tangata rā hoki a Hone
TOP D man there Adv D John
"John is the man over there."

(16) ko Hone i kite i te tāhae
TOP John T see ACC D thief
"*John* saw the thief." Bauer 1997#4315d

Like *wh*-words, there can only be one topicalized DP per clause.[8]

More conclusive evidence that the *ko*-marked DP in equatives is actually in topic position comes from the fact that DP_1 in equatives cannot be topicalized:[9]

(17) * ko tēnei ko te rōia
TOP this TOP D lawyer
"*This* is the lawyer." Bauer 1991#24

As with nominal predicates, this cooccurrence restriction can be easily explained if the *ko*-marked equative DP occupies topic position.

What is topic position? It is not [spec,CP], as shown by the fact that topics may cooccur with nominal predicates and *wh*-words (also see Pearce 1999):

(18) ko Hone he māhita
TOP John D teacher
"John is a teacher."

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[7] *Ko* is a clitic. Syntactically, it seems to be a D-type element since it does not allow the personal determiner *a* to follow it: i.e. **ko a Hone* (cf (25)). However, it does allow other determiners: *ko te tangata*. It is unlikely that *ko* is a preposition since prepositions do allow the determiner *a* to follow them: *ki a Pou* "to Pou", **ki Pou* (Bauer 1997:157-8).

[8] Bauer (1997:ch.42) and Pearce (1999) note that some sentences seem to have more than one topic. However, in all cited cases the second topic DP is in apposition to the first: e.g. *ko tēnei tangata ko Wairangi nō Ngāti-Raukawa* = TOP this man TOP Wairangi belonged_to Ngati-Raukawa [a tribe] = "This man – Wairangi – belonged to Ngati-Raukawa" (Bauer 1997#4201). Hence, there is only one topic position per clause, although modification of that topic by an appositive DP is evidently possible.

[9] Bauer (1993:79) observes that some speakers allow sentences of the form *ko DP ko DP* in restricted circumstances. There is evidence that such constructions are really clefts, though, not simple equatives. See Appendix 4 for discussion.

I take it that topic position must be the specifier of a higher phrase, called TopicP following Pearce (1999) and Rizzi (1997).

In fact, several *wh*-words can appear in the topic position, shown by the fact that they are marked with *ko*:

(19) ko wai kua hoki ki te kāinga
TOP who T return P D home
"Who has gone home?" Bauer 1997#2849a

As established in the previous section, *wh*-words move to [spec,CP]. Hence, a topicalized *wh*-word like *ko wai* must make two movements: first to [spec,CP], then to [spec,TopicP]. The movement of *ko wai* through [spec,CP] makes a prediction: *ko wai* should not be able to appear with a nominal predicate since nominal predicates must occupy [spec,CP]. This prediction is borne out: topicalized *wh*-words cannot cooccur with nominal predicates:

(20) * ko te aha he whero?
TOP the what D red
"What is red?" Bauer 1997#2843a[10]

To summarize, there is evidence that DP_2 of predicate nominals ends up in [spec,CP] and that DP_2 of equatives ends up in [spec,TopicP].

2.1.3 Splitting

Both [spec,CP] and [spec,TopicP] are A'-positions. So, if DP_2 does really appear in these positions, this predicts that predicate nominals and equatives should exhibit other properties of A'-movement. One such property is splitting, where part of an A'-moved DP is left *in situ*. Splitting occurs with English DPs which are headed by *which*:

(21) (a) Which did you buy of the several you saw?
(b) Which of the several you saw did you buy?

In English, the *wh*-word must move to initial position, but the rest of its DP may remain *in situ*. Splitting also affects DP_2 in Maori predicate nominals and equatives:

(22) he mōhio a Moana ki te waiata
D knowledgeable_one D Moana P D song
"Moana is knowledgeable about song." Waite 1994#8

(23) ko te kōha tēnei a Wairangi ki tana wahine
TOP D gift this of Wairangi to his woman
"This was Wairangi's gift to his wife." Bauer 1997#446

As with English *which*, splitting is optional. For example, the sentence in (22) could be produced as the non-split version *he mōhio ki te waiata a Moana*.[11]

[10] Bauer reports that her informants found this sentence ungrammatical. My informant did not find it absolutely ungrammatical, but certainly rather strange.

Notably, splitting never occurs in A-movement.[12]

In summary, cooccurrence restrictions on DP_2 show that it occupies an A'-position at Spell Out/S-Structure. Splitting indicates that DP_2 really has undergone movement – specifically A'-movement.

2.1.4 Nominal Predicates are Equatives

There is an obvious problem with the idea that predicate nominals and equatives are really the same syntactic construction: DP_2 ends up in different positions – [spec,CP] for predicate nominals and [spec,TopicP] for equatives. If there is no syntactic difference between the two constructions, the reason for this different surface placement has to derive from some incidental requirement.

The incidental requirement is a specificity restriction. It turns out that only specific DPs can appear in the topic position, while [spec,CP] only ever houses non-specific DPs. Example (24) shows that the specific *wh*-phrase *te aha* can appear in the topic position while (25) shows that it cannot occur in [spec,CP]. Examples (26) and (27) show that the nonspecific DP *he aha* can occur in [spec,CP], but not in topic position:

(24) ko te aha nā Hata i here
TOP $D^{Specific}$ what FOC Hata T tie
"What did Hata tie up?" Bauer 1993#69a

(25) *cf* *te aha nā Hata i here

(26) he aha nā Hata i here
$D^{Non\text{-}Specific}$ what FOC Hata T tie
"What did Hata tie up?" Bauer 1993#69b

(27) *cf* *ko he aha nā Hata i here

The specificity requirements straightforwardly captures the difference between predicate nominals and equatives. Since the predicate DP in Nominal Predicates must always be non-specific, it can only end up in [spec,CP]. Since the equative only has specific DPs, its moved DP must end up in [spec,TopicP]. Any other landing sites would violate the specificity restrictions, causing the derivation to crash.[13] With this independent requirement determining the final resting place of DP_2, there is nothing standing in the way of identifying predicate nominals and equatives as the same syntactic construction.

There is an important implication of this conflation: if movement of DP_2 is triggered by a feature on a head and equatives and predicate nominals are syntactically identical, then it must be the *same* head that triggers movement in both cases. Furthermore, since nominal predicates only move to [spec,CP], C must be the attracting head. Therefore, in *both* nominal predicate and equative constructions, DP_2 must move

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[11] Bauer (1993:244) notes that splitting is the unmarked option when the subject is short (i.e. consists of a minimal DP, without PP modifiers or relative clauses), a judgement confirmed by my informant. With long subjects, splitting is less preferred. These facts parallel those for English *which*-splitting.

[12] Splitting is not Heavy NP shift. Heavy NP shift in Maori always moves an *entire* DP, not subparts of it (Bauer 1993:242, 1997#404).

[13] Why the predicate in predicate nominals must be non-specific and the DPs in equatives must be specific is essentially a semantic consideration (Higgins 1973).

to [spec,CP]. Equative DPs must move further to [spec,TopicP] to satisfy the specificity requirements.

Equatives, then, parallel the movement for topicalized wh-words (e.g. ko *wai*), mentioned in the previous section: they first move to [spec,CP], then to [spec,TopicP]. While there is no real empirical evidence for this 'stopover' movement in equatives, this is to be expected: counter-evidence would be an equative structure with a DP in [spec,TopicP] and one in [spec,CP] on the surface. Since [spec,CP] only houses nonspecific DPs and equatives have two specific DPs, such a situation will never arise.

With equatives and predicate nominals identified as the same construction, they will be referred to collectively as 'nominal clauses' in the rest of this paper.

2.2 Verbs and Tense

The structure presented in (9) has a null verb adjoined to a null tense morpheme, which is in turn adjoined to a null complementizer. There are several controversial aspects to this proposal. One relates to the existence of T and V in 'bare' nominal predicates – those without a phonologically contentful T and V. Déchaine (1993) has argued that such constructions contain neither a Tense morpheme nor a copula (*cf* Heggie 1988). Accordingly, section 2.2.1 provides evidence that there is an actual T morpheme and section 2.2.2 justifies the existence of a null copula. Having argued that T and V actually do exist in nominal clauses, empirical evidence from Maori adverbs that V and T are adjoined to C is presented in section 2.2.3. Agreement – discussed in §2.2.4 – provides further support for the proposed surface position of T.

2.2.1 Tense Exists

Déchaine (1993:309) has argued that while there is a Tense projection, there is no Tense morpheme heading that projection. The reason for this is primarily due to a generalization made by Hjelmslev (1948:182) (Also see Déchaine 1993:308*ff*). Hjelmslev claimed that in every language with bare predicate nominals, they are always interpreted as non-past.

Déchaine suggested that the lack of a Tense morpheme in bare predicate nominals offers a reason for this putative universality. With no Tense morpheme, universal semantic fill-in rules supply a default non-past interpretation. If there really were an actual Tense morpheme in such constructions, it should vary cross-linguistically, being non-past in some language, just 'present tense' in others, and perhaps just 'future' in others.

The problem for this idea is that Maori offers counter-evidence against Hjelmslev's generalization: Maori bare predicate nominals can be interpreted as past as well as present, but never future:[14]

[14] Either a full verb or a prepositional predicate with the future preposition *hei* is used. See Appendix 2 for discussion of *hei*. My informant offered *āpōpō ka pango te whare* as the 'best' way to express this sentence.

(28) inanahi he whero te whare
yesterday D red_one D house
"Yesterday, the house was red."

(29) inaianei he kākāriki te whare
today D green_one D house
"Today, the house is green."

(30) * āpōpō he pango te whare
tomorrow D black_one D house
"Tomorrow, the house will be black."

In short, Hjelmslev's generalization is not correct. Maori shows that bare nominal predicates can have past temporal reference, forming a minimal pair with languages like Haitian, where temporal reference in bare predicates can never be past (Déchaine 1993:433).

Following Déchaine's reasoning, since Haitian and Maori constitute a minimal pair there must be an actual Tense morpheme in bare predicate nominals; universal semantic fill-in rules cannot be invoked. This conclusion requires Déchaine's (1993:299) Minimal Tense Hypothesis – stated in (31a) – to be emended to (31b):

(31) (a) **Minimal Tense Hypothesis (Original)**
Every matrix clause contains a Tense projection.

(b) **Minimal Tense Hypothesis (Revised)**
Every matrix clause contains a Tense morpheme and a Tense projection.

There are also theoretical reasons for adopting the idea that there is a Tense morpheme heading the Tense projection even when it has no phonological content. In Chomsky's (1995) Bare Phrase Structure, X-bar levels are not recognized as primitives. Hence, it is not possible to have a syntactic projection without also having a morpheme to head that projection. So, the claim that there is a Tense projection in every clause implies the presence of a Tense morpheme. Evidently, this prediction of Bare Phrase Structure is borne out for Tense.

