

Māori subject extraction

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1 Introduction

This paper focuses on subject extraction in Māori, the indigenous Polynesian language of New Zealand. Māori is generally described as having accusative alignment with various traces of ergativity (Bauer 1993, 1997; though see Sinclair 1976; Pucilowski 2006 for (split-)ergative treatments) and only subjects are generally accessible for the purposes of relativisation, topicalisation, focus and questioning (Keenan & Comrie 1977; Bauer 1993, 1997). This is important as many of the languages identified by Keenan & Comrie as only being able to access subjects in fact exhibit ergative alignment, suggesting that subject-only accessibility might really be absolute-only accessibility. Māori thus shows that subject-only accessibility is a genuine phenomenon. Nonetheless, as in many other languages, Māori subjects are not equally accessible in all contexts. More specifically, subject questioning/focus is more restricted than subject topicalisation. This paper is primarily concerned with the nature of this restriction.¹

Māori has basic VSO order in verbal constructions and Predicate-Subject order in non-verbal constructions, i.e. it is predicate-initial. Non-verbal constructions can be subdivided into two types based on the category of the predicate phrase (prepositional or nominal), following standard practice in the description of Māori (Reedy 1979; Bauer 1993, 1997; de Lacy 1999) and related Polynesian languages (see e.g. Seiter 1980 on Niuean; Mosel & Hovdhaugen 1992 on Samoan; Otsuka 2005 on Tongan). I argue that, whilst subject topicalisation is generally permitted in all types of construction, subject questioning/focus is permitted in verbal and prepositional predicate constructions, but prohibited in nominal predicate constructions (see also de Lacy 1999).

In this paper I argue that de Lacy's (1999) descriptive generalisation is essentially correct and can successfully describe a wider range of Māori constructions. I combine this generalisation with Bauer's (1991, 1993, 1997) analysis which says that Māori focus/question constructions are clefts in which the questioned constituent is the matrix predicate phrase and the matrix subject phrase is a headless relative clause. I propose an intervention account based on featural Relativised Minimality (Starke 2001; Rizzi 2013) whereby the C head of this headless relative clause probes for a feature shared by both nominal arguments and nominal predicates, which I call [D]. Consequently, a nominal predicate phrase will block the creation of a headless relative clause by intervention, whilst a verbal or prepositional predicate phrase will not. The schematic structure of the CP of the headless relative clause is illustrated below:

- (1) Nominal predicate constructions
* [CP [DP SUBJECT] C_[uD] ... [DP PREDICATE] ... t_{SUBJECT} ...]
- (2) Verbal/prepositional predicate constructions
[CP [DP SUBJECT] C_[uD] ... [VP/PP PREDICATE] ... t_{SUBJECT} ...]

¹ This paper relies heavily on the detailed reference grammars by Winifred Bauer (Bauer 1993, 1997), which themselves draw from the Māori of older texts and older speakers. Bauer (1997: xx) notes that this is quite deliberate; the Māori of younger speakers is typically acquired as a second language, acquired from 'semi-speakers', and may show considerable influence from English. I leave for future research an investigation into how the Māori of younger speakers compares with the data reported here, and how the A'-syntax of English may have influenced the A'-syntax of Māori.

This analysis also accounts for why only subjects are accessible for focus/questioning: if the C of the headless relative clause probes for a [D] feature, the subject phrase will act as an intervener for the relativisation of any lower nominal.

- (3) a. [CP [DP SUBJECT] C_[uD] ... V ... t_{SUBJECT} ... [DP OBJECT] ...]
 b. * [CP [DP OBJECT] C_[uD] ... V ... [DP SUBJECT] ... t_{OBJECT} ...]

As for topicalisation, I propose that Topic probes for a feature found only on nominal arguments, which I call [K]. Consequently, no predicate phrase acts as an intervener for subject topicalisation. However, the subject phrase will still act as an intervener for the topicalisation of any lower nominal argument, thus accounting for why only subjects are accessible for topicalisation.

I am thus proposing that C and Topic in Māori probe for [D] and [K] features respectively, features more often associated with purely nominal syntax, rather than [REL] and [TOP] features more familiar from analyses of European languages. The choice of feature in triggering A'-movement defines in large part the *extraction profile* of a given language, i.e. the set of elements that is accessible to A'-movement and that intervenes with A'-movement. I discuss this in greater detail in Section 7.

The structure of the paper is as follows: in Section 2, I lay out my assumptions concerning Māori clause structure in neutral declaratives. In Section 3, I describe verbal predicate constructions and introduce the strategies used to question subjects and predicates and to topicalise subjects. In Section 4, I describe the various non-verbal predicate constructions in Māori, considering whether it is possible to question the subject, question the predicate phrase, and topicalise the subject. I also consider the syntactic category of the predicate phrase, i.e. whether it is prepositional or nominal. In Section 5, I discuss how the Actor Emphatic construction, which has received a lot of attention in the Māori and Polynesian literature, fits into the proposed generalisation. In Section 6, I consider two types of analysis that have been proposed in the literature to capture the subject extraction facts, which I will refer to as the complementary distribution analysis and the cleft analysis, ultimately adopting the cleft analysis. I propose that intervention plays a central role, and discuss and develop a formal analysis. In Section 7, I discuss the conceptual underpinnings of the formal analysis, arguing that using nominal features to trigger A'-movement in Māori is consistent with an emergentist approach to formal features (Biberauer 2011, 2017; Wiltschko 2014; Biberauer & Roberts 2015a, b, 2017). Finally, Section 8 concludes.

2 Māori clause structure

Māori has basic VSO word order in verbal constructions and basic Predicate-Subject order in non-verbal constructions. Following much work on the syntax of Austronesian and Polynesian languages (see especially Massam 2000; Aldridge 2004; Collins 2017), I assume that the predicate phrase undergoes predicate fronting² to a position higher than the external argument, regardless of whether the predicate phrase is verbal, prepositional or nominal (I will return to

² I avoid the term *predicate inversion* since the subject extraction profile of these Māori constructions is quite different from the subject extraction profile of English predicate inversion structures. English predicate inversion structures generally do not permit any type of A'-extraction of the subject (see Moro 1997; den Dikken 2006). Furthermore, if any type of A'-extraction of the subject is permitted, it is for questioning, not for topicalisation or relativisation (see Williams 2011; Abels 2012). As we will see, Māori is essentially the opposite.

the derivation of VSO order shortly).³ This is schematised in (4) (the heads T, F and R are explained below).

$$(4) \quad [{}_{TP} T [{}_{FP} [{}_{XP} \text{PREDICATE}] F [{}_{RP} [{}_{DP} \text{SUBJECT}] [{}_{R'} R \text{ t}_{XP}]]]] \quad (\text{where } X = D/V/P)$$

Tense-Aspect-Mood markers are merged in T. They potentially raise to a C-domain position (see Massam 2010 on Niuean; Collins 2017 on Samoan), but as this is unimportant for the present paper, I ignore it here. R stands for Relator, i.e. whichever head mediates the predication relation between the subject (in its specifier) and the predicate (in its complement) (den Dikken 2006; see also Bowers 1993). The predicate, which I have labelled XP in (4), can be one of three categories: VP, PP or DP, yielding verbal, prepositional or nominal predicate constructions respectively. For example, in verbal predicate constructions, the predicate would be a VP and R would be a *v* head (I remain agnostic concerning the exact category of R in non-verbal predicate constructions). Following Collins (2017), F is a functional head between the subject and T, and bears a [PRED] feature which triggers predicate fronting to SpecFP (see Massam 2000, 2010; Aldridge 2004, 2006 for different implementations of the same basic idea). Assuming that the DP subject remains low in SpecRP, this straightforwardly captures the basic predicate-initial order of all Māori constructions.⁴

Further following the work of Massam (2000), Aldridge (2004) and Collins (2017), I assume that Māori's basic VSO order is derived by extracting the object from the VP to a position below the subject prior to (remnant) VP predicate fronting. Assuming that subjects do not move, this position would be a Spec_vP or adjoined position lower than that occupied by the subject (see Collins 2017).

$$(5) \quad \begin{array}{l} \text{a.} \quad \text{Step 1: Object extraction} \\ \quad [{}_{vP} [{}_{DP} \text{SUBJECT}] [{}_{v'} [{}_{DP} \text{OBJECT}] [{}_{v'} v [{}_{VP} V \text{ t}_{\text{object}}]]]] \\ \text{b.} \quad \text{Step 2: Predicate fronting} \\ \quad [{}_{FP} [{}_{VP} V \text{ t}_{\text{object}}] [{}_{F'} F [{}_{vP} [{}_{DP} \text{SUBJECT}] [{}_{v'} [{}_{DP} \text{OBJECT}] [{}_{v'} v \text{ t}_{VP}]]]]]] \end{array}$$

Something analogous may also be observed with complex non-verbal predicate constructions, i.e. the complement of the head of the non-verbal predicate may appear following the subject. Such splitting is not generally obligatory though it is preferred in many cases (see Bauer 1997: 31, 33, 63–64). This is illustrated for equational (EQ), classifying-*he* (CLS-*he*), prepositional possessive (P-POSS) and locational (LOC) constructions (I describe these and other constructions in detail in Section 4). In the following examples, the subject phrase is bracketed and the (discontinuous) predicate phrase is in bold.⁵

³ For verbal predicate constructions, this may be controversial. Some authors derive verb-initial order via V-raising (Waite 1990, 1994; Pearce & Waite 1997; de Lacy 1999; Pearce 2002) whilst others do so via VP-raising (Bauer 1993; Herd 2003). Nothing about my analysis hinges on this as far as verbal predicate constructions are concerned, though I adopt a VP-raising analysis in this paper (see below).

⁴ Nominal predicates may move on to a higher position as suggested by a range of empirical differences between nominal and non-nominal predicate constructions (see de Lacy 1999). Similar differences, as well as differences between locative and possessive prepositional predicate phrases, can also be found in other Polynesian languages such as Samoan (Mosel & Hovdhaugen 1992; Collins 2017) and Tongan (Otsuka 2006). I leave the investigation of such differences for future research.

⁵ The examples in this paper are drawn from a range of sources, some with their own glossing conventions. I have regularised these for convenience based primarily on the glosses in Bauer (1997) (see the list of abbreviations).

- (6) EQ construction (Bauer 1997: 63, ex (446))
Ko te kōha [tēnei] **a Wairangi ki tana wahine.**
 EQ the gift this of Wairangi to his woman
 ‘This was Wairangi’s gift to his wife.’
- (7) CLS-*he* construction (Bauer 1997: 63, ex (448))
He pahi [tēnei] **nō te kura.**
 CLS bus this belong the school
 ‘This is [a] bus belonging to the school.’
- (8) P-POSS construction (Bauer 1997: 33)
Nō te marae [tēnei] **o Te Herenga Waka.**
 belong the marae this of Te Herenga Waka
 ‘This belongs to the Te Herenga Waka marae.’
- (9) LOC construction (Bauer 1997: 31)
- a. **I raro** [tō pukapuka] **i te tēpu.**
 at(PT) under your book at the table
 ‘Your book was under the table.’
- b. **Kei te marae** [ia] **o Te Herenga Waka.**
 at(PRES) the marae 3SG of Te Herenga Waka
 ‘He is at Te Herenga Waka marae.’

I assume that the complement of the head of the predicate phrase moves out of the predicate phrase to a position below the subject prior to predicate fronting, analogous to the derivation of VSO. This is schematically illustrated for (7) in (10).

- (10) **He pahi** [tēnei] **nō te kura.**
 CLS bus this belong the school
 ‘This is [a] bus belonging to the school.’
- a. Step 1: PP extraction from within predicate phrase XP
 [RP [DP tēnei] [R' [PP **nō te kura**] [R' R [XP he pahi **tp**]]]]
- b. Step 2: Predicate fronting
 [FP [XP **he pahi tp**] [F' F [RP [DP tēnei] [R' [PP **nō te kura**] [R' R **tp**]]]]]]

3 Verbal predicate constructions

In this section, I describe the verbal predicate construction and introduce the strategies for subject questioning, predicate questioning and subject topicalisation.