2.2.2 Null Verbs Exist

The issue of whether there is a verb-like element – a null copula – in bare predicate nominals has been a point of much disagreement (Heggie 1988:121 *cf* Déchaine 1993, Carnie 1995). Maori offers evidence that suggests that bare predicate nominals and equatives really do contain a null copula.

Assuming that there is a null copula in nominal sentences, how can its presence be tested? One way is to see whether it has the same syntactic properties as phonologically contentful verbs. Two such properties are c-selectional restrictions and Case. These properties will be dealt with in turn.

Many verbs have restrictions on their possible arguments.[15] So, if there really is a null verb in nominal clauses it is reasonable to expect – in at least some languages – for it to have analogous selectional restrictions. The selectional restrictions would be realized as limitations on the type of predicate allowed.[16] Such limitations are found in Maori. While bare nominal predicates are admissible, bare adjectival predicates are not:[17]

(32) * kākāriki te whare
green D house
"The house is green."

Maori does allow PP predicates, though:

(33) i te hui te Pirimia
at D meeting D Prime_Minister
"The Prime Minister was at the meeting."

This is easy to explain if it is supposed that there is a null verb in these sentences with selectional restrictions allowing DPs and PPs, but not AdjPs.

Such restrictions are not a quirk of Maori. A variety of languages ban certain types of nonverbal predicates. For example, Niuean does not have PP predicates (Seiter 1980)[18] and Welsh does not have nominal predicates (Thomas 1992).[19] Such variation would be straightforwardly captured if it is assumed that there is a verb in the bare predicative constructions of these languages exercising selectional restrictions.[20]

The other property that one could reasonably expect if there is a verb in bare nominal predicates is the assignment of structural Case. If null copulas are like overt copulas, they should be able to vary as to whether they assign accusative Case. For example, the Arabic copula assigns accusative Case to the predicate (34), in contrast to Finnish (35):

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[15] Whether these restrictions must be stated in the verb's lexical entry or are derivable from semantic restrictions is an issue that will not be broached in this paper. See Grimshaw (1979), Pesetsky (1982), and Chomsky (1986a:86*ff*) for discussion.

[16] C-selectional restrictions of a verb affect its complement. It is generally accepted that if there is a null copula, the predicate would be its complement (Heggie 1988, Moro 1997); therefore, c-selectional requirements of a null copula should affect the predicate, not the subject. See §3.3.3 for evidence supporting the idea that DP_2 is initially in the verb's complement position.

[17] Such sentences can only be expressed by employing a nominal predicate. In Maori, there is a null N meaning "one" so the sentence would be expressed as *he kākāriki ∅ te whare*. Alternatively, *mea* "thing" may be used: *he mea kākāriki te whare* = "The house is a green thing."

[18] PP^{Preds} must be accompanied by the verb *(ha)hā*, in contrast to the bare predicate nominals which have no overt copula.

[19] The particle *yn* must appear before a DP. *yn* is not the copula, and is glossed as a preposition by Thomas (1992:277).

[20] Déchaine (1993:311) presents a discussion of cross-linguistic variation in possible predicative categories. She points out that some putative examples where a certain category type K is not predicative are flawed because K does not exist as an independent category in that system. This objection cannot be made for the languages cited here, though, as there is clear evidence for Adjective as an independent category in Maori (Bauer 1993), for Preposition in Niuean, and for Noun in Welsh.

(34) kaana Zayd-un mariid-an
BE+T Zayd-NOM sick -ACC
"Zayd was sick." Déchaine (1993:305)

(35) Kirja on valkoinen
book.NOM BE white.NOM
"The book is white." Comrie (1997:39)

Maori does not present any pertinent data in this regard since both subject and predicate take nominative Case, like Finnish. Since assignment of Nominative Case could be put down to 'default Case realization', the real test is to find a language where the predicate is assigned accusative Case in bare predicate nominals.

The Oromo dialect of Harar (Ethiopia) is significant in this regard (Owens 1985, Comrie 1997:40). In Oromo, the suffix *–n(íi)* marks nominative Case, while accusative has no overt phonological realization:

(36) húrrée-n arká-∅ d'olkiti
fog -NOM sight-ACC reduces
"Fog reduces visibility."

In bare predicate nominals, the predicate has accusative Case:

(37) hommish-níi barána gáarii-∅
harvest -NOM this.year good.ACC
"The harvest is good this year."

Again, an explanation for the Case facts is readily available in the idea that there is a null verb that assigns accusative Case in the bare predicate.

Alternative accounts of these facts could be given. For example, it could be argued that the predicate in Oromo does not really bear any Case at all; it is impossible to tell since accusative case has no overt realization. In reply to this, it can be pointed out that in some languages the predicate in bare predicate nominals obviously does bear overt realization of case. A case in point is the Yuman language Mojave (Munro 1977, Comrie 1997). Nominative case is overtly marked in Mojave by the suffix –č; accusative case is not overtly marked:

(38) John-č Mary-∅ iyu:pč
John-NOM Mary-ACC saw
"John saw Mary." Munro 1977#3

Nominal predicates receive nominative marking and their subjects are marked accusatively:[21]

(39) John-∅ k^{w}aθʔide:-č
John-ACC doctor -NOM
"John is a doctor." Munro 1977#7

[21] Irish has also been reported as marking its nominal predicate with nominative Case and its subjects with accusative (Carnie 1993 *cf* Carnie 1995).

Munro (1977) reports that Modern Yuman predicate nominals are even more similar to the Maori system: both the subject and predicate are marked with nominative case.

Of course, the fact that Mojave overtly marks nominative case on its predicate does not mean that the predicate has abstract Case, and even if the predicate does have abstract Case this does not mean that it is necessarily assigned/checked in the usual way. Even so, the Mojave facts are at least suggestive; surely it is the null hypothesis that overt morphological case reflects abstract Case, and that this Case should be dealt with in the same manner as Case on non-predicative DPs.

In conclusion, there is syntactic evidence consistent with the idea that there is a null verb in predicate nominals. Although this idea deserves a significantly more in-depth defense than I have given it here, it at least suggests that the following descriptive generalization − proposed by Déchaine (1993:310) − may be operative in human language:

(40) **Minimal Verb Hypothesis**
Tense morphemes select a verbal element.

Since bare predicate nominals contain a T, as argued in the previous section, (40) essentially means that every tensed clause contains a verb.

To proceed beyond the descriptive generalization in (40) to actual explanation is far beyond the scope of this paper. The answer may be ultimately tied to semantic considerations (see Heggie 1988 for relevant discussion).

Further evidence for V and T's presence, as well as their movement, is presented in the next section.

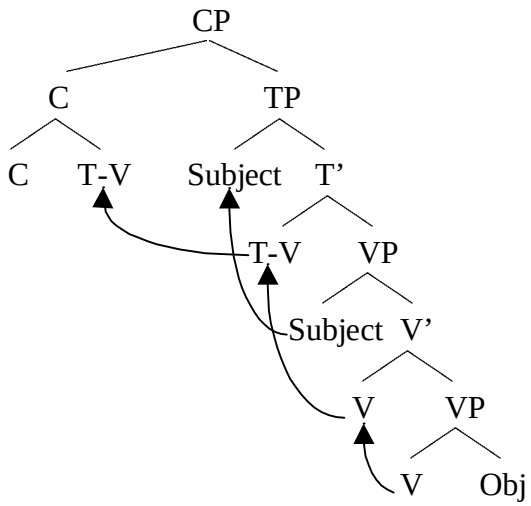
2.2.3 V→T→C: Adverbs

Evidence for movement of V to T and thence to C can be found in adverb placement in nominal clauses. To present the argument, though, adverb placement in verbal clauses must first be discussed.

Maori verbal clauses have the unmarked surface order [Tense Verb Adverbs Subject Object]. Following Sproat (1985) (see Waite 1989, 1994 specifically for Maori), I assume that the Subject raises to [spec,TP], the Verb to T, and then the V-T complex to C:[22]

[22] See Appendix 5 for details about adverbs and further evidence for the proposals that they head-adjoin to the verb.

(41)



Adverbs are very restricted in distribution and co-occurrence. There are five 'slots' for post-verbal adverbs, ordered from left to right as indicated by the numbers below (Bauer 1997:317*ff*). Only one adverb can appear per slot:[23]

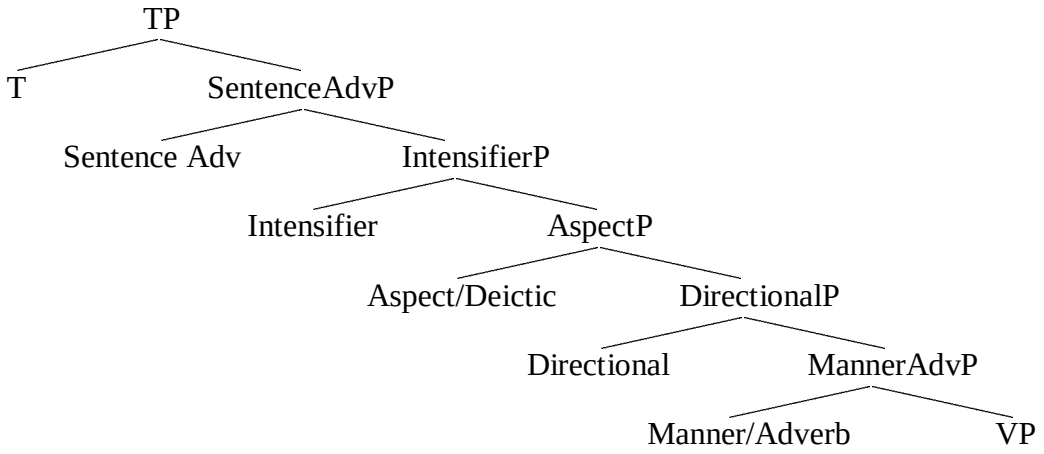
(42) Slot 1: Contains three types of adverb:
(i) Manner adverbs
(ii) Adverbs derived from adjectives (e.g. *pai* 'well' from *pai* 'good')
(iii) The floated quantifier *kātoa* "all".
Slot 2: Directionals
(*mai* 'hither', *atu* "away from", *ake* "upwards", *iho* "downwards")
Slot 3: (i) Deictics (*nei* "near speaker", *nā* "near hearer", *rā* "distant")
(ii) Aspectual markers (*ana* 'progressive', *ai* 'anaphoric aspectual marker'[24])
Slot 4: Emphatics
Slot 5: 'Sentence' adverbs (e.g. *pea* "perhaps", *koā* "however", *ianei* "therefore")

The adverbs are almost certainly not XP-adjoined to TP, forming the structure [$_{CP}$ T-V [$_{TP}$ Adverbs [$_{TP}$ Subject …]]]. Such adjunction raises two problems. For one, some of the adverbs are obviously non-sentential (especially in slot 1) (Pearce 1997:5). This does not fit well with the idea that they originate adjoined to TP (i.e. with scope over Tense). The second problem is syntactic. There is a process of 'Subject-Aux Inversion' where T/C remains *in situ*, producing the order [Subject T V Adverbs]. If adverbs are adjoined to TP, then Subject-Aux Inversion should produce the unattested structure *[$_{TP}$ Adverbs [$_{TP}$ Subject [$_{T'}$ T-V ….]]] (see §3.3.2 re. Subject-Aux Inversion).

The solution, I propose, is that adverbs are heads. The initial syntactic structure is as follows:

[23] It is almost always true that slots 1-3 only allow only one member per clause. Mutu-Grigg (1982:21) points out that this requirement seems less strict for slot 4 (and perhaps slot 5).
[24] See Bauer (1993, 1997), Kitto (1999) and Massam & Roberge (1997) for discussion of the exact properties of *ai*.

(43)



The verb moves up to T, left-adjoining to each of the heads on the way, producing the correct linear order (Kayne 1994).

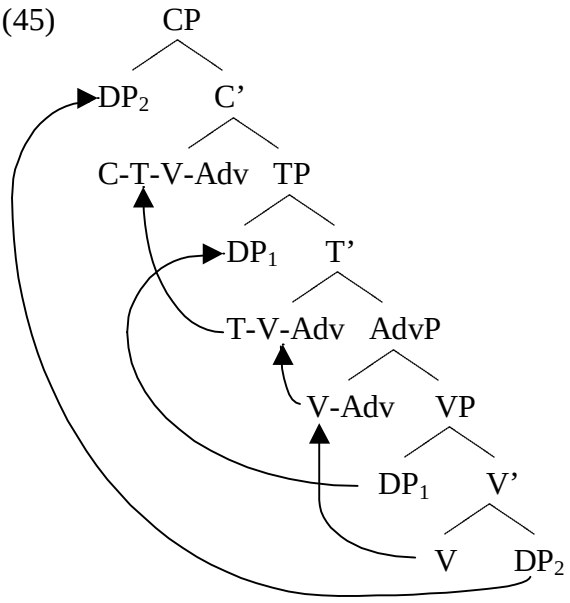
The structure in (43) also gets the correct scope facts for adverbs: non-sentential adverbs (i.e. the Manner and Directional adverbs) are low in the tree, while sentential adverbs (i.e. Intensifier and Sentence adverbs) are high, with scope over Aspect. The fact that only one adverb is allowed per slot also follows: since a 'slot' is an XP and there is only one head per XP, there can only be one adverb per slot.

The order of adverbs in nominal clauses can now be examined. Adverbs in nominal clauses must always immediately follow DP_2:

(44) he māhita hoki a Hone (*hoki)
D teacher intens. D John
"John is really a teacher."

With the subject in [spec,TP], this means that the Adverb *hoki* in (44) has head-moved up to T, and that T has moved to C:

(45)



Without a V at all, the adverbs would not be able to get a 'free ride' up to T by adjoining to V; they should remain *in situ*, producing the unattested order *[Predicate Subject Adverb]. T→C movement is also essential, otherwise the adverbs would appear after the subject.

2.2.4 T→C: Agreement

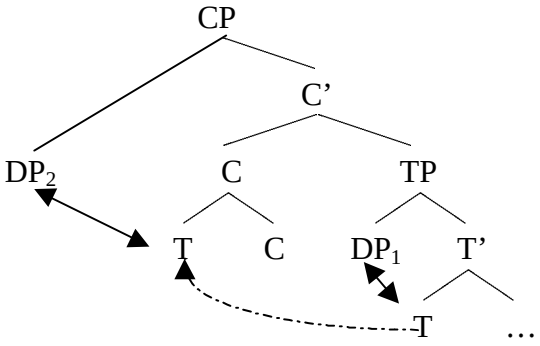
The subject and predicate agree in number in predicate nominals:

(46) (a) he wahine au
D woman+SG I
"I am a woman."

cf (b) he wāhine rātou
D woman+PL they
"They are women."

There is a straightforward way to account for this agreement based on the structure proposed in (9): the reason that DP_1 and DP_2 have the same ϕ-feature values is because they check them against the same head – T. DP_1 first checks its ϕ-features against T, then T raises to C where DP_2 checks its ϕ-features. The following diagram presents this process graphically; double-headed arrows indicate agreement:

(47)



Movement of T to C is crucial to this account. If T did not raise to C, it could not enter into an agreement relation with DP_2, so DP_2 could not check its ϕ-features with T and therefore would not agree with DP_1.

An objection that one could raise to this proposal is that the premise on which it is based is flawed: why *must* T mediate agreement of DP_1 and DP_2? Could subject-predicate agreement be achieved by an entirely different mechanism?

Fortunately, this objection can be dismissed in Maori. Confirmation for the idea that T mediates agreement comes from the predictions of this proposal, namely that if DP_2 never entered into a checking relation with T, it would not agree with DP_1. This prediction is borne out in negative predicate nominals.

Unlike positive predicate nominals, negative predicate nominals have an overt copula – *ēhara* – and have the order [Subject Predicate]. The Predicate remains *in situ*, and is marked with accusative Case. A negative predicate nominal is given in (48); its positive counterpart is in (49):

(48) ē+hara rātou i te ariki
T+NEG they ACC D(singular) chief
"They are not chiefs." *lit*. "They are not the chief."

(49) he ariki rātou
D chief they
"They are chiefs."

The structure of negative predicate nominals is discussed in detail in §3.3.3. For the moment, it is enough to note that the predicate in (48) – *ariki* – is low in the structure, and quite probably *in situ*. It certainly has not moved like the predicate in the positive version (49).

The fact of present interest is that there is no agreement in the negative predicate nominal: while the subject *rātou* is plural, the predicate *te ariki* is singular (also see Bauer 1993:144*ff*). In fact, predicate DPs in negative predicate nominals are always singular, and never plural:

(50) * ēhara rātou i ngā ariki
NEG they ACC D(plural) chiefs
"They are not chiefs."

The lack of agreement follows straightforwardly from the idea that agreement is mediated through T. Since the predicate DP does not move to anywhere near T in negatives, the fact that it does not agree with the Subject follows straightforwardly.

2.2.5 Structural Conclusions

Evidence for a variety of surface positions was presented in this section. DP_2 – the predicate in predicate nominals and the initially lower DP in equatives – was shown to appear in an A'-position above C. Both adverb placement and agreement facts provide evidence for the proposal that T appears in C. Additional evidence for the presence of a null copula in nominal clauses was also presented.

3 Movement

Section 2 was devoted to explaining where the elements of nominal sentences appear at Spell-Out. The aim of this section is to explain why DP_2 the elements move to their surface positions. I propose in §3.1 that Case is an important force in (indirectly) motivating the movements. Specifically, I propose that although DP_2 is a predicate, it has Case. A discussion of some of the more technical aspects of this proposal is presented in section 3.2. Empirical support for this approach is provided in section 3.3. The most controversial aspect of this proposal – that DP predicates have Case – is addressed in Section 3.4. A variety of evidence is presented in support of this claim.

3.1 DP_2 and Case

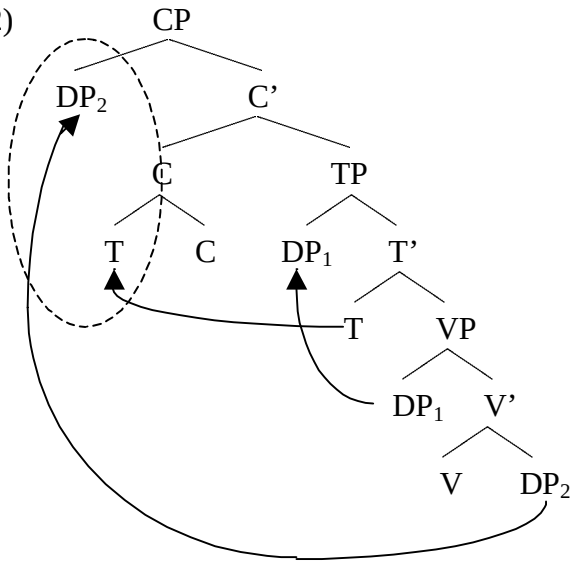
Four movements were proposed in section 2:

(51) (i) $DP_1 \rightarrow$ [spec, TP]
(ii) $DP_2 \rightarrow$ [spec, CP]
(iii) $V \rightarrow T$
(iv) $T/V \rightarrow C$

Two of these movements also occur in verbal clauses: (1) Movement of DP_1 to [spec,TP] is motivated by an EPP feature in T (arguably universal – see Chomsky 1999) and (2) the movement of V to T is part of the process of providing verb-initial order, motivated by some V-attracting feature (see §2.2.3).

To explain the remaining movements, I propose that DP_2 has Case features. To eliminate its Case features, DP_2 must end up in a checking configuration with a 'Case assigner'. Since the only Case assigner available is T, DP_2 must therefore end up in a spec-head relation with T. Appearing in a specifier-head relation with T presents difficulties, though. Since the subject appears in [spec,TP] and only one specifier of TP is allowed (see above), DP_2 cannot appear in [spec,TP]. The only solution available is for DP_2 to move to [spec,CP] and for T to move to C. Only then can DP_2 appear in a spec-head relation with T.

(52)



All the movements are crucial. If DP_2 remained *in situ*, it could not have its Case features eliminated, so the derivation would crash. If T remained *in situ*, it would not appear in a spec-head relation with DP_2, so DP_2's Case features would not be eliminated, again resulting in crash.

3.2 Features and Movement

With the broad outlines of the motivations for DP_2- and T-movement presented, this section presents the technical details of the proposal, set within the Minimalist Program (Chomsky 1995 *et seq*.).

In Minimalism, movement is induced by certain features in functional heads (e.g. C, *v*). For Maori nominal clauses, this means that there must be some feature in C that attracts DP_2 to its specifier.[25] However, the DP-attracting C cannot be the only complementizer in Maori; if it were, a DP should be attracted to [spec,CP] in every clause, nominal and verbal. The fact that this does not happen means that Maori has two C's: one with the DP-attracting feature (C^{+DP}) and one without (C^{-DP}).

A similar situation holds in regard to T. For T to end up adjoined to C there must be some T-attracting feature in C. As it turns out, Maori has two types of C with regard to T-attraction: one type attracts T, the other does not (see section 3.3.2). This means that there are four logically possible (and actually attested) types of C in Maori: $C^{+DP,+T}$, $C^{+DP,-T}$, $C^{-DP,+T}$, $C^{-DP,-T}$.

So, the problem that nominal clauses present can now be restated as the following:

(53) Why do nominal clauses only converge if they contain $C^{+DP,+T}$?

The answer comes down to Case. Case features in DPs are uninterpretable, so they must be eliminated in the course of the derivation.

- DP_1 eliminates its Case features by checking them with T when it is attracted to [spec,TP] by the T's EPP feature (Chomsky 1999).
- To eliminate its Case features, DP_2 must also end up in a spec-head relation with T. For reasons pointed out above, such a configuration is only possible if DP_2 moves to [spec,CP] and T moves to C. Such movements are only possible if the C with both the DP-attracting feature and T-attracting feature (i.e. $C^{+DP,+T}$) is present. With any other C, one or both of the necessary movements will not take place.