3.1 Verbal predicate constructions

Verbal predicate constructions contain a Tense-Aspect-Mood (TAM) marker and a verbal predicate. The subject typically follows the verb. Some examples are given below. Throughout this paper I will place the predicate (phrase) in bold and the subject in brackets (though I will only bold the verb head in verbal predicate constructions) unless stated otherwise. This is intended to aid the descriptions in Sections 3, 4 and 5.

(11) (Adapted from Bauer 1993: 7, ex (29))
 Kua **hoki** [a Hone] ki te kaainga.
 TAM return PERS Hone to the home
 ‘John has gone home.’

(12) (Adapted from Chung 1978: 136, ex (78))
 Ka **haere** [he tangata] ki te moana.
 TAM go a person to the ocean
 ‘A man went to the ocean.’

(11) has a definite subject, here a proper name. Proper names are generally preceded by a personal particle (glossed as PERS) unless they are preceded by the particle *ko* (see below). (12) has an indefinite subject, here introduced by *he*.

An optional rule called Indefinite Subject Fronting may move an indefinite subject to a position preceding the TAM marker, as in (13).

(13) (Chung 1978: 136, ex (78))
 [He tangata] ka **haere** ki te moana.
 a person TAM go to the ocean
 ‘A man went to the ocean.’

Indefinite Subject Fronting may be used to question the subject (see below).

3.2 Subject questioning

Subject questioning/focus in intransitive verbal constructions may be achieved by *ko*-fronting⁶ (for definite subjects) or Indefinite Subject Fronting (for indefinite subjects), as in (14) and (15) respectively. It is apparently ungrammatical for Indefinite Subject Fronting to be used with *wai* ‘who’ (Winifred Bauer, p.c.).

- (14) a. (Bauer 1993: 7, ex (29))
 [Ko wai] kua **hoki** ki te kaainga?
 KO Q TAM return to the home
 ‘Who has gone home?’
- b. (Winifred Bauer p.c.)
 [Ko te aha] kua **mahue** i te tamaiti?⁷
 KO the Q TAM leave.behind CAUSE the child
 ‘What has the child left behind?’

⁶ A note on the glossing of the particle *ko*: *ko* has several different functions, including introducing foci, topics and equational predicate phrases. The glossing of *ko* is quite variable in the literature so, for concreteness and consistency, I use the following glosses, modifying cited glosses where necessary:

- (i) KO when *ko* introduces a focus or interrogative element.
- (ii) TOP when *ko* introduces a topic.
- (iii) EQ when *ko* introduces an equational predicate phrase, or an appositive nominal.

Whether these are instances of a single *ko* or not is debatable, e.g. Bauer (1991, 1993, 1997) and Pearce (1999) argue that focus- and topic-*ko* are distinct, and Bauer argues that equational-*ko* is distinct from both of these, whilst de Lacy (1999) explicitly conflates topic-*ko* and equational-*ko*. See Massam, Lee & Rolle (2006) for an attempt to unify the different uses of *ko* in Niuean, which also takes into account the different uses of its cognate *ko* in Māori.

⁷ *Ko te aha* corresponds to the subject in (14b), not *i te tamaiti*. Similarly *he aha* corresponds to the subject in (15).

- (15) (Bauer 1993: 7, ex (30))
 [He aha] kua **mahue** i te tamaiti?
 a Q TAM leave.behind CAUSE the child
 ‘What has the child left behind?’

Subject questioning/focus in transitive verbal constructions is more complicated. Indefinite Subject Fronting is unavailable because, for independent reasons, transitive subjects cannot be *he*-indefinites in Māori.⁸ *Ko*-fronting is available but generally only used in present tense contexts, as in (16).

- (16) (Bauer 1997: 434, ex (2850c))
 [Ko wai] kei te **here** **atu** i ngā kurī?
 KO Q TAM tie away ACC the.PL dog
 ‘Who is tying up the dogs?’

In past and future tenses, *ko*-fronting is possible but judged rather odd (Bauer 1997: 434). Instead, in these tenses, a construction known as the Actor Emphatic (AE) construction is used, as in (17). As will be described in more detail in Section 5, the main predicate phrase of the AE construction is the prepositional phrase in bold, i.e. (17) actually show instances of predicate questioning rather than subject questioning. The preposition (glossed as ‘belong’) is tensed: *nā* for past tense (the embedded TAM marker *i* is also past), and *mā* for future (the embedded TAM marker *e* is also future). However, there is no such preposition for the present tense, hence the AE construction cannot be used in transitive verbal constructions in present tense contexts and *ko*-fronting is used instead. Note that the grammatical subject corresponds to the internal argument.

- (17) (Bauer 1997: 434, ex (2850a, b))
 a. **Nā wai** i here atu [te kurī]?
 belong Q TAM tie away the dog
 ‘Who tied up the dog?’
 b. **Mā wai** e here atu [te kurī]?
 belong Q TAM tie away the dog
 ‘Who will tie up the dog?’

3.3 Predicate questioning

The verb may be directly substituted by *aha*, as in (18).

- (18) (Bauer 1997: 431, ex (2836))
 Me **aha** [te waka e tau i tatahi rā]?
 TAM Q the canoe TAM anchor at seaside DIST
 ‘What should be done with the canoe anchored there by the beach?’

⁸ The distribution of *he*-indefinites is restricted in Māori: (i) they can only be subjects, (ii) they cannot be external arguments, and (iii) they always take narrow scope (see Chung 1978; Polinsky 1992; Chung, Mason & Milroy 1995; Pearce 1997; Chung & Ladusaw 2004 for detailed discussion).

3.4 Subject topicalisation

Topicalised subjects may be unmarked and/or in-situ in Māori (Bauer 1997). However, this paper will be concerned with topicalisation where the topic constituent is fronted and marked with the particle *ko* (glossed as TOP in topicalisation contexts).

- (19) (Harlow 2007: 174)⁹
[Ko Rewi] e **whāngai** ana i te kūao kau.
TOP Rewi TAM feed TAM ACC the young.of cow
'Rewi is feeding the calf.'
(from Bauer 1991)

Topic-*ko* is distinct from focus-*ko* in a number of ways, e.g. topic-*ko* constituents are not stressed (unlike focus-*ko* constituents), and topic-*ko* is optional whilst focus-*ko* is obligatory (see Bauer 1991, 1997; Pearce 1999).

4 Non-verbal predicate constructions

Māori has a number of non-verbal predicate constructions, which are introduced in their own subsection. For each construction I consider the following questions: (i) Can the subject be questioned? (ii) Can the predicate phrase be questioned? (iii) Can the subject be topicalised?¹⁰ I will also consider whether the category of the predicate phrase is nominal or prepositional. As above, the predicate phrase will be in bold, the subject in square brackets.

4.1 Prepositional possessive constructions (P-POSS)

In P-POSS constructions, the predicate phrase is generally agreed to be introduced by a possessive preposition and hence is prepositional. These constructions specify ownership rather than temporary possession, the latter being expressed with a LOC construction (Bauer 1997: 32; see Section 4.2).

- (20) (Bauer 1997: 32, ex (214))
Nō Te Kao [ia].
belong Te Kao 3SG
'She comes from/belongs to Te Kao.'
- (21) (Bauer 1997: 32, ex (215))
Mā Hera [ngā putiputi nei].
belong Hera the.PL flower PROX1
'These flowers are for Hera.'

The prepositional possessive *n-/m-* forms depend on whether the possessive relation is actual/realised (*n-* form) or future/intended (*m-* form). The use of *-ā* or *-ō* is determined by the A/O-class possessors and is not relevant here (see Bauer 1997, Chapter 26 for discussion and references). This yields four potential forms: *nā*, *nō*, *mā*, *mō*. Two of these forms (*nā* and *mā*) are found in the Actor Emphatic construction as well (see Section 5).

⁹ As Bauer (1991) and Harlow (2007) note, this string has two distinct readings. If *Rewi* is topicalised, major sentence stress falls on the verbal predicate phrase. If *Rewi* is focused, heavy stress falls on *ko Rewi*. Only the topic interpretation is relevant here.

¹⁰ Bauer (1997, p.c.) states that predicate topicalisation is uniformly impossible in Māori.

The subject of P-POSS constructions can be questioned, either by *ko*-fronting or by Indefinite Subject Fronting, as in (22a) and (22b) respectively.

- (22) (Bauer 1997: 433, ex (2847a, b))
- a. [Ko tēwhea] mā Rata?
EQ Q belong Rata
'Which one is for Rata?'
- b. [He aha] nā Rata?
CLS Q belong Rata
'What belongs to Rata?'

The predicate phrase of P-POSS constructions may be questioned directly, as in (23).

- (23) (Bauer 1997: 431, ex (2833))
Mō wai [tō wai]?
belong Q your water
'Who is your water for?'

The subject of P-POSS constructions can also be topicalised, as in (24) (*ko Wairangi* is an appositive nominal).

- (24) (Bauer 1997: 654, ex (4201a))
[Ko tēnei tangata] ko Wairangi nō Ngāti-Raukawa.
TOP this man EQ Wairangi belong Ngāti-Raukawa.
'This man, Wairangi, belonged to Ngāti-Raukawa.'

4.2 Locational constructions (LOC)

In LOC constructions, the predicate phrase can denote spatial or temporal location as well as temporary possession, and is generally agreed to be introduced by a preposition (one of *i*, *kei*, *hei*, *ko* and *a*), which is tensed. The predicate phrase of LOC constructions is thus prepositional.

- (25) (Bauer 1997: 29, ex (209))
Kei a Hone [taku koti].
at(PRES) PERS John my coat
'John has my coat.'
- (26) (Bauer 1997: 29, ex (210))
I raro i te tēpu [tō pukapuka].
at(PT) under at the table your book
'Your book was under the table.'

The subject of LOC constructions can be questioned, either by Indefinite Subject Fronting, as in (27), or by *ko*-fronting, as in (28) and (29).

- (27) (Bauer 1997: 433, ex (2844))
[He aha] kei roto i te kāpata rā?
CLS Q at(PRES) inside at the cupboard DIST
'What is in that cupboard?'

(28) (Bauer 1997: 433, ex (2845))
 [Ko wai] **kei** **roto** **i** **te** **kāpata** **rā?**
 EQ Q at(PRES) inside at the cupboard DIST
 ‘Who is in that cupboard?’

(29) (Bauer 1997: 433, ex (2846))
 [Ko ēwhea] **kei** **roto** **i** **te** **kāpata** **rā?**
 EQ Q.PL at(PRES) inside at the cupboard DIST
 ‘Which ones are in that cupboard?’

The predicate phrase of LOC constructions can be questioned directly, as in (30).

(30) (Bauer 1997: 429, ex (2823))
Kei **hea** [te oka]?
 at(PRES) where the butcher’s knife
 ‘Where’s the butcher’s knife?’

The subject of LOC constructions can be topicalised, as in (31) (*ko Rurunui* is an appositive nominal).

(31) (Bauer 1997: 654, ex (4201b))
 [Ko tōna kāinga]ko Rurunui **i** **te** **takiwāo**
 TOP his home EQ Rurunui at the district of
Whare-pūhunga.
 Whare-puhunga
 ‘His home, Rurunui, was in the district of Whare-puhunga.’

4.3 Classifying *hei*-constructions (CLS-*hei*)

In CLS-*hei* constructions, the predicate phrase is introduced by *hei* (glossed as CLS(FUT) following Bauer (1997)). These constructions are used to specify future roles and functions, and can be considered the future-oriented counterparts of CLS-*he* constructions (see Section 4.4 below).

(32) (Bauer 1997: 29, ex (207))
Hei **kaiako** [ia].
 CLS(FUT) teacher 3SG
 ‘She is going to be a teacher.’

The subject of CLS-*hei* constructions can be questioned, as in (33).

- (33) [Ko wai] **hei** **kīngi mō te iwi Māori**¹¹
 KO Q CLS(FUT) king belong the people Māori
 ‘Who is to be king for the Māori people?’

The predicate phrase of CLS-*hei* constructions can be questioned directly, as in (34).

- (34) (Winifred Bauer p.c.)
Hei aha [ia]?¹²
 CLS(FUT) Q 3SG
 ‘What is she going to be (when she grows up)?’

The subject of CLS-*hei* constructions can also be topicalised, as in (35).

- (35) (Bauer 1997: 156, ex (1070))
 [Ko taku teina] **hei kura māhita.**
 TOP my younger.sibling CLS(FUT) school teacher
 ‘My younger brother will be a school teacher.’