In short, it is not that movement of DP_2 and T is obligatory in nominal clauses; it is just that every configuration in which they do not move crashes.

Two issues were passed over too briefly in the preceding discussion: (1) How can T check Case twice − once against DP_1 and then against DP_2? and (2) Why can DP_2's Case features not be checked covertly?

- *Multiple Case-Checking*

One potential problem raised by this proposal is that T must check Case features twice: first with DP_1 and then with DP_2.

To allow this, the difference between feature deletion and feature erasure can be invoked (Chomsky 1995:280): checking with DP_1 only deletes T's features − it does not erase them. C in Maori has a special property: it can optionally 'undelete' T's features, making them available for checking again. So, DP_2's features can be checked just in case it moves to [spec, CP] and C undeletes T's features.

The ability of C to undelete T's features does not have to be limited to nominal clauses alone − allowing C to undelete T's features has no adverse effects in verbal clauses. The worry with verbal clauses is that both arguments of a verb could end up

[25] The exact identity of this feature is unimportant − only its effects are of interest here.

with nominative Case, having both checked their features with T. However, this will never happen for independent reasons. If a full verb has two arguments, it also assigns Case (by Burzio's generalization). So, if both arguments check Case against T, the V's Case features would not have been checked and so the derivation will crash. In short, only one DP will ever check its features against T in verbal clauses.[26]

So, the ability of C to undelete T's features has no negative consequences for verbal clauses. The result is that C may optionally undelete T's features in both verbal and nominal clauses. If C undeletes T's features in a verbal clause, the derivation will crash because T will end up with uninterpretable features. Conversely, if C does not undelete T's features in nominal clauses, the derivation will crash because DP_2 will not be able to eliminate its features. To converge, C must not undelete T's features in verbal clauses, but must do the opposite in nominal clauses.

There is empirical support that C can undelete T's features. It was argued in §2.2.4 that agreement in predicate nominals comes about through both DP_1 and DP_2 checking T's ϕ-features. If this is correct, it shows that T's ϕ-features cannot be erased when it checks them with DP_1.

Additional support comes from other languages. It has been argued in a number of places that C can assign Case (Chomsky 1981, Rizzi 1982). Chomsky (1981:66) argued that the English complementizer *for* assigns Case as in the example below:

(54) I want for John to go.

In this sentence, the complementizer *for* assigns Case to John. The proposal for Maori can be seen in a similar light: in a sense C assigns Case to DP_2, albeit by means of T.

A more general point is that there seems to be a dependency between T and C relating to the availability of T's features for checking. T's features are active only when it is immediately dominated by C. When C is not present, T is featurally 'defective' – a non-finite clause. The Maori situation may be a more specialized case of C's influence on the availability of T's features for checking.

- *Covert Feature Raising*

Covert feature raising presents a possible objection to the present proposal. Lasnik & Saito (1991) argue that objects can be raised covertly to check Case (also see Chomsky 1995:272*ff*). This seems to undercut the present proposal: why can the predicate not simply remain *in situ* overtly, and let its Case features raise to T to be checked covertly?

One possible way to avoid this problem is to capitalize on the fact that DP_2 is a non-argument. The cases of covert feature-raising adduced so far have involved arguments, not non-arguments. It is possible that covert feature-raising of non-arguments is simply not possible, so accounting for DP_2's inability to check Case covertly.

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[26] Burzio's generalization only requires a verb to assign Case if it also has a subject. One potential problem is verbs with two internal arguments and no subject. By Burzio's generalization, the verb need not have Case features, so it should be possible for both arguments to check nominative Case – one against T and the other against C. The problem is that in such verbs in Maori, one argument always seems to have a lexical Case – usually dative (see Bauer 1997: 41*ff*). The presence of a lexical Case means that only one argument will ever be available to bear structural Case, so the potential problem of having two nominative-marked DPs with such verbs will never arise.

Another tentative solution could stem from the fact that C 'undeletes' T's features. More precisely, T's features are only available for checking when T is adjoined to C. Suppose that T obligatorily reconstructs from C to its base position at LF.[27] In its Base position, T's features are not available for checking – they have been deleted by checking with DP_1. So, DP_2 has nowhere for its Case features to check. It cannot check them with T since T's features are deleted.

A similar result comes from a requirement that all deleted features must be eliminated by Spell-Out. Since T's features have been deleted they must be eliminated in spite of the 'undeleting' ability of C. Without T's features, DP_2 cannot check its Case features with T covertly.

Whatever the reason that DP_2 cannot covertly check its features, it seems significant that nominal clauses have different opportunities for Case checking than verbal clauses.

3.3 Predictions

The analysis presented in the previous section has several auxiliary consequences quite apart from accounting for Predicate-Subject order. In this section, three predictions of the analysis are shown to be supported empirically.

First to be discussed is the DP-attracting feature in C, used to attract DP_2 to [spec,CP] in nominal clauses. If such a C really exists in Maori, it should be able to appear in verbal clauses as well. Evidence that confirms this prediction is presented in §3.3.1.

Another aspect of the analysis is the obligatory raising of T to C. This is due to Case reasons: if T does not raise to C, it cannot eliminate DP_2's Case features. These Case considerations do not hold in verbal clauses, though. So T→C movement is predicted to not necessarily be obligatory in verbal clauses. Section 3.3.2 presents evidence that this is correct.

Furthermore, the analysis predicts that if DP_2's Case requirements could be satisfied lower in the CP, it should not raise to [spec,CP]. In §3.3.3, this is shown to explain why word order in negative nominal clauses is [Subject Predicate].

3.3.1 Indefinite Subject Fronting

Part of the proposed analysis of nominal sentences is that C attracts the lower DP to its specifier position by means of some DP-attracting feature. If such a C exists, it is reasonable to expect it to appear in constructions other than nominal clauses. If the DP-attracting C is merged in a verbal clause, for example, it should induce raising of a DP to [spec,CP]. This prediction is borne out in what has traditionally been called 'Indefinite Subject Fronting' (ISF), in which a non-specific DP is fronted (Chung 1978, Polinsky 1992, Bauer 1993):

[27] Such reconstruction is not implausible: (1) reconstruction mainly affects movements to A'-positions; C is arguably an A'-position and (2) movement of T to C does not seem to serve any semantic purpose (witness the many languages that do not have it). Reconstruction of T to its base position may be essential for interpretive purposes.

(55) he tangata ka haere ki te moana
D[-specific] man T went P D sea
"A man went to the ocean." Chung 1978:136

ISF can be straightforwardly explained by employing the same C as used in nominal clauses: the non-specific DP is raised to [spec,CP].[28]

The claim that it is really C that motivates ISF is supported by the fact that only non-specific DPs may front in this manner:

(56) * te tangata ka haere ki te moana
D[+specific] man T went P D sea
"A man went to the ocean."

As pointed out in §2.1.4, CP cannot house specific DPs in Maori. So, (56) – with a fronted specific DP – is ruled out by specificity restrictions.[29,30]

This solution also explains why ISF is optional. Whether ISF takes place or not depends on the choice of C in the numeration. If the C is the DP-attracting one, then ISF will take place. If not, the subject will move only as far as [spec,TP].

In conclusion, there is independent support for a C that attracts non-*wh* DPs in Maori. This means that there is nothing special about the C in nominal clauses – it is available to any type of clause in the language.

3.3.2 Optional T→C: Subject-Aux Inversion

T must obligatorily raise to C in nominal clauses otherwise it could never appear in a spec-head relation with DP_2 to eliminate its Case features. However, there is no need for obligatory T→C movement in verbal clauses since the Case features of DPs are satisfied without having to move to [spec,CP], by checking with T or *v*. So, the prediction of the analysis is that T→C could be optional in verbal clauses. That T→C movement is indeed optional in verbal clauses is shown by an optional process of Subject-Aux inversion, where the usual Maori order of [T+V Subject] is reversed to [Subject T+V], in a complementary fashion to Subject-Aux Inversion in English.

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[28] Polinsky (1992:234) proposes that this sentence is really a predicate nominal, consisting of the predicate *he tangata* "a man" while the subject is a headless relative clause: [$_{NP}$ ∅ [$_{TP}$ *ka haere ki te moana*]]. The problem with this idea is that Maori does not have headless relative clauses in any other construction (Clark 1976). Other difficulties with this idea are discussed in Appendix 3.

[29] This predicts that verbal clauses with topicalized DPs could in fact parallel equatives: the topicalized DP could first move into [spec,CP], satisfying the C's DP-attracting requirement, then move on to [spec,TopicP]. However, on the surface these sentences would look no different from ones in which the DP had moved straight to [spec,TopicP] – i.e. sentences which did not have the DP-attracting C. So, postulating a C that attracts DPs to its specifier has no undesirable side-effects, and explains ISF.

[30] A final question is why only indefinite *subjects* end up in [spec,CP] while in nominal clauses it is the lower DP that moves. The reason has to do with an independent restriction on Case: in Maori, only nominative-Case marked DPs can move to [spec,CP] or topicalize. So, direct objects – with accusative Case – cannot so move. The fact that the lower DP in nominal clauses has nominative Case means that it can move to [spec,CP]. Note that this independent restriction provides additional evidence that the lower DP does indeed have nominative Case in nominal clauses since they can end up in [spec,CP/TopicP].

In a rather bare verbal clause in Maori the order of elements is usually [Tense Verb Subject Object]. However, the subject can optionally appear before T in one situation: when something appears in CP. The following sentences illustrate this inversion of the Subject and the Tense/Verb complex:

(57) he aha koe i tāhae ai i taku kōtiro?
D what you T steal PART ACC my girl
"Why did you steal my daughter?" Bauer 1997#2860

(58) āpōpō te kurī ka ngau i a Hinemoa
tomorrow D dog T bite ACC D Hinemoa
"Tomorrow, the dog will bite Hinemoa." Pearce 1995:15a

Compare the following, where nothing appears in CP; consequently Subject-Aux Inversion is prohibited:

(59) * koe i tāhae i taku kōtiro
you T steal ACC my girl
"You stole my daughter."

(60) * te kurī ka ngau i a Hinemoa
D dog T bite ACC D Hinemoa
"The dog will bite Hinemoa."

This inversion is not limited to specific sentence types – compare the question in (57) with the declarative in (58). Also, the examples show that any type of element can trigger the inversion: the *wh* DP *he aha* in (57), and the adverb *āpōpō* in (58). The triggering element can also be anywhere within CP, structurally-speaking. That *he aha* in (57) is in [spec,CP] while *āpōpō* in (58) is adjoined to CP is shown by the fact that they can cooccur:[31]

(61) āpōpō he aha ka kite+a e te tangata?
Tomorrow D what T see+PASSIVE by D man
"What will the man see tomorrow?"

Āpōpō cannot be in a specifier in (61) since Maori allows only one specifier in CP, and *he aha* is filling this slot.

The facts can be accounted for if Subject-Aux inversion involves the following:[32,33]

[31] Subject-Aux inversion is possible in sentences with both an adverb and *wh*-word in CP. For example, (57) could begin with an adverb such as *inaianei* "yesterday".

[32] This sort of analysis was first suggested by Ken Hale (cit. in Pearce 1997:4).

[33] Note the superficial similarity to V-2 languages (den Besten 1983): T/V moves to C in Germanic, but this movement is blocked if there is already something phonologically contentful in C. The differences in Maori are that (1) T/V movement to C is *optionally* blocked if there is something contentful in CP and (2) *any* element in CP – not just something in C^0 – blocks T/V→C movement.

(62)
- T/V must move to C when there is nothing phonologically contentful in CP.
- T/V may optionally move to C when there is something contentful in CP (i.e. in [spec,CP], CP-adjoined, or head-adjoined to C).

An adequate account of this construction must explain two things:

(63) (i) Why is T/V's movement dependent on the phonological content of CP?
(ii) Why are the elements that optionally block T→C movement so syntactically varied?

The answer to (ii) provides a way to understand this construction. Movement of T to C is not blocked by the fact that something already occupies C since the elements that block movement can inhabit [spec,CP] or are adjoined to CP. In fact, since the elements that optionally block T→C movement form no coherent syntactic class, it is unlikely that the restriction is syntactic at all. Instead, I propose that a PF condition is the primary force here:

(64) Maori PF Condition: CP must contain phonologically overt material.

This condition is adopted without attempt at further explanation.[34]

The PF condition explains why failure to move T-V to C is ill-formed if there is nothing in CP. The resulting structure would have nothing phonologically contentful at all in CP: $[_{CP} \varnothing [_{TP}$ Subject $[_{T'}$ T-V …]].

Similarly, the PF condition accounts for why T/V movement is not forced when CP is filled. In the structure $[_{CP}$ X $[_{TP}$ Subject $[_{T'}$ T-V …]]], where X is a phonologically contentful element, the PF condition is satisfied so T-V movement is unnecessary.

However, the PF condition does not explain two things:

- Why does T/V movement to C happen at all?
- Why is the movement *optional* when there is something contentful in C?

It does not explain why T/V movement happens. This is because PF-conditions cannot motivate syntactic movement.[35] To motivate movement, there must be a C in Maori with a T-attracting feature.

However, if C always attracts T, why can T-V remain *in situ* when CP contains something overt? The solution is that Maori has another C: one that does not attract T. Armed with these two different Cs and the PF-condition, we can explain why T must raise to C when there is nothing in CP and why it optionally raises otherwise. 'Optionality' is simply the selection of different numerations. The table below shows

[34] Such an attempt would take us too far afield. It is possible, though, that the condition has something to do with prosodic phrasing. In Maori, every clause forms a separate Intonational Phrase (Biggs 1961, de Lacy 1998). If Intonational Phrase edges must coincide with CP edges, then the presence of a CP is forced in Maori clauses, and phonological material is required in it. Alternatively, the condition may be stated as requiring the phonological edge of a phase and its syntactic edge to be identical (see Chomsky 1999:22).

[35] I am following Chomsky (1998, 1999) in assuming that crash does not free up alternative derivations (in other words, syntactic rules/constraints are not 'global', nor is there rule look-ahead). This way, post-syntactic (i.e. PF-/lf-) conditions cannot motivate syntactic movement.

different choices of C, whether CP contains overt material (indicated as 'X'), and their resulting structure:

	Type of C	CP is filled?	Result	Comment
(a)	Tense-Attracting	Yes	$[_{CP}$ X T-V $[_{TP}$ Subject	
(b)	Not Tense-Attracting	Yes	$[_{CP}$ X $[_{TP}$ Subject T V	
(c)	Tense-Attracting	No	$[_{CP}$ T-V $[_{TP}$ Subject	
(d)	Not Tense-Attracting	No	* $[_{CP}$ $[_{TP}$Subject T V	*Violates PF Condition!*

As indicated, there is no really optional movement when CP is filled. When T moves, this is due to the fact that the T-attracting C has been merged; when T remains *in situ*, this indicates that the non-T-attracting C has been merged. The merger of the non-T-attracting C without something contentful filling CP is fatal. Without C to attract T, nothing contentful ends up in CP, violating the PF condition.

In short, in Maori verbal clauses V moves to T and the Subject moves to [spec,TP]. Whether T then moves to C is dependent on the choice of C.

Given this choice of C in Maori and the consequent optionality of T→C movement, it is evident that nominal clauses are anomalous in only ever having the T-attracting C. The present proposal explains this anomaly straightforwardly: without the T-attracting C in nominal clauses, T would never appear in a checking relation with DP_2 and the derivation would crash.

3.3.3 Case Motivating Movement: Negative Nominal Clauses

According to the present theory, Case plays a major role in determining the surface position of DP_2 in nominal clauses. A prediction of this approach is that if DP_2's Case could be checked by some element lower than T, it would never move to such heights at all.

Confirmation of this prediction comes from negative nominal sentences. Example (65) is a negative nominal sentence; it is the negative counterpart of both the predicate nominal (66) and the equative (67):

(65) ēhara a Hone i te māhita
is_not D John ACC D teacher
"John is not a teacher."

(66) he māhita a Hone
D teacher D John
"John is a teacher."

(67) ko te māhita a Hone
TOPIC D teacher D John
"John is the teacher."

The positive and negative versions have many surface differences:

- There is no overt copula in the positive version, while the negative version has the overt negative copula *ēhara*.
- The negative has overt tense marking: Hohepa (1969) points out that *ēhara* is composed of *e* {Tense marker} and the verb *hara*.[36]
- The predicate has nominative Case in the positive clause and accusative in the negative.[37]
- The predicate is a non-specific DP in the positive predicate nominal, but specific in the negative version.

All the differences between positive and negative nominal sentences can be explained as ultimately due to the Case-checking opportunities the different clause types provide. To do this, the syntactic properties of *ēhara* must first be investigated.

Unlike English, Maori does not have a negative particle/adverb. So, negating a sentence is not a simple matter of adding a negative particle onto a positive form. Instead, as Hōhepa (1969) argued, negatives in Maori are syntactically like full verbs. There are also several different kinds of negators. For example, the negative *kāhore* negates verbal clauses, *ēhara* negates nominal clauses, and *kaua* negates imperatives. The status of these as verbs can be seen in the negation of a verbal clause by *kāhore*. This form consists of the fused tense marker *ka* and the verb *hore*, and takes a CP complement:

(68) kāhore anō ngā tāngata kia tae mai
T+NEG yet D people T arrive here
"The people have not yet arrived."

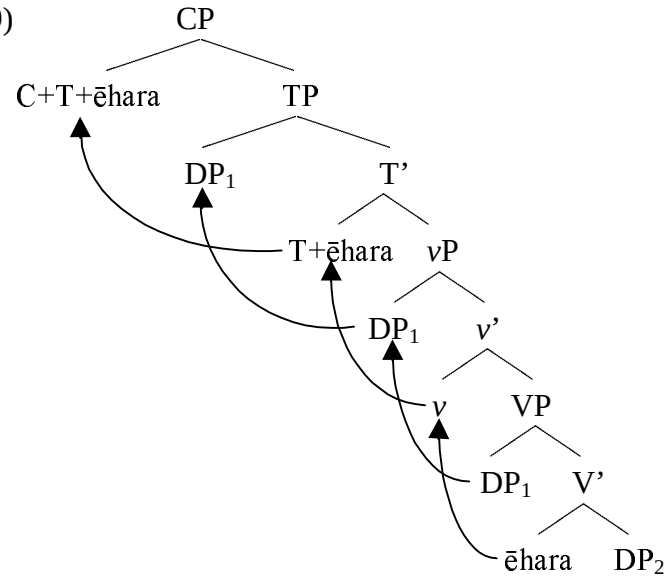
Example (67) shows that the negative *kāhore* is syntactically like a full verb: it can be followed by adverbs (e.g. *anō*) and can induce subject-raising (Bauer 1997:466).

These observations about *kāhore* shed light on the nature of the negator for nominal sentences – *ēhara*. Like *kāhore*, *ēhara* has verbal properties. Unlike *kāhore*, though, *ēhara* does not take a CP/TP complement, but is instead like a transitive verb, taking the subject and predicate as its 'arguments':

[36] *e* is a 'relative' tense marker: its temporal reference derives from context (Bauer 1997). There is evidence that *ēhara* may be a separate lexical entry from *e* and *hara*, though, since its meaning is not compositionally related to *e+hara* (*hara* means 'to violate a sacred principle' – Williams 1970:36).

[37] The *i* marker must mark accusative Case. The only other option is that *i* is the homophonous preposition meaning "at" (e.g. *i te whare* = "at the house"). This would means that the negative counterpart of a positive nominal clause is actually a prepositional predicate: [*ēhara* Subject PP-Predicate]. This is impossible, however: 'real' PP predicates are not negated with *ēhara*, but with the negative morpheme *kāhore*: *kāhore i te whare a Hone* = NEG P D house D John = "John is not at the house." So, if the *i* in negative nominal sentences was really a P, the negative morpheme should be *kāhore*, not *ēhara*.

(69)



Since DP_2 receives accusative Case, it most probably originates in the complement of *ēhara*'s projection, paralleling the structure of a transitive verb.

The fact that DP_2 checks accusative Case accounts for all the differences between positive and negative nominal clauses. Since DP_2 checks Case against *v*, there is no motivation for it to raise to [spec,CP].[38] So, DP_2 stays low in the clause, explaining why the order [Subject Predicate] results. The fact that it stays low also explains the fact that the predicate is marked as a specific DP. In transitive verb clauses, objects cannot be non-specific (Chung, Mason, & Milroy 1995). Hence, the predicate must be specific because of its position in the clause.

The differences between positive and negative nominal clauses are significant – they eliminate several alternative explanations for nominal predicate movement in Maori. If movement was due to some 'predicate-attracting' feature in C, the predicate should always raise to [spec,CP], producing the order [Predicate NEG Subject]. The fact that it does not in negatives is a significant problem for this idea and lend credence to the Case-based approach.

3.4 DP Predicates Have Abstract Case

The most controversial aspect of the present proposal is that DP predicates bear Case features (see Carnie 1995 and references cited therein). From cross-linguistic evidence, it is undeniable that predicates can bear case morphology (see the Mojave examples in §2.2.2). Even within Maori this is clear: the predicate in negative clauses is overtly marked with accusative case.

The argument that overt case morphology reflects abstract Case was made in the preceding section. The only differences between DP predicates in positive and negative

[38] DP_2 can check its accusative Case features against *v* at any point in the derivation, even perhaps covertly. With DP_2's features eliminated by *v*, C's DP-attracting features would not influence it. If they influenced any DP, they would have to attract the nominative Case-marked DP_1 (see §3.3.1). Alternatively, if DP_2 was merged with nominative Case, the derivation would crash as there would no DP to eliminate the *v*'s accusative Case features.

nominal clauses are (1) their case marking and (2) their movement, suggesting that there is a relation between the two. However, since movement is motivated by abstract features, not morphological features, the predicate's case marking must reflect some abstract feature – i.e. abstract Case.