In terms of the category of the predicate phrase, *hei* is probably prepositional rather than nominal. *Hei* occurs independently as a future locative preposition, and is not obviously a determiner of any kind in Māori. Therefore, although there is some doubt whether CLS-*hei* and future locative prepositional *hei* should be entirely conflated (see Bauer 1997: 29), it seems plausible to treat the predicate phrase of CLS-*hei* constructions as being prepositional rather than nominal.

4.4 Classifying *he*-constructions (CLS-*he*)

CLS-*he* constructions can be considered the non-future-oriented counterparts of CLS-*hei* constructions (see Section 4.3 above), semantically-speaking. Syntactically, however, we will see there are intriguing differences.

CLS-*he* constructions assign objects to classes or sets. The predicate phrase is introduced by *he* (glossed here as classifier CLS following Bauer (1997)).

- (36) (Bauer 1997: 28, ex (204))
He māhita [a Hera].
 CLS teacher PERS Hera
 ‘Hera is a teacher.’

¹¹ This example is taken from a government website (<http://www.teara.govt.nz/mi/waikato-iwi/page-4>). In its original form, given in (i), it is an embedded question.

- (i) I te tekau tau atu i 1850, ka wānangatia e ngā iwi o te motu, tae atu ki ērā o Te Wai Pounamu te take, **ko wai hei kīngi mō te iwi Māori.**
 ‘In the 1850s tribes from all over the country, including the South Island, debated **who should be offered the kingship.**’

Its use as a matrix question in natural Māori has been confirmed by Winifred Bauer (p.c.), who also confirmed the gloss and provided the translation.

¹² *Hei aha* questions typically ask about purpose or use, i.e. this example can easily be interpreted as *What use is s/he?* However, in a context such as asking a group of children what they want to be when they grow up, this example on the intended interpretation is probably fine (Winifred Bauer p.c.).

- (37) (Bauer 1997: 28, ex (205))
He nui [te whare nei].
 CLS big the house PROX1
 ‘This house is big.’

The subject of CLS-*he* constructions cannot be questioned by *ko*-fronting or Indefinite Subject Fronting (unlike the subject of CLS-*hei* constructions). It apparently makes no difference whether the subject is D-linked or not (Winifred Bauer p.c.).

- (38) (Winifred Bauer, p.c.)
 *[Ko wai] **he māhita**?
 KO Q CLS teacher
 ‘Who is a teacher?’

- (39) (Winifred Bauer p.c.)
 a. *[Ko tēwhea] **he nui**?
 KO Q CLS big
 ‘Which (one) is big?’
 b. *[He aha] **he nui**?
 a Q CLS big
 ‘What is big?’

- (40) a. (Bauer 1997: 432, ex (2843a))
 *[Ko te aha] **he whero**?
 KO the Q CLS red
 (‘What is red?’)
 b. (Winifred Bauer p.c.)
 *[He aha] **he whero**?
 a Q CLS red
 (‘What is red?’)

However, the predicate phrase of CLS-*he* constructions may be questioned directly, as in (41).

- (41) (Bauer 1997: 432, ex (2843b))
He aha [te mea whero rā]?
 CLS Q the thing red DIST
 ‘What is the red thing there?’

The subject of CLS-*he* constructions can be topicalised (like the subject of CLS-*hei* constructions), as in (42).

- (42) CLS-*he* construction (de Lacy 1999: 7, ex (18))
 [Ko Hone] **he māhita**.
 TOP John CLS teacher
 ‘John is a teacher.’

The category of the predicate phrase in CLS-*he* constructions is a matter of some controversy. Some authors propose that *he* is a TAM marker in CLS-*he* constructions (Reedy 1979; Waite 1994; see also Harlow 2007), whilst others argue that this *he* is identical to the

indefinite determiner *he* (de Lacy 1999). De Lacy (1999: Appendix 2) provides detailed discussion of the arguments and evidence for and against treating *he* in CLS-*he* constructions as a TAM marker or an indefinite determiner. He notes that *he* is independently attested as an indefinite determiner outside CLS-*he* constructions, but is not attested as a TAM marker in verbal predicate constructions, which suggests it is more parsimonious to analyse *he* as the indefinite determiner. However, Reedy (1979) observes that there are cases where gerunds are ungrammatical in the predicate phrase of CLS-*he* constructions, which is unexpected if *he* takes a nominal complement.

- (43) a. (Reedy 1979: 43, ex (32b))
He hanga i te whare [te mahi a Horo].
 CLS build ACC the house the work of Horo
 ‘Horo’s work is to build the house.’
- b. (Reedy 1979: 44, ex (37))
 ***He hanga-tanga i te whare** [te mahi a Horo].
 CLS build-NOM ACC the house the work of Horo
 ‘Horo’s work is to build the house.’

But Reedy also notes examples where such nominalisations can appear in the predicate phrase of CLS-*he* constructions.

- (44) (Reedy 1979: 44, ex (39))
He hanga-tanga/nga whare no te puungaawerewere ra i
 CLS build-NOM house by the spider DEM at
tana taha [te take i neke ai te rango].
 3SG side the reason TAM move TAM the fly
 ‘The reason that the fly moved is because of the spider’s house-building next to him.’

This suggests that there may be independent reasons for the ungrammaticality of (43b) (see de Lacy 1999). Furthermore, as de Lacy points out, it is theoretically quite straightforward to say that what appears to be a bare verbal or adjectival complement of *he* is actually nominalised or modifies a null nominal. Therefore, such evidence is in fact consistent with the view that *he* is the indefinite article.¹³

Finally, de Lacy (1999) notes that there are two main negators in Māori: *ēhara* and *kāhore*. The distribution of these negators does not appear to track the category of the predicate phrase and may in fact be more sensitive to tense (recall that some Māori prepositions may be tensed) (see Bauer 2004), but crucially, if *he* were a TAM marker followed by a verbal predicate, we would expect CLS-*he* constructions to be negated using *kāhore*. However, *ēhara* is the only possibility (Bauer 1997; de Lacy 1999). Furthermore, recall that we concluded that the predicate phrase of CLS-*hei* constructions is prepositional, *hei* being a future-oriented preposition. Interestingly, CLS-*hei* constructions differ from CLS-*he* constructions in that the former are negated using *kāhore* (Bauer 1997; de Lacy 1999). Therefore, although this evidence may not be entirely conclusive, it does suggest that *he* is not a TAM marker.

¹³ Interestingly, although Reedy (1979) ultimately argues that *he* in CLS-*he* constructions is a TAM marker, he observes that CLS-*he* constructions themselves seem to be ‘nominal’ in some way. Reedy argues that verbs like *titiro* ‘to look at’ take nominal complements, whilst verbs like *kite* ‘to see’ may take either nominal or verbal/clausal complements. Reedy observes that equational clauses can serve as the complement of verbs like *titiro*, thus patterning like nominals, whilst more canonical verbal clauses cannot.

I thus adopt de Lacy's (1999) conclusion that *he* in CLS-*he* constructions is the indefinite article (though I continue to gloss it as CLS), and that the predicate phrase is nominal.

4.5 Existential possessive constructions (E-POSS)

E-POSS constructions are used for non-specific ownership (Bauer 1993: 198). They resemble CLS-*he* constructions in that the predicate phrase is introduced by *he* (also glossed here as CLS following Bauer (1997)). The subject is made up of a determiner (matching in number with the predicate phrase), the possessive preposition *ō*, and a noun. In the singular, the determiner is *t(e)*, whilst in the plural it is null. If the subject is a pronoun, special pronominal forms are used.

(45) (Bauer 1997: 33, ex (217))

He hōiho [tōna].
 CLS horse the.of.3SG
 'He has a horse.'

(46) (Bauer 1997: 33, ex (218))

He hū [ō Tohe].
 CLS shoe of Tohe
 'Tohe has some shoes.'

The subject of E-POSS constructions can be questioned, as in (47). In this respect, E-POSS constructions differ from CLS-*he* constructions.

(47) (Bauer 1997: 433, ex (2847c))

[Ko t.ā wai] **he kurī?**
 KO the.of Q a dog
 'Which one has a dog?'

The predicate phrase of E-POSS constructions may also be questioned directly, as in (48).

(48) E-POSS construction (Winifred Bauer p.c.)

He aha [tōna]?¹⁴
 CLS Q the.of.3SG
 'What does he have?'

I do not have data concerning subject topicalisation in E-POSS constructions.

Given that we concluded that the predicate phrase in CLS-*he* constructions is nominal, we might assume the same for E-POSS constructions. However, there are complications. On the surface, the predicate phrases of E-POSS and CLS-*he* constructions look identical, both being introduced by *he*. Now, recall that CLS-*he* constructions are negated using *ēhara*. If the predicate phrases in E-POSS and CLS-*he* constructions were identical, we would also expect E-POSS constructions to be negated with *ēhara*. However, they are negated using *kāhore* (Bauer 1997). Although the negator may not necessarily correspond with category as mentioned above, the fact that the predicate phrases of E-POSS and CLS-*he* constructions are surface-identical but negated by different negators strongly suggests that the two predicate

¹⁴ Such an example could only occur in a context where, for example, it was being discussed what things various people owned that they could contribute to some project (Winifred Bauer p.c.).

phrases are not identical in their underlying structure. I thus tentatively conclude that the predicate phrase of the E-POSS construction may be verbal, comprising a null verb and an overt nominal (the *he*-phrase). This is schematically illustrated in (49).

- (49) [vP [v Ø] [DP **He** **hōiho**]] [DP tōna].
 CLS horse the.of.3SG
 ‘He has a horse.’

4.6 Equational constructions (EQ)

EQ constructions are equational or identificational. The predicate phrase is introduced by *ko* (glossed here as EQ) and there are no TAM markers. *Ko* is incompatible with the personal article *a*, which is generally found with proper names, hence *ko Hera*, not *ko a Hera*, in (50). However, *ko* may appear with a determiner with common nouns, as in (51).

- (50) (Bauer 1997: 27, ex (202))
 Ko **Hera** [taku hoā].
 EQ Hera my friend
 ‘Hera is my friend.’
- (51) (Bauer 1997: 28, ex (203))
 Ko te pō tika tonu [tēnei].
 EQ the night right indeed this
 ‘This is certainly the right night.’

The subject of EQ constructions cannot be questioned, either in-situ or with *ko*-fronting, as in (52).

- (52) (Bauer 1997: 432, ex (2842))
 a. ***Ko Hata** [a wai]?
 EQ Hata PERS Q
 (‘Who is Hata?’)
- b. *[**Ko wai ko Hata**?]
 KO Q EQ Hata
 (‘Who is Hata?’)

However, the predicate phrase of EQ constructions may be questioned directly.

- (53) (Bauer 1993: 5, ex (13))
 Ko wai [tō tātou matua]?
 EQ Q our.INCL parent
 ‘Who is our father?’ (More literally ‘Our father is who?’)

It is debatable whether the subject of EQ constructions can be topicalised. Consider the example in (54).

- (54) (Bauer 1993: 79, ex (320a))
 [**Ko tēnei ko te rōia**.]
 TOP this EQ the lawyer
 ‘This is the lawyer.’

Bauer (1991, 1993) notes that many speakers omit the EQ-*ko* in such examples, resulting in a structure that would be surface identical with an EQ-construction with an unfronted subject. She also notes that at least some of the speakers who omit the EQ-*ko* consider examples like (54) to be ungrammatical, which is the judgement reported in de Lacy (1999: 7, ex (17)). Therefore, I conclude that subject topicalisation in EQ constructions is unavailable for some speakers but available, albeit perhaps somewhat marginally, for others.

There is considerable debate about the category of *ko* (see Massam, Lee & Rolle 2006 on the category of *ko* in Niuean, cognate with Māori *ko*) with consequences for the category of the predicate phrase in EQ constructions. Bauer (1997: 28) calls *ko* a preposition (see also Massam, Lee & Rolle 2006; Harlow 2007: 152); Pearce (1999) proposes that it is a type of C (with different types of C for the different types of *ko*); Chung & Ladusaw (2004: 61) take EQ-*ko* to occupy T; and de Lacy (1999) argues that it is a topic marker, which is apparently DP-internal. If *ko* is DP-internal or a functional head such as T or C, the predicate phrase would presumably be nominal. If, however, *ko* is a preposition, the predicate phrase would be prepositional.