The argument that DP predicates have Case features is not quite complete, though. It may be possible that the different case morphology in positive and negative nominal clauses is incidental, and some other abstract feature is responsible for predicate-movement. Accordingly, two alternatives will be entertained in this section: the idea that verbal features motivate movement is addressed in section 3.4.1, and ϕ-features are discussed in section 3.4.2. The implications of the proposal that DP predicates have Case are discussed in section 3.4.3.

3.4.1 Verbal Features

Instead of invoking Case features on the DP, it could be claimed that DP_2 has Tense features, or some other feature usually found in verbs (Carnie 1995:144, Massam 1998). This idea seems to have some appealing results: the predicate must check its Tense features against T by appearing in a spec-head relation with it. Since DP_1 already occupies [spec,TP], the only convergent derivation will be one in which DP_2 appears in [spec,CP] and T moves to C. Such movements accord with the movement established in section 2.

However, there are two problems with this approach; one is specific to Maori, and the other is more general. The Maori-specific problem is found in negative nominal clauses: if the predicate really has Tense features, why does it not move? A possible response to this problem is that a verb preferentially bears tense features, and a predicate DP only carries them when a verb is unavailable. This would amount to denying the existence of a verb in positive nominal clauses, though, leaving the c-selection, Case, and adverb movement facts discussed in sections 2.2.2 and 2.2.3 unexplained.

A more general problem arises with this approach. It predicts that the same features that motivate verb movement also motivate nonverbal predicate movement. Moreover, as detailed in section 4 the cross-linguistic evidence is firmly against such a correlation.

3.4.2 ϕ-Features

Suppose that DP predicates do not have Case features, but do have ϕ-features (person, number, gender). Could ϕ-features in the predicate DP be used to produce the Maori facts? The initial result seems appealing: since T's ϕ-features are uninterpretable (Chomsky 1999:2), a DP needs to check them otherwise the derivation will crash. So, if T moves to C, DP_2 will have to appear in [spec,CP] otherwise T's ϕ-features will not be eliminated.

The main problem with this approach stems from the fact that ϕ-features on DPs – unlike Case features – are interpretable. In section 3, the uninterpretability of Case features was the reason why DP_2 could not remain *in situ* – if it did, the derivation would be uninterpretable, and therefore crash. However, if DP_2 has no Case features, only ϕ-features, it will be interpretable no matter if it did or did not move. In short, without Case

features positive predicate nominals with the structure [$_{TP}$ Subject [$_{T'}$T+V Predicate]] (e.g. *a Hone he māhita*) should be possible, contrary to fact. In such a structure, T remains *in situ* and has its uninterpretable ϕ-features eliminated by checking with DP_1, and the predicate DP remains *in situ*. The structure contains no uninterpretable features at LF, so it is incorrectly predicted to converge.

3.4.3 Implications

Chomsky's (1986a) and Chomsky & Lasnik's (1995:119) formulation of the Case Filter relates Case to theta-marking:

(70) "A chain is visible for θ-marking if it contains a Case position."

This relationship effectively means that only DPs that are assigned theta roles need bear Case features.

The present proposal that DP predicates have Case features is not entirely compatible with (70). Since DP predicates do not receive a theta role, but instead assign one, there is no need for them to contain a Case position (i.e. Case features). In fact, the claim that DP predicates have Case features agrees with earlier versions of the Case Filter:

(71) *NP, where NP has a phonetic matrix but no Case.

Chomsky 1982:175

With this formulation, every DP must have Case features, whether they are predicates or arguments. In short, the proposal that DP predicates have Case features suggests that there is no link between theta-marking and Case assignment; the requirement that DPs have Case must be due to some entirely different factor, perhaps a PF one.

To summarize, invoking any features except Case on DP_2 has undesirable effects. Quite apart from the empirical evidence furnished by Maori nominal clauses, the Case-feature theory has a conceptual advantage over the alternatives. The ϕ-feature theory and verbal-feature theory must treat predicate DPs as totally unlike other DPs: Predicate DPs have features (e.g. tense) that other types of DPs do not have, and they do not have features (i.e. Case) that other DPs do have. In comparison, the Case-feature theory does not treat predicate DPs as special – they have all and only the features that argument DPs do. In short, the Case-feature theory is the null hypothesis; the burden of proof is on alternative theories to show that it is wrong.

4 Typological Implications

The analysis of nominal clauses proposed herein has a number of typological consequences. Since Case is the primary factor in motivating movement of nominal predicates, movement of other non-Case bearing predicate types (i.e. V, PP, AdjP) must be due to some other factor. This means that the order in nominal clauses should not necessarily parallel the word order in other clause-types. This prediction will be

examined in this section, followed by a discussion of the implications of the present analysis for the landing site of predicate movement cross-linguistically.

Since predicative PPs, AdjPs, and Vs do not bear or need to check Case, the motivations for their movement – if they move at all – should be different from nominal predicates. This prediction is borne out both in Maori and cross-linguistically.

In Maori, PP predicates do not end up in [spec,CP], unlike nominal predicates. This is shown by the fact that PP predicates can cooccur with *wh*-words (72) and (73) and topics (74):

(72) he aha kei roto i te kāpata rā
D what at inside P D cupboard there
"What is inside that cupboard?" Bauer 1993#22

(73) ko wai i te hui
TOP who at D meeting
"Who was at the meeting?".

(74) ko te Pirimia i te hui
TOP D Prime-Minister at D meeting
"The *Prime Minister* was at the meeting." Bauer 1993#333 (cf (33))

So, whatever the motivation for movement of the predicate PP in Maori, it is evidently different from the motivation for nominal predicates since the two types end up in different places. Not only this, but another difference between PP and DP predicates is that the former are negated with *ēhara* while the latter are negated with *kāhore*, which also negates verbal clauses.[39]

This prediction is also borne out cross-linguistically. There is no obvious correlation between nominal predicate position and word order in verbal clauses (compare Rapanui with Turkana):

(75)

	Predicate type			
Language[40]	Verbal	Nominal	Adjectival	Prepositional
Irish Gaelic	VSO	c P S	c S P	c S P
Mixtec, Alacatlatzala	VSO	S c P	P S	-
Mixtec, Peñoles	VOS	-	c P S	c S P
Rapanui	VSO	P S	S P	(S P)[41]
Turkana	VSO	S P	P S	-

Key: P = Predicate, S = Subject, c = copula, - = no data.

There are also no obvious implicational relations among different types of non-verbal clauses: in Irish Gaelic nominal predicates precede their subjects, while subjects precedes predicates in adjectival and prepositional constructions. Similar facts obtain in Rapanui.

[39] To delve into the motivations for PP predicate movement would take us too far afield. PP predicates are discussed further in Appendix 1. Also see Bauer (1997:298*ff*, 465).

[40] Affiliations and sources for the languages are as follows: Irish Gaelic (Celtic, ò Dochartaigh 1992), Alacatlatzala Mixtec (Otomanguean, Zylstra 1991), Peñoles Mixtec (Otomanguean, Daly 1973), Rapanui (Polynesian, du Feu 1996), Turkana (Nilo-Saharan, Dimmendaal 1982).

[41] The order of elements in PP predicates is not explicitly stated. Some data supports this generalization, though (du Feu 1996#625).

The mirror image to Rapanui is found in Alacatlatzala Mixtec and Turkana: while the subject precedes the nominal predicate, it follows the adjectival predicate. Peñoles Mixtec is also interesting; it shows that there is also no implicational relationship between the order of elements in PP and AdjP predicates: the subject precedes a prepositional predicate, but follows an adjectival one.

The lack of any implicational relationship between order in nominal predicates and other predicates is entirely expected under the assumption that Case is the significant factor in motivating nonverbal predicate movement. Since Case is something that Vs, AdjPs and PPs do not need to check, Case cannot figure in their movement. Of course, this says nothing about why predicative and adjectival predicates should move. Whatever the reason, though, it is not the same as the motivation for nominal predicate movement.

My proposal is that both DPs in a predicate nominal construction need Case. Athough I take this requirement to be universal, this does not imply that every language will deal with DP_2's Case requirements in the same way. Some languages may allow covert raising of Case features at LF (Chomsky 1995:272*ff*, §3.2), allowing the predicate to remain *in situ*, so producing Subject-Predicate order. Another option is 'Case agreement'. A number of languages require the Case of their subjects and predicates to be the same. This can be seen in Modern Icelandic (Andrews 1990:189-190) (for further examples, see Comrie 1997):

(76) Strákarnir voru kitlaðir
the.boys.NOM were tickled.NOM
"The boys were tickled."

(77) Ég tel strákana hafa verið kitlaða
I believe the.boys.ACC to.have been tickled.ACC
"I believe the boys to have been tickled"

The descriptive generalization here is that the predicate must bear the same Case as the subject's: when the subject is marked with nominative Case, the predicate is also nominative; when the subject is accusative, so is the predicate. Case agreement may offer a distinct mechanism for eliminating Case features, so eliminating the need for movement to satisfy Case requirements.[42]

In conclusion, the analysis presented herein does not necessitate the overt movement of every nonverbal predicate in every language, nor does it require that every predicate that precedes its subject occupy [spec,CP]; it could occupy a higher specifier in TP, or another A'-position above T. However, the potential motivations for movement of elements in nominal clauses, I suggest, are less varied. In all cases, featural requirements of the DPs must be met, and since they have Case features, Case will at least have some influence in determining the surface order of such constructions.

[42] On the other hand, Case Agreement may be a confirmation of the idea advanced in this paper – that both DPs check Case with the same head. I will remain agnostic on this issue at the moment, pending further research into the phenomenon.

5 Conclusions

The more general aim of this paper is a reductionist one: to eliminate differences between predicate nominals/equatives and verbal clauses. Despite the fact that Maori nominal clauses are quite unlike verbal ones on the surface in having obligatory A'-movement, the two clause types parallel each other in every essential way; both contain the following elements:

- A Tense morpheme.
- A Verb.
- DPs with a full complement of features (Case, ϕ).

Where the two clause types diverge is on their opportunities for Case-assignment. While there is always a 1:1 ratio between Case assigners and DP arguments in verbal clauses, the same functional head must check both the subject's and predicate's Case in nominal clauses. The difficulties of creating the right configuration to eliminate Case features is why nominal clauses have such different surface properties from verbal ones.

If languages are in any way uniform in their treatment of nominal predicates, both A'-movement and Case properties are predicted to play a major role in determining [Predicate Subject] order in nominal clauses. If this type of analysis can be extended to other languages, another alleged imperfection in language – the disparity between nominal and verbal clauses – is really only skin-deep.

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Abbreviations

∅	Phonologically contentless morpheme
ACC	Accusative Case (marked by *i*)
C	Complementizer
D	Determiner
NOM	Nominative Case (marked by ∅)
O	Object
P	Preposition
S	Subject
Spec	Specifier of XP
T	Tense
v	"light verb" whose projection houses the external argument
XP	phrase

Determiners:
a = for proper names.
te = specific singular determiner
ngā = specifier plural determiner
he = nonspecific determiner (singular and plural)

Appendix 1: Prepositional Predicates in Maori

PP predicates in Maori are quite different from their nominal counterpart:

- They do not move as high as [spec,CP] or [spec,TopicP], as shown by the fact that they can cooccur with *wh*-words and topics:

(78) he aha kei roto i te kāpata rā
D what at inside P D cupboard there
"What is inside that cupboard?" Bauer 1993#22

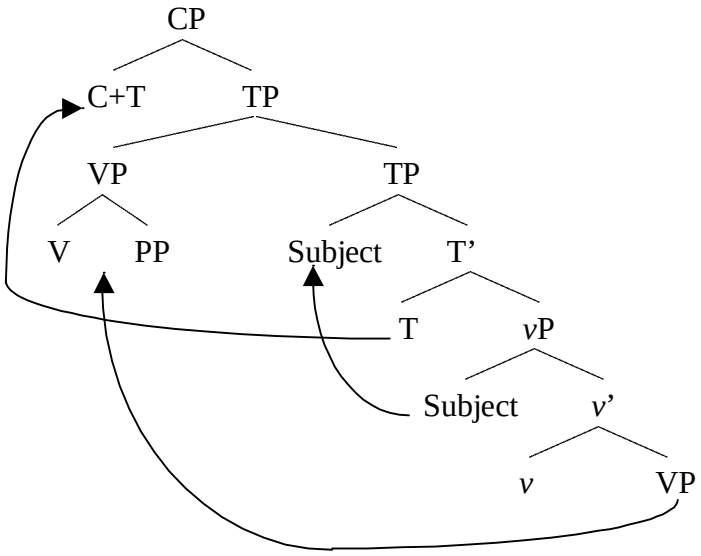
(79) ko te Pirimia i te hui
TOP D PM at D meeting
"The *Prime Minister* was at the meeting." Bauer 1993#333

- PP predicates have overt tense marking, expressed as morphology realized on the preposition: *i* = *at* + past tense, *kei* = *at* + present tense, *hei* = *at* + future tense.
- PP predicates are negated with the verbal negator *kāhore*, not the nominal predicate negator *ēhara*.

As argued above, DP predicates move for Case reasons, but PP predicates do not, so what is the nature of their movement in these constructions?

I propose that this movement is actually VP-movement to adjoin to TP:

(80)



I suggest that the motivation for this movement is due entirely to morphological/phonological considerations. Unlike nominal clauses, PP predicate clauses have phonologically contentful tense morphology. The tense morphology evidently can appear affixed to a preposition, but probably not to a D. So, if the PP did not raise, the tense affixes would have nothing to attach to, and the structure would crash at PF. In short, this idea is somewhat like English Affix-hopping: *-ing* and *-en* move otherwise they would cause problems at PF.

There must be an independent process in Maori that attracts a VP to adjoin to TP because the PF condition on tense realization cannot directly motivate syntactic

movement due to issues of rule 'look-ahead' (Chomsky 1995 *et seq*.). Evidence for this movement comes from so-called 'object incorporation' (Bauer 1997):

(81) mehemea e hiahia āwhina ana koe
if T desire help PROG you
"If you desire help" = *lit*. "If you help-desire" Bauer (1997#2087)

(82) ka rapu tikanga māna e nā ai te mate o tana ngākau aroha ki te kōtiro rā
T seek plan for.him T satisfy PART D lack of his heart love P D girl there
"He sought a plan for himself that would satisfy the love-longing of his heart."

Example (81) is like English object-incorporation, where a bare object N has attached to the verb. However, example (82) shows that the Maori process is quite different. The 'incorporated' part is an entire NP. Following Massam (1999), I suggest that the whole VP – containing both the V and its object NP – has raised above the subject in this construction. This parallels the situation in PP predicates.

In summary, the raising of PP predicates can be seen as due to VP-raising, however that comes about. PP predicates can not remain *in situ* because the overt Tense morphology in such constructions would be unable to attach to anything, causing a PF violation.

Appendix 2: On *he* as a Tense Marker

One idea that has been popular in the Polynesian syntax literature is that the *he* in predicate nominals is a tense marker, and not the nonspecific determiner *he* (Reedy 1979:43-47, Bauer 1993:78, Waite 1994). This is different from the view in this paper that the *he* in predicate nominals is really a determiner, and there is no overt tense marking in such clauses.

- *Reasons for the* he-*as-Determiner View*

The word *he* is certainly a determiner in at least one of its manifestations, as shown by the fact that it never cooccurs with other determiners (e.g. *te/ngā*) and can head argument DPs:

(83) ka eke mai **he iwi kē**
T invade DIR D people different
"A different people invaded." Clark 1997#5

Is there a homophonous tense marker *he*? One problem with this idea is that the putative tense marker *he* only appears in predicate nominals; it cannot mark tense in verbal clauses:

(84) * he eke mai **he iwi kē**
T invade DIR D people different
"A different people invaded."

Another extremely suspicious fact is that the putative tense marker *he* is in complementary distribution with the determiner *he*. Note that in predicate nominals, if *he* is a tense marker then the predicate must be a bare NP with no determiner heading it: **he he māhita ia*, **he te māhita ia*.

Another problem for the *he*-as-T idea is that it is very rare for nominal predicates to be bare NPs. In other Polynesian languages, they are unambiguously DPs (e.g. Niuean – Seiter 1980, Pukapukan – Salisbury 1993).

Another issue this raises is the position of the putative tense marker *he*. If *he* is truly a tense marker, then it should end up in C. However, since the NP predicate appears in [spec,CP], the predicted order should be the unattested [$_{CP}$ *māhita* [$_{C'}$ *he* [$_{TP}$ *a Hone* …]]].

- *Reasons for the* he-*as-Tense-morpheme View*

Most of the evidence against the *he*-as-D approach domes from a number of apparently anomalous facts about predicate nominals:

(1) Adjectival Predicates

Adjectival predicates have the structure [*he* Adjective Subject]:

(85) he nui te tama
he big D boy
"The boy is big."

There is no overt noun in the predicate *he nui* in (85). This seems to be evidence that there is really no NP here, but rather the tense marker *he* and a bare adjective.

However, this presents no real objection to the idea that *he* is a determiner. DPs that consist of a determiner with a bare adjective are allowed in Maori: *te ātāhua* = lit. the beautiful = "The beautiful one.", *te o Hone* = lit. the of John = *John's one*. These DPs shows that Maori simply has a phonologically contentless noun meaning "one". The predicate in (85), then, is really [$_{DP}$ he [$_{NP}$ ∅ [$_{AdjP}$ nui]]] (also see Clark 1997).

An objection against this conclusion is that it means there are no bare predicate AdjPs in Maori. This objection has no substance, though: as pointed out in §2.2.2, though, bans on certain types of predicate in a language are quite common.

(2) The Phantom Tense Marker
Q: If *he* is a determiner, then why is there no tense marker in predicate nominals?
A: The problem with this question is that it assumes that tense marking must always be overt. It is not: there are many languages without overt tense marking in predicate nominals, and even in verbal clauses. See Déchaine (1993) for examples. Even in Maori, tense is not marked in equatives.

(3) *Tino*
Q: If *he* is a determiner, why does it not appear when an adjectival predicate is modified with *tino* 'very'?

(86) (*/?he) tino pōrangi ia[43]
very crazy he
"He's very crazy."

It is possible that there is an independent morphological restriction against the sequence *he tino*. This sequence would only ever show up in this type of predicate as *he* is usually separated from an AdjP by a noun: [*he* N AdjP].

Alternatively, the degree adverb *tino* may be occupying the determiner position in this DP. Evidence that degree adverbs and Ds have some affinity is given in Abney (1987).

In any case, the fact that *he* does not cooccur with *tino* is hardly a problem with the *he*-as-D view. It is equally problematic – perhaps more so – for the *he*-as-T approach.

(4) *Nominalizations*

Nominalized verbs or adjectives are marked with the suffix *-Canga* in Maori: *te hanga-tanga* = lit. the build-NOM = "the building." However, in predicate nominals, nominalized verbs can never appear; bare Adjs/Vs appear instead (Reedy 1979):

(87) He hanga(*tanga) i te whare te mahi a Horo
he build$_V$(*-NOM) ACC DET house DET work GEN Horo
"Horo's job is to build houses."

[43] According to my informant, both *tino koretake ia* and *he tino koretake ia* are acceptable. For Bauer's (1993, 1997) informants, [he tino …] is ungrammatical.

(88) He whero(*tanga) taku konohi.
he red (*NOM) my face
"My face is red." Reedy 1979:44

Q: If *he* really heads a DP, why does this DP never allow a nominalized verb as its noun head? Doesn't the appearance of a bare V/Adj in these constructions suggest that this structure is really [$_{TP}$ *he* [$_{AdjP/VP}$ Adj/V…]]?

A: As argued above, I suggest that the structure of the predicate in (87) and (88) is really [$_{DP}$ *he* [$_{NP}$ ∅ [$_{AdjP/VP}$ …]]]. Evidence for this idea comes from the fact that there are identical DPs with an overt noun:

(89) te tangata horoi i te motokā
D man clean$_{V}$ ACC D car
"The man who cleans my car."

(90) he tangata tiaki i te whare
D man care$_{V}$ ACC D house
"A person to look after the house." Bauer 1993#59

This structure also explains why the V and Adj cannot be nominalized; in the structure [$_{DP}$ *he* [$_{NP}$ N [$_{AdjP/VP}$ Adj/V]]], the Adjective and V cannot be nominalized anyway:

(89') * te tangata horoi-tanga i te motokaa

(90') * he tangata tiaki-tanga i te whare

This leaves the question of why nominalized Vs and Adjs cannot appear as the N-head in a predicate DP: *[$_{DP}$ *he* [$_{NP}$ V/Adj+NOM]].

The reason may be due to specificity. According to Ross Clark (p.c.), nominalizations in Maori always refer to *specific* actions. Since the predicate in predicate nominals must be non-specific, nominalized forms could not appear.

- hei *and the Future*

Perhaps the biggest problem with the idea that *he* is a determiner comes from the future form of predicate nominals. As mentioned in §2.2.1, predicate nominals must take on a special form when referring to the future tense. The future counterpart of *he māhita a Hone* is given below:

(91) hei māhita a Hone
hei teacher D John
"John will be a teacher."

What is *hei*? Here, it seems to clearly be a tense marker, marking future tense.

But if *hei* is a tense marker and the *he* in predicate nominals is a determiner, then why is the sentence not **hei he māhita a Hone*? The idea that *he* is a tense marker – marking past and present tense – explains its complementary distribution with *hei*.