Massam, Lee & Rolle (2006) argue that Niuean *ko* is a default or expletive preposition in the left periphery of non-argument nominal phrases. Evidence for its prepositional category comes from its shared selectional behaviour with other, oblique prepositions. However, unlike other prepositions, Massam, Lee & Rolle argue that *ko* is not associated with thematic properties and simply serves to introduce non-argument nominals (including predicate nominals, as well as topic and focus nominals in the clausal left periphery). Crucially, for Massam, Lee & Rolle, *ko* on its own does not create a nominal predicate though the addition of *ko* is a necessary first step. They propose that *ko* marks the nominal as a non-argument and that, in predicate nominal contexts, the *ko*-phrase is then selected by a null light copular verb. In other words, the predicate phrase of an EQ construction would be a verbal phrase containing a light copular verb and a prepositional phrase, which in turn consists of the default/expletive preposition *ko* and a nominal complement.

However, in both Niuean and Māori, *ko* is in complementary distribution with the personal article *a* (Seiter 1980; Bauer 1993, 1997), as mentioned above. This personal article is found on argument nominals and is presumably a determiner (rather than a preposition) of some sort, assuming that core arguments are nominal rather than prepositional. Furthermore, if EQ constructions in Māori actually have a verbal predicate, we would expect that they would be negated with *kāhore*. However, EQ constructions are negated by *ēhara* (Bauer 1997; de Lacy 1999).

For these reasons, I agree that *ko* is in the nominal left periphery, but suggest that it is better treated as a nominal element (higher than the definite article and in complementary distribution with the personal article *a*) rather than a prepositional element. Furthermore, I suggest that the predicate phrase is nominal and does not contain a null copular verb (see also de Lacy 1999).

4.7 Numerical constructions (NUM)

In NUM constructions, the predicate phrase is introduced by *e*, *ko* or *toko* (this is potentially another *ko*, but I avoid such examples for exposition).

- (55) (Bauer 1997: 35, ex (222))
E whā [ngā kurī].
 NUM four the.PL dog
 ‘There are four dogs.’ (More literally, ‘The dogs are four (in number).’)

- (56) (Bauer 1993: 84, ex (343))
- a. **E rua** [ā māua tamariki].
 NUM two our.EXCL children
 ‘We have two children.’ (More literally, ‘Our children are two (in number).’)
- b. **(E) toko.rua** [ā māua tamariki].
 NUM PNUM.two our.EXCL children
 ‘We have two children.’ (More literally, ‘Our children are two (in number).’)

E (glossed here as NUM following Bauer (1997)) occurs with the numbers between 2 and 9 inclusive, as well as with any compound numbers beginning with these digits; *tahi* ‘one’ is prefixed with *ko*, i.e. *kotahi*; and other numbers have no numeral marker (Bauer 1997: 36). If people are being counted, *toko* generally appears with the number (either obligatorily or optionally, depending on the speaker). *Toko* can appear on its own, but can also be preceded by *e* (Bauer 1993: 83, 1997: 36).

The subject of NUM constructions cannot be questioned.

- (57) a. (Bauer 1997: 433, ex (2848a))
 *[He aha] **e rima?**
 a Q NUM five
 (‘What are there five of?’)
- b. (Winifred Bauer p.c.)
 *[Ko ēhea] **e rima?**
 KO Q.PL NUM five
 (‘Which things are there five of?’)

However, the predicate phrase of NUM constructions may be questioned directly, as in (58).¹⁵

- (58) (Bauer 1993: 7, ex (25))
E hia [ngā poaka]?
 NUM how.many the.PL pig
 ‘How many pigs are there?’

The subject of NUM constructions can be topicalised, as in (59). Recall that topic-*ko* is optional and happens to be absent here (*ko Pare-whete* and *ko Pūroku* are appositive nominals).

¹⁵ Alternatively, the subject can first be relativised to create a complex matrix subject. This complex subject then combines with an interrogative predicate phrase in a type of EQ (or perhaps rather a *ko*-focus) construction.

- (i) (Bauer 1997: 433, ex (2848b))
Ko ēhea ngā mea e rima?
 EQ Q.PL the.PL thing NUM 5
 ‘What are there five of?’ (more literally ‘What are the things of which there are five?’)

- (59) (Bauer 1997: 654, ex (4201))
- | | | | | |
|--------|-------------|------|-----------|------------------|
| [Ngā | wāhine | a | Wairangi] | toko.rua, |
| the.PL | women | PERS | Wairangi | PNUM.two |
| ko | Pare-whete, | ko | Pūroku. | |
| EQ | Pare-whete | EQ | Puroku | |
- ‘Wairangi had two wives, Pare-whete and Puroku.

Waite (1990: 403) equates the *e* in NUM constructions with the TAM marker *e*. Consistent with this idea is the fact that NUM constructions are negated with *kāhore* rather than *ēhara* (Bauer 1997). However, whilst Bauer (1997: 94) suggests that this analysis may be appropriate for historical stages of the language, she argues that modern Māori has reanalysed this TAM marker as a numeral particle. Evidence for this comes from Pearce’s (2005) analysis of DP-internal structure. Pearce notes that Māori phrases generally have to contain at least three morae in total. This is important for DP-internal NumPs. As Pearce points out, the numbers between 2 and 9 inclusive consist of only two morae each and must therefore be preceded by *e* (or *toko* with human referents). In contrast, the number 10 is *tekau*, which contains three morae, and so neither *e* nor *toko* is required. The fact that *e* appears with numbers in DP-internal NumPs, as in (60), thus suggests that *e* and the number form a constituent (in square brackets).

- (60) (Pearce 2005: 7, ex (16))
- | | | | | | | | | |
|--------|-----------|------|-----------|-----|-------|-------|----|----------|
| ngā | whakaahua | tino | ātaahua | [e | toru] | nei | o | tē.rā |
| the.PL | picture | very | beautiful | NUM | three | PROX1 | of | the.DIST |
| | maunga | | | | | | | |
| | mountain | | | | | | | |
- ‘these three very beautiful pictures of that mountain’

Therefore, in examples like (55) and (56) where the number is (or modifies) the head of the predicate phrase, I conclude that *e* is a numeral particle in the extended nominal projection, and hence that the predicate phrase of NUM constructions is nominal.

4.8 Summary

I have described several non-verbal predicate constructions in Māori, and considered whether the subject and predicate phrase can be questioned, and whether the subject can be topicalised, as well as the category of the predicate phrase. The results are summarised in (61) (DP = nominal; PP = prepositional; VP = verbal; ? indicates a tentative entry; n/a indicates missing data).

(61) Descriptive summary

Construction	Can the subject be questioned?	Can the subject be topicalised?	Can the predicate phrase be questioned?	Category of predicate phrase
EQ	✗	✓?	✓	DP
CLS- <i>he</i>	✗	✓	✓	DP
NUM	✗	✓	✓	DP
CLS- <i>hei</i>	✓	✓	✓	PP
P-POSS	✓	✓	✓	PP
LOC	✓	✓	✓	PP
E-POSS	✓	n/a	✓	VP?
Verbal	✓	✓	✓	VP

The arrangement of the table reveals several empirical generalisations. We can see that subject topicalisation and predicate phrase questioning are generally permitted in all types of construction. However, subject questioning is restricted. Specifically, subject questioning is permitted when the predicate phrase is verbal or prepositional, but prohibited when the predicate phrase is nominal (see also de Lacy 1999). These generalisations will be analysed in Section 6. Before doing so, however, I will consider whether the Actor Emphatic construction fits the generalisations just described.

5 Actor Emphatic constructions (AE)

The AE construction is well-known from the literature on Māori and Polynesian languages more generally. I treat it separately because the empirical description of subject extraction in this construction is more complicated. Furthermore, whilst the constructions in Section 3 and 4 are typically thought to be monoclausal in neutral declarative contexts, there is some debate about whether the AE is monoclausal (Waite 1990; Pearce 1999) or biclausal (Bauer 1993, 1997; Potsdam & Polinsky 2012) among other issues (see Waite 1990; Bauer 2004; Potsdam & Polinsky 2012 for overviews).

Descriptively, the AE construction, as the name suggests, emphasises the agent argument. The emphasised agent is expressed in a prepositional phrase introduced by a possessive preposition: *nā* for past actions, as in (62), and *mā* for future actions, as in (63). These prepositions are the same as those found in P-POSS constructions, though the *-ō* form possessive prepositions which are also found in P-POSS constructions, *nō* and *mō*, are impossible in the AE construction for reasons that need not concern us here (the *o*-possessive series is also incompatible with the AE construction in Tahitian (Potsdam & Polinsky 2012)). The TAM marker co-varies with the tense of the preposition: *i* with *nā*, *e* with *mā*. The internal argument of the transitive predicate is grammatically a subject – it is unmarked and can be topicalised (see below) – but the verb is in active form, i.e. it is not passivised.

(62) (Bauer 1997: 43, ex (243))

Nā	Pani	<i>i</i>	<i>āwhina</i>	[a	Hera].
belong	Pani	TAM	help	PERS	Hera
‘ <i>Pani</i> helped Hera.’					

- (63) (Bauer 1997: 43, ex (244))
Mā ngā kaikōrero e mihi [ngā manuhiri].
 belong the.PL speaker TAM greet the.PL visitor
 ‘The speakers will greet the visitors.’

The AE construction is usually only possible with transitive predicates (Waite 1990: 400). Examples with intransitive predicates are attested in corpora but constructed examples are often rejected by native speakers (Bauer 1997: 506).

Following Bauer (1993, 1997) and Potsdam & Polinsky (2012), I adopt a biclausal analysis of the AE construction. Potsdam & Polinsky (2012) show that Māori has two variant orders in the AE construction, which they call AE2 and AE3 (AE1 is a variant attested in Tahitian but not in Māori). In AE2 the subject (the internal argument) follows the verbal predicate, whilst in AE3 it precedes the verbal predicate but follows the prepositional predicate phrase.

- (64) (Potsdam & Polinsky 2012: 77, ex (71b,c))
- a. AE2
Nā Pita i tīhore [te hipi].
 belong Peter TAM fleece the sheep
 ‘It was Peter who sheared the sheep.’
- b. AE3
Nā Pita [te hipi] i tīhore.
 belong Peter the sheep TAM fleece
 ‘It was Peter who sheared the sheep.’

Potsdam & Polinsky (2012) argue that the prepositional predicate phrase, *nā Pita*, is the matrix predicate phrase; that the internal argument, *te hipi*, is grammatically a subject in both AE2 and AE3; and that the TAM marker and verbal predicate, *i tīhore*, belongs to an embedded clause (following Chung 1978; Bauer 2004). Evidence comes from negation, relativisation and the distribution of TAM markers, among other things (see Potsdam & Polinsky 2012 for details and references).

Potsdam & Polinsky point out that there is still the issue of whether the grammatical subject *te hipi* is the grammatical subject in the matrix or embedded clause. On the basis of a comparison with the Tahitian AE construction, they propose that the subject is in the embedded clause in AE2, but is raised in AE3 (they do not commit themselves to the exact position of raising). Their analysis as applied to (64) is given in (65); they do not specify how the subject (the internal argument) patterns in terms of constituency in AE3 (see Potsdam & Polinsky 2012: 84).

- (65) (Potsdam & Polinsky 2012: 84, ex (81))
- a. AE2
 [PP Nā Pita] *expletive* [i tīhore *eC_{agt}* [DP te hipi]]
- b. AE3
 [PP Nā Pita] [DP te hipi] [i tīhore *eC_{agt}* *eC_{theme}*]

It goes far beyond the scope of this paper to attempt to resolve the outstanding constituency issues or how the overt agent and theme relate to the embedded clause. The schematic structures in (65) will suffice for present purposes.

Returning to our description, the AE construction fits the generalisation from above concerning predicate questioning and subject topicalisation, i.e. both of these are permitted.

Predicate questioning has already been seen above, but the examples are repeated here for convenience.

- (66) (Pearce 1999: 260, ex (37))
- a. **Nā wai** i here atu [te kurī]?
 belong Q TAM tie away the dog
 ‘Who tied up the dog?’
- b. **Mā wai** e here atu [te kurī]?
 belong Q TAM tie away the dog
 ‘Who will tie up the dog?’

(67) shows that subject topicalisation is permitted in AE constructions (recall that the subject corresponds to the internal argument).

- (67) (Pearce 1999: 258, ex (27))
- [Ko te tamaiti] **mā te pirihi**mana e kite.
 TOP the child belong the policeman TAM find
 ‘As for the child, it is the policeman who will find it.’

This is one of the most common ways to topicalise internal arguments of transitive predicates in Māori, direct objects typically not being very accessible (see also Section 6.3). The AE construction can also be used to relativise internal arguments (Bauer 1997: 570).

Given that the matrix predicate phrase is prepositional, our generalisation would lead us to expect that *ko*-fronting of the subject for questioning and/or focus would be permitted. However, the empirical facts are somewhat complicated. On the one hand, it is reported that the subject of AE constructions can be focused using *ko*-fronting, as predicated by our generalisation. Two examples are given below (capitalisation indicates strong stress):

- (68) (Bauer 1997: 669, ex (4337))
- [Ko ngā KEA] **nā Hone** i pupuhi.
 KO the.PL kea belong John TAM shoot
 ‘John shot the *keas*.’
- (69) (Bauer 1993: 230, ex (928))
- [Ko te KAIAKO] **nā.na** i meke.
 KO the teacher belong.3SG TAM hit
 ‘He hit the *teacher*.’

On the other hand, however, it is also reported that subject questioning in AE constructions is prohibited, as in (70), which is not predicted by our generalisation.

- (70) (Pearce 1999: 259, ex (30))
- *[Ko wai] **nā Hōne** i pupuhi?
 KO Q belong Hone TAM shoot
 ‘Who did Hone shoot?’

Such examples can only receive an echo interpretation, a point I return to below.

Pearce (1999) proposes that subject questioning in AE constructions is prohibited because the PP containing the emphasised agent occupies SpecFocP, the dedicated focus position in the left periphery (see also Waite 1990). This provides a straightforward explanation

for why the agent in the prepositional predicate phrase can be questioned, and would correctly rule out examples like (70) (though something more would have to be said about (68) and (69), e.g. perhaps these examples involve a different type of focus which targets a distinct and higher focus position). However, there are problems for this type of analysis.

First, Potsdam & Polinsky (2012) note that, if the emphasised agent in the focused PP is A'-moved to SpecFocP or some left peripheral position, it will presumably move across the grammatical subject (the internal argument). Therefore, in cases where the agent is an R-expression and co-indexed with theme subject, we would expect a Strong Crossover violation. However, Potsdam & Polinsky observe that such examples are grammatical, regardless of the position of the theme subject.

- (71) (Potsdam & Polinsky 2012: 81, ex (77a, b))
- a. **Nā** **Hone_i** i pupuhi [ia_i anō].
 belong John TAM shoot 3SG again
 'John shot himself.'
- b. **Nā** **Hone_i** [ia_i anō] i pupuhi.
 belong John 3SG again TAM shoot
 'John shot himself.'

Potsdam & Polinsky note a second prediction, namely the theme subject is predicted to be able to bind the representation of the agent in the agent's supposed base position. However, this is not possible.

- (72) (Potsdam & Polinsky 2012: 81, ex (78a))
- ***Nānai** (**anō**) [a Hone_i] i pupuhi.
 belong.3SG again PERS John TAM shoot
 ('John shot himself.')

The examples in (71) and (72) thus show that the agent (in the predicate phrase) does not undergo obligatory reconstruction and cannot even undergo optional reconstruction to a position below the theme subject. This strongly argues against A'-movement of the predicate phrase, and suggests that the PP is base-generated in a position c-commanding the theme subject.

Could it be that the PP is base-generated in the left peripheral focus position? We have already seen that *ko*-fronting for focus is permitted in (68) and (69) above, although it was pointed out that these may potentially involve different types of focus. However, evidence from time adverbials suggests that the PP predicate phrase is not as high as a left peripheral position. In Māori, time questions require fronting of the question phrase (note that the subject also tends to be fronted in such cases). (73) is an example involving a verbal predicate construction.

- (73) (Bauer 1997: 436, ex (2857b))
- A whea [a Hata] **haere** mai ai?
 at(FUT) Q PERS Hata move hither PART
 'When will Hata come?'

Bauer (1997: 436) points out that time adverbials are commonly fronted in declarative clauses anyway, suggesting that this may be in-situ questioning of an already-fronted time phrase, rather than a fronting-for-questioning strategy.

Now, fronted time adverbials are possible in AE constructions in declarative contexts, as in (74a), but questioning the time phrase is not permitted, as in (74b).

- (74) a. (Winifred Bauer p.c.)
 I te āta nei **nā Pita**
 at the morning this belong Peter
 i tīhore [te hipi].
 TAM fleece the sheep
 ‘This morning, it was Peter who sheared the sheep.’
- b. (Pearce 1999: 259, ex (29))
 *Inawhea **nā Pita** i tīhore [te hipi]?
 Q belong Pita TAM fleece the sheep
 ‘When did Pita shear the sheep?’

These data suggest that the *position* required for questioning time adverbials is syntactically available in AE constructions, and thus that the ungrammaticality of (74b) results from an independent interpretive property of AE constructions. Supporting evidence for this idea comes from the observation that *ko*-fronting or Indefinite Subject Fronting of an interrogative subject is *syntactically* available, but the result can only be *interpreted* as an echo question.

- (75) (Bauer 1993: 16, ex (69a, b))
- a. [Ko te aha] **nā Hata** i here?
 KO the Q belong Hata TAM tie
 ‘What did Hata tie up?’ (echo interpretation only)
- b. [He aha] **nā Hata** i here?
 a Q belong Hata TAM tie
 ‘What was it Hata tied up?’ (echo interpretation only)

Therefore, putting this independent interpretive property aside, I suggest that the AE construction behaves as expected for a prepositional predicate construction.

6 Analysis

In Section 4, we concluded that subject topicalisation and predicate questioning are permitted in all constructions, whilst subject questioning is permitted in verbal and prepositional predicate constructions but prohibited in nominal predicate constructions (see also de Lacy 1999). There are two broad families of proposal in the literature to account for restrictions on subject questioning (though the same descriptive generalisations as here are not necessarily adopted), which I refer to as complementary distribution analyses and cleft analyses. The guiding intuition of complementary distribution analyses (de Lacy 1999; Pearce 1999) is that subject questioning/focus is prohibited in constructions where the predicate phrase itself occupies the focus position. Consequently, in such constructions the predicate phrase and the questioned/focused subject are competing for the same position (Pearce’s (1999) implementation of this idea for the AE construction was discussed in Section 5). I consider this analysis in Section 6.1. The guiding intuition of cleft analyses (Bauer 1991, 1993, 1997) is that question/focus structures are biclausal clefts and that subject questioning/focus is prohibited in constructions which, for whatever reason, cannot form a grammatical cleft. This analysis is considered in Section 6.2.

I ultimately adopt a cleft analysis where the questioned constituent is analysed as the matrix predicate, whilst the matrix subject is analysed as a headless relative clause (see Bauer

1991, 1993, 1997; Potsdam & Polinsky 2011). The task of Section 6.3 is to determine what goes wrong in nominal predicate constructions.

6.1 Complementary distribution analysis

De Lacy (1999) proposes that nominal predicate phrases occupy SpecCP, the position also targeted by question movement in his analysis, whilst prepositional predicate phrases occupy a lower position (de Lacy adopts a V-raising analysis for verbal predicate constructions). Consequently, subject questioning is prohibited in nominal predicate constructions, but permitted in prepositional (and verbal) predicate constructions. In contrast, predicate questioning is permitted in all constructions because either the predicate phrase already occupies the question position SpecCP (nominal predicates) or because the predicate phrase is able to move there (prepositional predicates). Similarly, subject topicalisation is permitted in all constructions because topicalisation targets SpecTopP, which is distinct from and higher than SpecCP.¹⁶ The intuition here is thus akin to Pearce's (1999) analysis of the AE construction discussed above. De Lacy's (1999) analysis is schematically represented below (___ indicates available positions in the left periphery).

- (76) a. Nominal predicate constructions
 [TopP ___ Top [CP [DP PREDICATE] C [TP ... [DP SUBJECT] ...]]]
 b. Prepositional predicate constructions
 [TopP ___ Top [CP ___ C [TP ... [PP PREDICATE] ... [DP SUBJECT] ...]]]

However, there are problems with this analysis. First, if nominal predicates occupy a left peripheral focus position, we might expect them to be obligatorily focal/emphasised. However, whilst nominal predicates can be emphasised (typically by means of emphatic stress (Bauer 1997: 668-669)), they do not have to be.

Second, the analysis of nominal predicate constructions in (76a) predicts that no element other than the nominal predicate can be questioned. However, time questions are permitted. This is shown in the following examples (the baseline declarative in each case comes from <https://teara.govt.nz/mi/biographies/3n5/ngata-apirana-turupa>):¹⁷

- (77) CLS-*he* construction (Winifred Bauer p.c.)
 a. Mai i te tau 1892 **he minita** [a Kara]
 hither from the year 1892 CLS minister PERS Carroll
nō te kāwanatanga Rīpera.
 belong the government Liberal
 'From the year 1892 Carroll was a minister in the Liberal government'

¹⁶ De Lacy (1999) claims that subject topicalisation is not permitted in the EQ construction (a nominal predicate construction). He argues that the nominal predicate phrase independently moves from SpecCP to SpecTopP in EQ constructions, hence blocking both subject questioning and subject topicalisation.

¹⁷ Note that in the interrogative examples the subject phrase also tends to be fronted to a position preceding the predicate phrase. This resembles the so-called *bodyguard construction* in various other Austronesian languages (Keenan 1976; Aldridge 2004, 2013). In Māori, such fronting is found with time adverbials, questions, negation and in some subordinating contexts and, whilst fronting is preferred, it is not obligatory (see Chung 1978; Bauer 1993, 1997; Pearce 1997; de Lacy 1999).

- b. Nō hea [a Kara] he minita
 belong Q PERS Carroll CLS minister
 nō te kāwanatanga Rīpera?
 belong the government Liberal
 ‘When was Carroll a minister in the Liberal government?’
- c. I ēwhea tau [a Kara] he minita
 in Q.PL year PERS Carroll CLS minister
 nō te kāwanatanga Rīpera?
 belong the government Liberal
 ‘In which years was Carroll a minister in the Liberal government?’

(78) EQ construction (Winifred Bauer p.c.)

- a. Nō te mutunga o 1899 ko ia [te minita
 belong the end of 1899 EQ 3SG the minister
 mō ngā take Māori]¹⁸
 belong the.PL affairs Māori
 ‘... from the end of 1899 he was the minister of Māori affairs’
- b. Nō hea [ia] ko te minita
 belong Q 3SG EQ the minister
 mō ngā take Māori?
 belong the.PL affairs Māori
 ‘When was he the minister of Māori affairs?’

The availability of time questions in nominal predicate constructions thus suggests that the nominal predicate does not occupy the question position in the left periphery.

Nevertheless I agree with de Lacy (1999) that it is something about nominal predicate phrases which prevents subject questioning. In Section 6.3, I will propose that the crucial component is intervention.

6.2 Cleft analysis

There is an emerging consensus that (DP-)questions in Māori and many other Polynesian and Austronesian languages are bi-clausal (Chung 1978; Bauer 1991, 1993, 1997; Paul 2001; Aldridge 2004, 2013; Potsdam & Polinsky 2011, among many others).¹⁹ I will focus on Bauer’s (1991, 1993, 1997) proposal as it relates specifically to Māori.