Despite this seemingly strong evidence that *he* is a tense marker, I suggest that it is not. Instead, the *hei* above is not a tense marker, but a preposition that marks future tense.

There is ample support for this idea. As pointed out in Appendix 1, prepositions in Maori PP predicates overtly mark tense: *kei* is ["at"+present tense] and *i* is ["at"+past tense]. For future tense, the preposition used is *hei*. In fact, (91) is ambiguous with the PP predicate clause "John will be at the teacher." Compare the following unambiguously prepositional predicate:

(92) hei roto i te whare a Hone
hei side P D house D John
"John will be inside the house."

Other evidence that the *hei* in future predicate nominals is a preposition comes from negation. There are two main negators in Maori: *ēhara* negates predicate nominals and equatives, and *kāhore* negates verbs and prepositional predicates. The fact that *kāhore* negates PP predicates is shown below:

(93) kāhore ia i te kura
NEG he P+past D school
"He was not at school." Bauer 1997#3022a

Tellingly, the *hei* in future predicate nominals is negated with *kāhore*, not *ēhara* (Bauer 1997:466).

Further evidence comes from diachronic facts: Proto-Polynesian had non-verbal sentences with overt tense and a PP predicate. The future tense marker **he* combined with the locative preposition *i* to form *hei*. So, diachronically *hei* comes from a tensed preposition.

In summary, because bare predicate nominals cannot refer to the future tense in Maori, the speakers resort to using a PP predicate instead.[44]

If *hei* is a preposition, there are still several unanswered questions, though. Specifically, if *he* is a determiner, why does it not appear after *hei*: [*hei he māhita*]? The answer comes from an entirely independent restriction: Maori does not allow *he* to appear after prepositions (Maunsell 1882:106, Clark 1997:2, Chung, Mason, and Milroy 1995:432).

However, this prohibition raises another question. With other prepositions (e.g. *kei, i*), it is not the case that *he* is not realized: instead, the nonspecific determiner appears: i.e. **kei he māhita, *kei māhita, ✓kei te māhita*. This contrasts with the future PP: **hei he māhita, ✓hei māhita*. So, why is a bare NP allowed after *hei*, but not after any other preposition?

The answer comes down to different morphological processes. There is a PF condition against a preposition followed by *he*. If the morphology is supplied with such a sequence, it has two choices: either merge *he* with the preposition, or ban the construction outright. Merging *he* with the preposition is called morphological

[44] The use of a PP instead of a bare DP to express a predicate nominal may also be used in Welsh predicate nominals (Thomas 1992:277)

haplology (Stemberger 1981, de Lacy 1998). Morphological haplology only takes place between two near-identical morphemes. An example is found with the English plural and possessive. The plural of *cat* is [kæts]. The possessive of *cat* is also [kæts]. But the possessive plural of *cat* is not the expected [kætsəs], but rather [kæts], just like the singular possessive and non-possessive plural. In the possessive plural, the phonological identical plural and possessive morphemes have merged.

The same process happens to *hei+he*. Since *hei* contains *he*, phonologically speaking, haplology is permissible. Obviously, prepositions such as *kei* could not merge with *he* without losing some of *he*'s or *kei*'s phonological material, so haplology is blocked, and the morphology has no choice but to ban *kei he* outright.

In summary, *he* does appear in PP predicates such as *hei māhita*; *he* has just been merged with *hei* in these constructions.

In summary, there is no good evidence that the *he* in predicate nominals is not a determiner, nor is there any evidence for *he* as a tense marker that can withstand close scrutiny.

Appendix 3: More on ISFs

As discussed in §3.3.1, there is a process called 'Indefinite Subject Fronting' which involves the fronting of a non-specific DP:

(94) he tangata ka haere ki te moana
D$^{\text{-specific}}$ man T went P D sea
"A man went to the ocean." Chung 1978:136

The analysis proposed in §3.3.1 was that *he tangata* moves to [spec,CP]. This appendix deals with an alternative proposed by Polinsky (1992:234) – that such constructions are really predicate nominals.

Polinsky (1992:234) suggests that (94) is really a predicate nominal: it consists of the predicate *he tangata* "a man", while the subject is a headless relative clause: [$_{\text{NP}}$ ∅ [$_{\text{TP}}$ *ka haere ki te moana*]]. Literally, then, the sentence translates as: "The one who went to the ocean was a man."

There are several problems with this proposal. The first is that Maori does not allow headless relative clauses elsewhere:

(95) * i tuhituhi [∅ i kite i te tāhae] i te reta
T write one T see T D thief ACC D letter
"The one who saw the thief wrote the letter."

The second reason against this idea has to do with tense. Maori does not allow its predicate nominals to have future time reference. Instead, it employs a prepositional predicate headed by *hei*. If the sentence in (94) is really a nonverbal predicate construction, then the following sentence is incorrectly predicted to be grammatical:

(96) * hei tangata ka haere ki te moana
P man T went P D sea
"The one who went to the ocean will be a man." Chung 1978:136

The third reason is semantic. By the proposed interpretation of these sentences, the referent of the subject is specific – the speaker has a certain person in mind who went to the ocean. The speaker is identifying that certain person as a man. However, this claim is incorrect. In these sentences, the speaker has no specific person in mind; they are best translated as "Some man went to the ocean."

In short, ISF cannot be analyzed as a predicate nominal. This leaves only one option: ISF constructions are verbal predicates, but with the non-specific subject moved to [spec,CP]: [$_{\text{CP}}$ he tangata$_1$ [$_{\text{C'}}$ ka haere [$_{\text{TP}}$ … ki te moana]]].

Appendix 4: Clefts and PseudoClefts: Equatives

As noted in §2.1.2, sentences consisting of two *ko*-marked DPs are ungrammatical:

(97) * ko tēnei ko te rōia
TOP this TOP D lawyer
"*This* is the lawyer." Bauer 1991#24

This was explained as providing support that the *ko DP* in equatives occupied topic position.

However, Bauer (1993:79) points out that only some sentences of the type *ko DP ko DP* are rejected by some speakers. There are several examples of *ko DP ko DP* sentences cited in the literature (see also Pearce 1999):

(98) **ko** ā tātou tamariki o naianei **ko** ngā rangatira o te wā kei te haere mai
ko GEN our children GEN now *ko* D chief GEN D time T move here
"Our children today are the leaders of the future." Biggs 1969:79

I propose that the grammaticality of certain *ko DP ko DP* sentences does not impinge on the claim that the *ko DP* in equatives occupies topic position. Instead, I suggest that all grammatical *ko DP ko DP* sentences are actually clefts, with the form [$_{\text{TopicP}}$ ko DP$_1$ [$_{\text{CP}}$ T+V [$_{\text{TopicP}}$ ko DP$_2$ e_1]]. In other words, a sentence with the form *ko DP$_1$ ko DP$_2$* is properly translated as "It is DP$_1$ who is DP$_2$."

So, when speakers reject a *ko DP ko DP* sentence, it is because they are analysing it as constituting a single clause, with two topic positions – an illformed structure (see fn.6). When speakers accept such a sentence, it is because they are analyzing it as a cleft with only one topic position per clause.

There is a variety of evidence to support of this proposal. Biggs (1961) and de Lacy (1999) show that clause boundaries always coincide with Intonation-phrase boundaries. Intonation phrase boundaries are marked by a long pause and optional devoicing of the preceding vowel. These markers of an IP-boundary are found in grammatical *ko DP$_1$ ko DP$_2$* sentences: if a pause is left between DP$_1$ and the second *ko*, it is deemed grammatical showing that the structure is [$_{\text{TopicP}}$ ko DP [$_{\text{TopicP}}$ ko DP]]. If no pause is made, the structure is deemed ungrammatical, explained by the idea that two topics cannot appear in the same clause.

This proposal also explains another fact, noted by Bauer (1991):

(99) "However, many sentences of this type [i.e. *ko DP ko DP*], especially if they are short, are rejected by consultants."

If such sentences are short, the speaker is less likely to analyse them as containing two Intonation Phrases since Intonation Phrases typically contain a great deal of phonological material (see de Lacy 1999). But if there is only one Intonation phrase in a *ko DP ko DP* sentence, there must only be one clause, and that is an ungrammatical structure.

So, it is true that two topicalized DPs cannot appear in the same clause. The apparent counter-examples actually consist of two clauses.

Appendix 5: More About Adverbs

In §3.3.2, I argued that adverbs are heads and they adjoin to the verb. This section offers evidence for the head-adjunction of adverbs to V.

At first glance, adverbs may seem to offer evidence against V→T movement since they can intervene between V and T:

(100) kia āta tangi tātou
T gently weep we
"May we gently weep." Williams 1971:17

However, these adverbs most probably form a compound with the verb. Support for this proposal comes from the fact that these adverbs can modify nominalizations of the verb, suggesting that it is the compound that nominalizes (compare with English *He sincerely believes* cf **the sincerely belief*). The adverbs are also are a very restricted set, namely *āta* 'carefully', *mātua* 'first(ly)', *āhua* 'somewhat', and *tino* 'truly/very', and only one can appear in this position (Bauer 1997:312).

All post-verbal adverbs are claimed to be head-adjoined to the verb too. This predicts that the closer adverbs are in 'close association' with the verb, morphologically speaking.

There is evidence that supports this prediction. Slot 1 manner adverbs undergo 'passive agreement': when the verb is marked with passive morphology, this same morphology appears on the innermost adverb:[45]

(101) i pēhi +a rawa +tia ngā wāhine
T oppress+PASS intensifier+PASS the(pl) woman
"The women were severely oppressed." Bauer 1993#384

Supposing that passive agreement is indicative that the verb and adverb are in some syntactic agreement relation, this is entirely consistent with the proposal that they are head-adjoined. Like preverbal adverbs, slot 1 adverbs also can modify nominalized verbs, suggesting that the entire V+Adv complex is nominalized, not just the verb.

There is also morphological evidence for close association of the verb and directional adverbs. The imperative morpheme *e* appears before words of two moras: e.g. *e kake* "climb!". However, before words of more than two moras, its allomorph ∅ appears: e.g. *kōrero* "speak!", **e kōrero*. Directional adverbs figure in the mora count: *e.g. kake mai* "Climb here!", **e kake mai* (Bauer 1993:30). If *mai* did not form a word-like unit (e.g. a head-adjoined form), it is extremely surprising that it could condition this allomorphy. Typically, allomorphs can only be conditioned by adjacent words (Kiparsky 1982 *cf* Hayes 1990). In addition, several verbs have completely integrated directional adverbs (e.g. *homai* "to give to the speaker").

In summary, there is evidence that adverbs are in morphological close association with the verb. Such close association is explained by the idea that Adverbs and verbs are head-adjoined.

[45] Note that the passive has two different phonological forms below *–a* and *–tia*. This is the result of a productive and systematic allomorphy process (Bauer 1997:477-8, Blevins 1994).