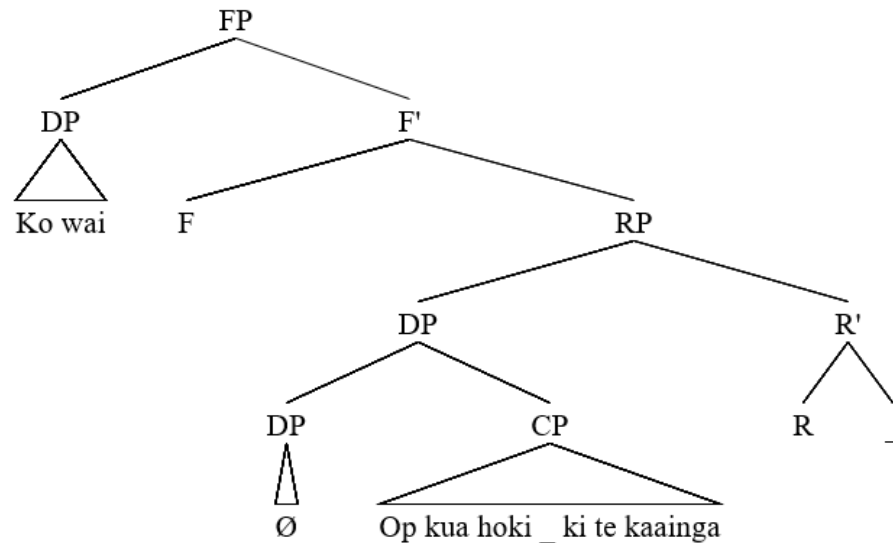
Bauer suggests that subjects cannot be questioned in general. When it looks as if a subject has been questioned, she proposes that we are actually dealing with a cleft structure: the questioned constituent is the matrix predicate phrase (not the subject), whilst the matrix subject consists of a headless relative clause. I illustrate this using a verbal predicate construction, adapting it to the clause structure I am assuming (see Section 2).

- (79) a. Kua hoki [a Hone] ki te kaainga.
 TAM return PERS Hone to the home
 ‘John has gone home.’

¹⁸ Winifred Bauer (p.c.) points out that *ko ia* may also be parsed as a topicalised subject, in which case the predicate phrase is *te minita mō ngā take Māori* with the *ko* of the predicate phrase being dropped, which modern Māori speakers often do.

¹⁹ Note that, although de Lacy (1999) and Pearce (1999) propose monoclausal structures, there is nothing inherently monoclausal about a complementary distribution analysis. One could easily imagine such an analysis that holds entirely of the embedded clause of a bi-clausal structure.

- b. [Ko wai] kua hoki ki te kaainga?
 KO Q TAM return to the home
 ‘Who has gone home?’



The DP *ko wai* is analysed as a nominal predicate phrase: it originates as the complement of R and moves to SpecFP (see Section 2). The DP subject is in SpecRP and consists of a null relative clause head, DP \emptyset , plus the relative clause CP. Within this CP, there is null operator movement from the subject position to the left periphery (indicated by Op ... _).

This is essentially the structure that I will adopt. However, there are a couple of apparent problems with analysing the CP as a relative clause which need to be addressed. One problem is that, if the CP is a type of relative clause, it must be a headless subject relative. However, Harlow (2007: 175) points out that, although headless relative clauses are independently attested in Māori, they are not independently attested with *subject* relativisation. Headless relative clauses are only found with the so-called possessive-relative strategy (see also Bauer 1997: 583–584). In this strategy, the subject of the relative clause appears as an A-class possessor (in bold) modifying the relative head, either in post-nominal (80a) or pre-nominal (80b) position (the relative clause is in square brackets).

(80) (Bauer 1997: 570, ex (3716f, g))

- a. Ka mōhio ahau ki te tangata a Hone [i
 TAM know I to the man of John TAM
 kōhuru ai].
 murder PART
 ‘I knew the man that John murdered.’
- b. Ka mōhio ahau ki t.ā Hone tangata [i kōhuru
 TAM know I to the.of John man TAM murder
 ai].
 PART
 ‘I knew the man that John murdered.’

In cases like (80b), the relative head may be null, yielding a headless relative clause, as in (81) (I assume *ai* is a resumptive pronoun, see Section 6.3).

- (81) (Bauer 1997: 583, ex (3759))
 ... ko t.ā **taku ringa** [i ngaki ai]
 TOP the.of my hand TAM cultivate PART
 me waiho tēnā ki a au
 TAM leave that to PERS me
 ‘... what my hand has cultivated, that should be left for me’

However, in all other relative clauses, the relative head must be overt. This includes cases of subject relativisation, which uses the gap strategy rather than the possessive-relative strategy, as in (82) and (83), a verbal and a prepositional predicate construction respectively (the (relativised) subject is in bold).

- (82) a. Baseline verbal predicate construction (Bauer 1997: 567, ex (3703a))
 E tū ana **te toka rangitoto** i te ara.
 TAM stand TAM the rock scoria at the path
 ‘The scoria rock was standing in the path.’
- b. Subject relativisation (Bauer 1997: 566, ex (3703))
 ... kua tata ki te taha o **te toka rangitoto**
 TAM near to the side of the rock scoria
 [e tū ana **t_i** i te ara]
 TAM stand TAM at the path
 ‘... [she] neared the side of the scoria rock which was standing in the path’
- (83) a. Baseline LOC construction (adapted from (83b))
 Kai runga **nga ārani** i te rākau.
 at(PRES) top the.PL orange at the tree
 ‘The oranges are on the tree.’
- b. Subject relativisation (Winifred Bauer p.c., from Ngata Dictionary p. 403)
 Kua pirau **nga ārani** [kai runga **t_i**
 TAM rot the.PL orange at(PRES) top
 i te rākau].
 at the tree
 ‘The oranges on the tree are rotten.’

Therefore, if the CP in the cleft structure is a relative clause, we would have to say that headless *subject* relative clauses are only permitted in cleft constructions (see also Seiter 1980 on Niuean, and the discussion of pseudo-cleft analyses in Potsdam & Polinsky 2011). Nevertheless, this problem is arguably not particularly serious because the null relative clause head is easily recoverable from the *syntactic* context in cleft constructions, namely from the questioned constituent in the main clause predicate phrase.

The second type of problem with analysing the CP as a relative clause concerns the prediction that, in principle, clefting and relativisation of a given element should exhibit the same syntactic behaviour. We saw in Section 4.5 that it is possible to question the subject of the E-POSS construction. The relevant examples are repeated from above (the predicate phrase is in bold, the subject in square brackets).

- (84) a. Baseline E-POSS construction
He hōiho [tōna].
 CLS horse the.of.3SG
 ‘He has a horse.’
- b. Subject questioning
 [Ko t.ā wai] **he** **kurī**?
 KO the.of Q a dog
 ‘Which one has a dog?’

According to the cleft analysis, (84b) actually involves relativisation of the subject of the E-POSS construction to create a headless relative clause. This then serves as the matrix subject phrase, with the matrix predicate phrase being the questioned constituent, as in (85).

- (85) [PRED Ko t.ā wai] [SUBJ \emptyset [CP *Opi* [PRED he kurī] *ti*]]

The problem is that relativisation of the possessor subject in E-POSS constructions requires a resumptive pronoun (see also Reedy 1979) (the relativised subject is in bold, the relative clause in square brackets).

- (86) (Bauer 1997: 581, ex (3749))
He hōiho, [he hū **ō.na**], te hoko.nga mai a Tama.
 CLS horse CLS shoe of.3SG the buy.NOM hither of Tama
 ‘What Tama bought was a horse which has shoes.’

If the CP is a relative clause, we would thus expect an obligatory resumptive pronoun in (84b), i.e. *Ko tā wai he kurī tōna?*, but this is not what we find. However, again the difference may arise because of recoverability. If there were no resumptive pronoun in (86), the relationship between ‘horse’ and ‘shoes’ would be unrecoverable from the surface form (the possessive *ō* cannot be stranded so it would be absent as well); *he hū* ‘shoes’ would appear to be an appositive nominal instead. In contrast, the relationship is recoverable in (84b) even in the absence of a resumptive pronoun inside the CP precisely because of the form of the overt questioned constituent.

The third type of problem concerns the prediction that, in principle, it should be possible to cleft any element that can be relativised. However, there appear to be cases where relativisation is possible but clefting is not. It is possible to relativise a nominal phrase embedded within a predicate phrase provided that a resumptive pronoun is used, but clefting such a nominal phrase is not permitted (thanks to Winifred Bauer p.c. for discussion of these examples).

- (87) a. Baseline LOC construction (adapted from Bauer 1997: 581, ex (3750a))
Kei te whare [taku whaea].
 at(PRES) the house my mother
 ‘My mother is at the house.’
- b. Relativisation of nominal inside predicate phrase (adapted from Bauer 1997: 581, ex (3750))
te whare [kei **reira** taku whaea]
 the house at(pres) there my mother
 ‘the house where my mother is’

- c. Clefting of nominal inside predicate phrase
 #/*[Ko tēhea whare] kei reira taku whaea?
 KO Q house at(PRES) there my mother
 ('Which house is the one where my mother is?')
- (88) a. Baseline P-POSS construction (adapted from Bauer 1997: 582, ex (3752a))
 Nā te tupuna [taua patu]
 belong the ancestor that weapon
 'That weapon belonged to the ancestor.'
- b. Relativisation of nominal inside predicate phrase (adapted from Bauer 1997: 582, ex (3752))
 te tupuna [nā.na taua patu]
 the ancestor belong.3SG that weapon
 'the ancestor whose weapon it was'
- c. Clefting of nominal inside predicate phrase
 #/*[Ko wai] nā.na taua patu?
 KO Q belong.3SG that weapon
 ('Who was the one whose weapon it was?')

However, there is an issue here: are the cleft constructions in (87c) and (88c) ungrammatical or infelicitous (hence #/*)? If they are ungrammatical, then relativisation and clefting exhibit different syntactic behaviour. However, it could also be that such examples are grammatically well-formed but always blocked by the option of questioning the nominal in the predicate phrase directly.

- (89) Direct questioning of the nominal inside the predicate phrase
- a. Kei tēhea whare [taku whaea]?
 at(PRES) Q house my mother
 'Which house is my mother in?'
- b. Nā wai [taua patu]?
 belong Q that weapon
 'Whose weapon was it?'

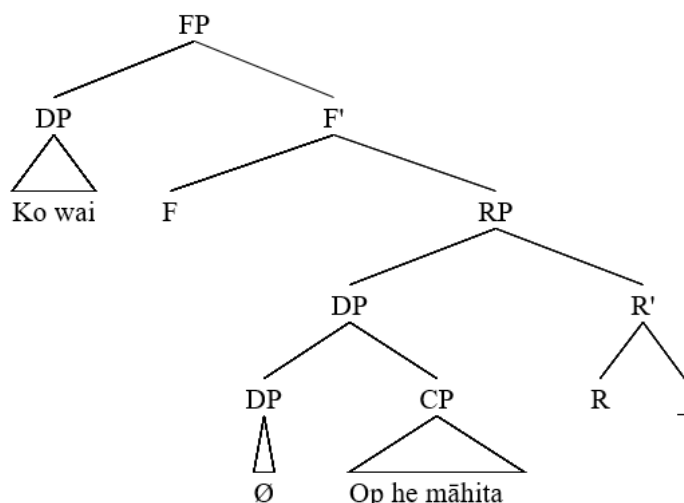
Finally, Reedy (1979) argues for an analysis of appositive nominal phrases in which they are derived from relativisation of the subject of a nominal predicate construction.

- (90) Subject relativisation; CLS-*he* construction
- a. (Reedy 1979: 199, ex (52a))
 ?Ko ngā tamariki, [he whakatoī ti], te patunga.
 EQ the.PL children CLS cheeky the victim
 'The victims were the children, who were cheeky.'
- b. (Reedy 1979: 200–201, ex (54a))
 ?Hei kai mā te taniwha rā te tangatai,
 CLS(FUT) food belong the monster DIST the man
 [he mauherehere ti].
 CLS take.tie
 'The man/person/people, who are captives, are food for that monster.'

- (91) Subject relativisation; EQ construction (Reedy 1979: 201, ex (55))
 ?He tānei, [ko Hōne ti], te hekeretari.
 CLS man/male EQ John the secretary
 ‘The secretary is a man/male, (who is) John.’

He observes that the results are slightly degraded (hence ?), but notes that this may be because the use of such a construction is marked, just as it is more marked in English to say *The house, which is big, is ours* relative to *The big house is ours* (Reedy 1979: 198). If it is correct that subject relativisation in nominal predicate constructions is allowed, then it is unclear why subject questioning is prohibited in these constructions (see Section 4.8). In other words, why can (92) (repeated from above), which is ungrammatical, not have the structure illustrated?

- (92) *Ko wai he māhita?
 KO Q CLS teacher
 ‘Who is a teacher?’



However, it is not clear that these examples involve subject relativisation. As Reedy (1979) observes, what he analyses as a relative clause must be interpreted appositively, i.e. they cannot be interpreted as restrictive modifiers. This does not follow automatically from the relative clause analysis of these appositive nominal phrases, unless one stipulates that subject relativisation in nominal predicate constructions is only permitted in appositively relative clauses. Instead, it seems simpler to say that these are simply appositively nominal phrases, both on the surface and underlyingly. If this is the case, it is not clear that subject relativisation from a nominal predicate construction is permitted.

I have considered a number of potential problems for analysing the CP of the cleft analysis as a relative clause and concluded that none of them are particularly severe. Nonetheless, the question remains: why can we not form a grammatical cleft when the CP involves a nominal predicate construction?

6.3 Intervention

I propose that the problem is intervention. To form a grammatical cleft, a grammatical relative clause CP must be formed. In subject clefts, the subject inside the CP moves to SpecCP. This is permitted when the predicate phrase is verbal or prepositional, but is prohibited when the predicate phrase is nominal. In terms of featural Relativised Minimality (Starke 2001; Rizzi 2013), this can be captured by saying that C probes for a feature shared by both subjects and

nominal predicates, which I will call [D]. This is schematised below (note that the DP subject is not pronounced within the CP at all). Recall that I am assuming that movement of the predicate phrase to SpecFP is triggered by a [PRED] feature (see Section 2), so the DP subject does not intervene with movement of the DP predicate phrase.

(93) Nominal predicate constructions

* [CP [DP SUBJECT] C_[uD] [TP T [FP [DP PREDICATE] F [RP t_{subject} [R' R t_{predicate}]]]]]

(94) Verbal and prepositional predicate constructions

[CP [DP SUBJECT] C_[uD] [TP T [FP [VP/PP PREDICATE] F [RP t_{subject} [R' R t_{predicate}]]]]]

Crucially, C probes for [D] rather than a more ‘traditional’ A’-feature such as [REL] or [WH].²⁰ If C had a [REL] or [WH] feature, then it is unclear why a subject with such a feature could be attracted across a non-nominal predicate phrase but not across a nominal one (unless one were to stipulate that nominal predicate phrases have a [REL] or [WH] feature too).

This analysis makes further predictions. If C probes for [D], we predict that subjects should block movement of direct objects in transitive verbal predicate constructions. This prediction is borne out, and may provide a formal featural account of those systems where only subjects are accessible to A’-movement (Keenan & Comrie 1977). We have seen that subject relativisation is possible using a gap strategy, as in (95), repeated from above.

(95) (Bauer 1997: 566, ex (3703))

...	kua	tata	ki	te	taha	o	te	toka	rangitotoi
TAM	near	to	the	side	of	the	rock	scoria	
[e	tū	ana	t _i	i	te	ara]			
TAM	stand	TAM		at	the	path			

‘... [she] neared the side of the scoria rock which was standing in the path’

In contrast, the direct object of a canonical transitive cannot be relativised using the gap strategy.²¹

(96) (Bauer 1997: 569, ex (3716))

*Ka	mōhio	a hau	ki	te	tangatai	[i	kōhuru	a	Hone	t _i].
TAM	know	I	to	the	man	TAM	murder	PERS	John	

(‘I knew the man that John murdered.’)

Instead, another relativisation strategy must be used. One option is to make the internal argument the subject, either by passivisation or by using an AE construction, then relativising the subject. A second option is to use *ai* or a deictic, effectively to serve as a resumptive element. This can either be as part of a possessive-relative construction (see (98) below), or on its own (just using a resumptive is rejected by many older speakers) (Bauer 1997: 570–572).

Similarly, whilst subject focus *ko*-fronting using a gap strategy is perfectly acceptable, as in (97b), direct object focus *ko*-fronting with a gap strategy is not permitted; one of the

²⁰ By ‘traditional’ A’-feature, I mean a feature which is optionally present on an element and, when present, is involved in A’-movement (see e.g. van Urk 2015).

²¹ Relativisation with a gap strategy cannot be used with the direct object of canonical transitive verbs, though it can be used with the direct object of experience verbs (Bauer 1997: 568–569). However, Bauer (1997: 200; see also Bauer 1984) notes that canonical transitives and experience verbs frequently differ in their syntactic behaviour. Reedy (1979) treats experience verbs as intransitive.

strategies mentioned above must be used instead, e.g. the possessive-relative construction, as in (98).

(97) (Bauer 1997: 665, ex (4315))

- a. I kite a Hone i te tāhae.
 TAM see PERS John ACC the thief
 ‘John saw the thief.’
- b. **Ko HONE** i kite — i te tāhae.
 KO John TAM see ACC the thief
 ‘It was John who saw the thief.’

(98) (Bauer 1997: 666, ex (4316))

- Ko te KŌAUAU** t.ā Hone i tohu ai.
 KO the flute the.of John TAM save PART
 ‘It was the flute that John saved’ (more lit. ‘That which John saved was the flute’)

Importantly, the particle *ai* is obligatory in examples like (98) (see Bauer 1997: 375-389 for detailed discussion of *ai*). Pearce (1999) suggests *ai* is an operator-bound clitic whilst Herd, Macdonald & Massam (2011) call it a resumptive pronoun. I thus assume that these constructions do not involve movement of the direct object. If C probed for a [REL] or [WH] feature, we would incorrectly predict direct objects to be able to move across DP subjects, as they can in English, for example.

A second prediction made by this analysis is that non-DPs cannot be questioned via fronting/clefting. This generally seems to be correct. Oblique DPs are questioned in-situ. This applies to notional indirect objects, locative arguments and comitative arguments, as the following examples illustrate.

(99) (Bauer 1997: 435-436, ex (2854))

- a. I pātai te māhita ki a **wai?**
 TAM ask the teacher to PERS Q
 ‘Who did the teacher ask?’
- b. I haere atu a Rewi i Rotorua ki **hea?**
 TAM move away PERS Rewi from Rotorua to Q
 ‘Where did Rewi go to from Rotorua?’
- c. Kua kite.a a Rona me ngā **aha?**
 TAM see.PASS PERS Rona with the.PL Q
 ‘What is Rona seen with?’

Time questions constitute a possible exception as these require fronting. However, as noted above (Sections 5 and 6.1), time adverbials are typically fronted in declarative contexts anyway, so it is not clear that this is fronting-for-questioning as opposed to in-situ questioning in an already fronted position. Similarly, reason questions may involve fronting, but reason adverbials are also typically fronted in declarative contexts with resumptive *ai* (Bauer 1997: 376, 436-437). Reason questions may also be questioned in-situ, like other obliques, as in (100), or can be formulated as nominal predicate constructions where the questioned constituent is the predicate phrase and the subject phrase is the noun *take* ‘reason’ followed by a relative clause, as in (101).

(100) (Bauer 1997: 437, ex (2858))
 Tangi ana a Tohe ki te **aha**?
 cry TAM PERS Tohe to the Q
 ‘Why is Tohe crying?’

(101) (Bauer 1997: 437, ex (2859))
 [He **aha**] [te take [i reti ai e Māui te rā]]?
 CLS Q the reason TAM lasso PART by Maui the sun
 ‘Why did Maui lasso the sun?’

If C probes for a [REL] or [WH] feature, it would be unclear why obliques cannot be fronted for questioning more generally. The only ones that can be fronted for questioning seem to be fronted for reasons independent of interrogativity, suggesting that these may be questioned in-situ.

What about the questioning of predicate phrases? Again, this seems to take place in-situ. In the case of verbal predicate constructions, this can be seen from the fact that the questioned predicate follows the TAM marker, as in (102), repeated from above.

(102) In-situ questioning of verbal predicate
 Me **aha** [te waka e tau i tatahi rā]?
 TAM Q the canoe TAM anchor at seaside DIST
 ‘What should be done with the canoe anchored there by the beach?’

We also saw above that it is possible to relativise the nominal within a prepositional predicate phrase using a resumptive pronoun. Furthermore, Bauer (1997: 581) explicitly states that the predicate phrases of EQ and CLS-*he* constructions, which we have argued are nominal, cannot be relativised on, but they can be questioned. This is consistent with the hypothesis that predicate questioning takes place in-situ; if this were not the case, we might expect predicate questioning to involve resumption, contrary to fact.²²

6.4 Topicalisation movement

As shown in Sections 3 and 4, subject topicalisation in Māori is permitted in all constructions. Assuming that subject topicalisation in Māori involves movement (a point I discuss below), this implies that no predicate phrase intervenes. Consequently, the Topic head must probe for a feature only found on argument phrases, which I will call [K] (thinking of Case/Kase).

Further evidence suggests that, like [D], [K] is also a nominal feature. First, if [K] is generally found on nominal arguments, we predict that subjects will intervene with topicalisation of any lower arguments in verbal predicate constructions. This prediction is borne out. Whilst subject topicalisation with a gap strategy is fine, direct object topicalisation with a gap strategy is ungrammatical (Bauer 1993, 1997; Pearce 1999).

(103) (Pearce 1999: 251, ex (7))
 a. Baseline verbal predicate construction
 I **kite** [te pirihi mana] [i te tamaiti].
 TAM find the policeman ACC the child
 ‘The policeman found the child.’

²² Note that this implies that nominal predicate phrases are ‘defective interveners’ for subject movement to SpecCP: nominal predicate phrases intervene in the Probe-Goal relation between C and the subject phrase, but they themselves, like predicate phrases in general, cannot undergo movement to SpecCP.

- b. Subject topicalisation
 [Ko te pirihihana] i kite i te tamaiti.
 TOP the policeman TAM find ACC the child
 ‘The policeman found the child.’
- c. Object topicalisation
 *[Ko te tamaiti] i kite te pirihihana.
 TOP the child TAM find the policeman
 (‘The child, the policeman found.’)

Similarly, oblique arguments cannot be topicalised using a gap strategy. (104) illustrates this using the *by*-phrase of a passive.

(104) (Pearce 1999: 252, ex (8))

- a. Baseline verbal predicate construction
 I kite-a [te tamaiti] [e te pirihihana].
 TAM find-PASS the child by the policeman
 ‘The child was found by the policeman.’ [Hohepa 1967: (42)]
- b. Subject topicalisation
 [Ko te tamaiti] i kite-a e te pirihihana.
 TOP the child TAM find-PASS by the policeman
 ‘The child was found by the policeman.’ [Hohepa 1967: (43)]
- c. Oblique topicalisation
 *[Ko te pirihihana] i kite-a te tamaiti.
 TOP the policeman TAM find-PASS the child
 (‘The policeman, the child was found by.’)

This thus suggests that [K] is a feature generally found on nominal arguments, and argues against equating [K] with a more familiar A’-feature such as [TOP].

Finally, although an embedded subject can be topicalised (via fronting) *within* its own clause, Bauer (1997: 657) notes that even subjects cannot be readily topicalised *from* an embedded clause. This suggests that subject topicalisation is effectively clause-bound, which would be unexpected if the feature driving topicalisation were an A’-feature like [TOP].²³

So far, I have been assuming that Māori topicalisation is derived by movement. However, an anonymous reviewer asks whether topicalisation might involve base-generation instead. I propose that Māori subject topicalisation is derived by movement, whilst non-subject topicalisation involves base-generation. Furthermore, I propose that base-generated topicalisation is quite unusual in Māori.

All subject topicalisation examples thus far have involved a gap strategy, but subject topicalisation with resumption is also attested (Bauer 1993, 1997; Pearce 1999), as in (105).

²³ The subject of certain types of embedded clause can be topicalised, however. This is true of the AE construction (see Section 5) and negative contexts, both of which are argued to be biclausal in Māori (negators in Māori are argued to be verbs which embed a clause (see Hohepa 1969; Chung 1970, 1978)). However, these are also the sorts of construction which permit so-called *subject raising* (Chung 1978; Bauer 1997; Potsdam & Polinsky 2012), whereby the subject of the embedded clause raises to become subject of the matrix clause. If this is the case, subject topicalisation in these constructions may in fact involve subject raising followed by topicalisation of a *matrix* subject (Bauer 1997: 658).

(105) (Bauer 1993: 222–223, ex (903))

A: Kei te aha a Hone?
TAM Q PERS John
‘What is John doing?’

B: [(A) Hone], kei te ruku.ruku kooura ia.
PERS John TAM dive.DUP crayfish 3.SG
‘John, he’s diving for crayfish.’

However, Bauer (1993: 236) notes that such ‘left-dislocated’ topics are “by no means a regular phenomenon, and many parallel examples are rejected by consultants”.

Non-subject topicalisation generally requires a resumptive pronoun or even a full resumptive noun phrase (Pearce 1999: 252; Bauer 1997: 657-659).

(106) (Bauer 1997: 659, ex (4223))

[Ko Ponga ia], kāhore kau he kupu kōtahi mā.na.
TOP Ponga CONTR NEG EXCL a word one belong.3SG
‘As for Ponga, however, he didn’t say a single word.’

But again, Bauer (1997: 657) notes that examples of non-subject topicalisation are “few and far between”. Topicalisation with resumption thus seems to be quite unusual in Māori both in instances of subject and non-subject topicalisation. I take this to indicate a strong preference for subject topicalisation to involve movement, an option not available to non-subjects due to the [K] feature that Topic uses to probe. If topicalisation in Māori involved base-generation, it is not clear why topicalisation with resumption and/or topicalisation of non-subjects would be so unusual.

In this respect, it is interesting to compare Māori topics with Niuean topics, the latter being analysed by Seiter (1980) as hanging topics (see also Massam 2010). Seiter shows that Niuean topicalisation of core arguments, i.e. subjects and objects, involves resumption by an overt or a zero pronoun (the latter giving the appearance of a gap). In contrast, Niuean clefting of core arguments requires a genuine gap. As we have seen, both subject topicalisation and subject clefting in Māori prefer or require the use of a gap. Seiter also shows that Niuean topicalisation is potentially unbounded, may apply to a range of different arguments, and may apply to constituents, such as comitatives, which are inaccessible to clefting and relativisation, which involve movement. This is different from Māori, where topicalisation is effectively clause-bounded and only readily available for subjects. I thus conclude that Māori topicalisation, unlike Niuean topicalisation, involves movement.

7 Discussion

I have proposed that Māori triggers A’-movement to SpecCP and SpecTopP using [D] and [K] features respectively, rather than more ‘traditional’ A’-features such as [WH], [REL] and [TOP] familiar from analyses of European languages. I have argued that this captures the extraction profile of Māori in a straightforward fashion, utilising the familiar mechanisms of featural Relativised Minimality. I would also argue that there are conceptual benefits to the analysis proposed here. If A’-movement is defined as movement into the C-domain and if the specific interpretations for different types of A’-movement are determined by the field into which the moving element lands (as is standardly assumed in the cartographic literature following Rizzi 1997), then grammatical systems should in principle be free to trigger A’-movement using features like [D] and [K], as in Māori, or features like [REL], [WH] and [TOP]. Indeed, as

Chomsky (1981: 7) recognised at the inception of the Principles and Parameters framework: “We need not expect, in general, to find a close correlation between the functional role of such general processes [i.e. the general processes underlying notions such as ‘passive’ and ‘relativisation’ – JD] and their formal properties, though there will naturally be some correlation”. In the present context, the A'-movements underlying both Māori and English relativisation have the same ‘functional role’ and both share the formal property of involving movement into the C-domain, but they are triggered by distinct formal features and so the A'-movements in both languages exhibit different formal properties in terms of which elements are accessible and which elements count as interveners.

Similar analyses have been independently proposed in the literature. Landau (2015) proposes that a [D] probe on a low C head derives the subjecthood of PRO; Belletti (2015) proposes that new information focus clefts in French are restricted to subjects because the relevant head in the C domain of the embedded clause probes for [D]; and Levin (2017) proposes that K'ichean C probes for [D], which results in movement of the absolutive or ergative argument depending on which argument is higher, which in turn depends on the internal structure of the *v*P.

Other authors have also questioned whether the A/A'-distinction is universal. Davies (2003) and Davies & Kurniawan (2013) argue that Madurese and Sundanese respectively lack *wh*-movement, and that what has previously been analysed as A'-movement is in fact A-movement, whilst van Urk (2015) and van Urk & Richards (2015) argue that Dinka has both A- and A'-features but that these always form composite probes, meaning there is no formal distinction between A- and A'-movement. Aldridge (2017a, b, 2018) proposes that in languages where there is no formal A/A'-movement distinction, it is only a [u ϕ] feature which motivates movement to SpecCP. The A/A'-distinction only arises when C has two sets of features which motivate two distinct movements. In such cases, there is C-T Inheritance (Richards 2007; Chomsky 2008), for example, in English, [wh] and [ϕ] originate on C: [ϕ] is inherited by T (hence A-movement targets SpecTP), whilst [wh] remains on C (hence A'-movement targets SpecCP). Aldridge thus derives the A/A'-distinction from C-T Inheritance; in the absence of C-T Inheritance, there is no A/A'-distinction and only a [ϕ] feature is present, this being universally necessary for licensing DPs.

The present proposal is similar to Aldridge's in that, if there is no formal evidence for A'-features, I assume that they are not present in the grammatical system. However, rather than appeal to the mechanism of Feature Inheritance, I suggest that the formal feature used to trigger A'-movement in a given language results from the acquisition or development of the grammar itself. In this way, although the grammar itself places no constraints on the feature used to trigger A'-movement, other factors will serve to limit the range of possible variation. Consider the question of why Māori triggers A'-movement using nominal-features like [D] and [K], whilst English does so using features like [WH] and [REL].

I adopt the proposal that formal features are emergent (Biberauer 2011, 2017; Biberauer & Roberts 2015a, b, 2017), resulting from the interaction of the Three Factors in Language Design, namely Universal Grammar, the Primary Linguistic Data, and the Third Factor, i.e. principles of data processing and architectural/computational-developmental constraints (Chomsky 2005). Biberauer (2017) proposes as a Third Factor a domain-general cognitive bias called Maximise Minimal Means, which could be paraphrased informally as ‘do as much as possible with as little as possible’, and which in the linguistic domain has at least two language-specific manifestations that guide language acquisition, namely Feature Economy and Input Generalisation (see also Roberts & Roussou 2003; Roberts 2007; Biberauer & Roberts 2017).

(107) Feature Economy

Postulate as few formal features as possible to account for the input (=intake).

- (108) Input Generalisation
Maximise already-postulated features.

According to this view, features are not innate or universal. If there is no evidence in the input (or more specifically the ‘intake’ (see Evers & van Kampen 2008)) for the presence of a particular formal feature, then the language acquirer will not postulate it following Feature Economy. However, once a formal feature has been postulated, the acquirer will attempt to use it as much as possible following Input Generalisation. Crucially, this includes the possibility of recycling features in syntactic domains beyond the one for which a given feature was originally postulated. For example, Wiltschko (2014) argues that there is universally an Anchoring domain in the clausal spine, but that languages may encode Anchoring using Tense, Location or Person, at least some of which are plausibly recycled from prepositional or nominal domains.

Biberauer (2017) argues that the N/V distinction²⁴ is plausibly made first in the acquisition process. Its acquisition is based largely on prosodic cues and accounts for the earliness of basic OV/VO directionality (see Tsimpli 2014). It is thus plausible that nominal features are present in the early stages of the developing grammatical system, and are thus available for recycling in other domains if the intake provides adequate motivation. Now, an acquirer of Māori will be exposed to instances of subject questioning, subject relativisation and subject topicalisation in the intake. Subjects being nominal phrases, it seems plausible to suppose that the acquirer will encode the trigger for A'-movement in Māori by recycling a nominal feature for use as a probe in the C domain. This makes maximal use of minimal means. The acquirer has not postulated any new formal features, and has maximised nominal features which already existed in the system. The result is a Māori-like extraction profile, i.e. one where only subjects are accessible to A'-movement.

I assume that acquirers of languages like English also go through such a stage, i.e. recycling features to serve as triggers for A'-movement is the default. This would account for the fact that questions and relative clauses emerge quite early during acquisition (at around age 3) and for the fact that subject questions and subject relative clauses typically emerge first (see Tsimpli 2014 and references therein).

In the absence of clear instances of A'-movement of non-subjects, this system will persist, ultimately yielding the adult Māori grammar.²⁵ However, an acquirer of a language like English will be exposed to A'-movement of non-subjects. Such positive evidence will (eventually) indicate that triggering A'-movement using nominal features is insufficient to account for their intake, leading them to override Feature Economy (see e.g. Biberauer 2017; Biberauer & Roberts 2017) and postulate a new type of feature for triggering A'-movement, namely A'-features. Acquirers who have postulated A'-features may still struggle with non-subject A'-dependencies as a result of the computation required to evaluate featural subset and superset relations for the purposes of featural Relativised Minimality, but this arguably has more to do with processing (see Friedmann, Belletti & Rizzi 2009).

This sequence of development means that an acquirer of a Māori-type language will not fall into a superset trap. If they encoded A'-movement triggers using A'-features from the outset, one would either have to explain why A'-movement of non-subjects is ungrammatical

²⁴ By N/V distinction I do not mean the exact features [N] and [V], which by hypothesis only arise in their exact form later in the acquisition process. We can thus think of the N/V distinction as distinguishing nominal features and verbal features (or nominal features and non-nominal features), which will eventually be successively subdivided into the finer-grained categories of the adult grammar (including [N] and [V]). N and V are thus *archi-features* (by analogy with *archi-phonemes*): *archi-N* and *archi-V*.

²⁵ I leave the issue of why C specifically probes for [D] and Topic for [K] for future research.

in the adult grammar given the standard assumption that negative evidence does not constitute part of the intake, or one would have to say that featural Relativised Minimality is computed differently in Māori-type and English-type languages, which is conceptually unappealing. On the view proposed here, featural Relativised Minimality is computed in exactly the same way in both types of language, the difference stemming instead from the features which enter into those computations.

I believe that this provides a new formal perspective on Keenan & Comrie's (1977) Accessibility Hierarchy. As Keenan & Comrie and many investigations stemming from their proposal observe, the Accessibility Hierarchy describes both discrete differences between languages as well as parsing and processing preferences within languages. The Maximise Minimal Means model suggests a link between the two. The formal systems of languages with non-subject dependencies have to be motivated by robust cues from the intake. It seems reasonable to think there is a diachronic if not synchronic-acquisitional link between the robustness of cues and the ease with which such cues are parsed and processed. Robust cues will lead to the postulation of formal features during language acquisition, whilst non-robust or absent cues will not. In this way, parsing and processing preferences may be digitised and encoded in the formal system of a language during language acquisition, resulting in hierarchies, such as the Accessibility Hierarchy.

8 Conclusion

This paper has investigated subject extraction in Māori. I argued that, whilst subject topicalisation is generally permitted in all types of construction, subject questioning is restricted, being permitted in verbal and prepositional predicate constructions but prohibited in nominal predicate constructions. I argued that subject questions and subject focus take the form of clefts: the questioned/focused constituent is the matrix predicate phrase and the matrix subject phrase is a headless relative clause. I argued that the restriction on subject questioning reduces to an intervention effect in the CP of this headless relative clause. I proposed that the C head probes for a [D] feature ([D] being shared both argument and predicate nominals). Consequently, nominal predicate phrases intervene with movement of the subject DP to SpecCP, whilst verbal and prepositional predicate phrases do not. In contrast, I proposed that the Topic head in cases of topicalisation probes for a [K] feature ([K] being found on argument nominals only). Consequently, no predicate phrase intervenes with movement of the subject to SpecTopP.

I argued that by triggering A'-movement using nominal features like [D] and [K] we can account for why generally only subjects are accessible to A'-movement in Māori. I suggested that nominal features may be recycled as triggers of A'-movement in line with recent emergentist ideas, according to which formal features emerge during language acquisition guided by the domain-general cognitive bias of Maximise Minimal Means.

Abbreviations

ACC = accusative, CLS = classifier, CLS(FUT) = future classifier, CONTR = contrastive particle, DIST = distal, DUP = reduplicated segment, EQ = equational *ko*, EXCL = exclusive, INCL = inclusive, KO = interrogative/focus *ko*, NEG = negator, NOM = nominalising suffix, NUM = numeral particle, PART = particle, PASS = passive, PERS = personal particle, PL = plural, PNUM = numeral particle for persons, PRES = present, PROX1 = proximal (near speaker), PT = past, Q = question word, TAM = tense/aspect/mood marker, TOP = topic *ko*, 3SG = third person singular

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