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 subjects are generally quite accessible (in the sense of Keenan & Comrie 1977) for the purposes of questioning and topicalisation. However, as in other languages, 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]

The structure of the paper is as follows: in Section 2, I describe Māori verbal predicate constructions, i.e. clauses, and the strategies employed to question and topicalise subjects. In Section 3, I describe the various non-verbal predicate constructions in Māori and whether I take the predicate phrase to be nominal or prepositional. I then consider whether the subject and predicate can be questioned and topicalised. I will propose that, all else being equal, subject questioning is ruled out in nominal predicate constructions but allowed in verbal and prepositional predicate constructions, whilst subject topicalisation is permitted in all types of construction (see also de Lacy 1999). In Section 4, I will review the two types of analysis that have been proposed in the literature to account for the subject extraction facts, which I will refer to as the cleft + headless relative clause analysis and the complementary distribution analysis. I argue that, although Māori questions may be cleft structures, analysing the embedded clause as a (headless) relative clause is problematic. Furthermore, I argue that, whilst the complementary distribution analysis is plausible for explaining the impossibility of subject questioning in one type of construction, it probably does not extend to nominal predicate constructions.

Section 5 presents my analysis. I propose that Māori questions are cleft structures but where the embedded clause is a focus construction rather than a relative clause (see Belletti 2015). I argue that nominal predicate phrases intervene with subject questioning by Relativised Minimality in the embedded clause because focus movement is formally triggered by a [D] feature rather than an A'-type feature. I go on to claim that topic movement is also formally by an A-type feature and that Māori clauses generally lack A'-type features. I briefly discuss the existence of such systems from an emergentist perspective in which formal features are not innately prespecified but rather emerge during the course of language acquisition (Biberauer 2011, 2017; Biberauer & Roberts 2015a, b, 2017). Section 6 concludes.

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[1] This paper relies heavily on the detailed reference grammars by Winifred Bauer (Bauer 1993, 1997). I would also like to thank Winifred Bauer for providing additional examples, glosses, translations and comments on various empirical points.

2 Verbal predicate constructions

2.1 Verbal predicate constructions

Verbal predicate constructions contain a Tense-Aspect-Mood (TAM) marker and a verbal predicate. The subject typically follows the verb. Whether Māori verb-initial order is derived via V-raising (Waite 1990, 1994; Pearce & Waite 1997; de Lacy 1999; Pearce 2002) or VP-raising (Bauer 1993; Herd 2003) is an open issue. For concreteness, I will be assuming a predicate fronting (VP-raising) analysis (see Section 5.1), but nothing in my analysis hinges on this as far as verbal predicate constructions are concerned.

Some examples of a verbal predicate construction are given below (throughout this paper I will place the predicate (phrase) in bold unless otherwise stated).[2]

(1)   (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.'

(2)   (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.'

(1) 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 Section 3.1.1). (2) has an indefinite subject, here introduced by *he*.[3]

An optional rule called Indefinite Subject Fronting may move an indefinite subject to a position preceding the TAM marker.

(3)   (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).

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[2] The examples in this paper are drawn from a range of sources, each with their own glossing conventions. I have regularised these for convenience (see the list of abbreviations).

[3] 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 more details and discussion).

2.2   Subject questioning

Subject questioning/focus in intransitive verbal constructions may be achieved by *ko*-fronting (for definite subjects) or Indefinite Subject Fronting (for indefinite subjects), as in (4) and (5) respectively.[4]

(4)   (Bauer 1993: 7, ex (29))

Ko	wai	kua	**hoki**	ki	te	kaainga?[5]
KO	who	TAM	return	to	the	home

'Who has gone home?'

(5)   (Bauer 1993: 7, ex (30))

He	aha	kua	**mahue**	i	te	tamaiti?[6]
a	what	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 (see footnote 3). *Ko*-fronting is available but generally only used in present tense contexts, as in (6).

(6)   (Bauer 1997: 434, ex (2850c))

Ko	wai	kei te	**here**	**atu**	i	ngā	kurī?
KO	who	TAM	tie	away	ACC	the.PL	dog

'Who is tying up the dogs?'

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[4] A note on glossing: the particle *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.

Whether these are instances of a single *ko* or not is debatable. For example, 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*. I will assume, following Bauer, that all three are distinct.

[5] Bauer often glosses *ko* as TOP in such cases. As pointed out in footnote 4, I will gloss a *ko* modifying an interrogative element as KO since, following the cartographic tradition, interrogative elements are considered foci rather than topics.

[6] Note that *he aha* is the subject, not *i te tamaiti*.

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.

(7)   (Bauer 1997: 434, ex (2850a,b))

    a.   **Nā** **wai** i   here atu te   kurī?
        belong who TAM tie   away the   dog
        'Who tied up the dog?'

    b.   **Mā** **wai** e   here atu te   kurī?
        belong who TAM tie   away the   dog
        'Who will tie up the dog?'

As will be described in more detail in Section 3.5, the main predicate phrase of the AE construction is the prepositional phrase in bold, i.e. (7) 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, which involves genuine subject questioning, is used instead.

2.3   Subject topicalisation

Topicalised constituents 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 using the particle *ko* (glossed as TOP in these contexts, see footnote 4).

(8)   (Harlow 2007: 174)[7]

    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, for example, 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).

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[7] 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.

3 Non-verbal constructions

There are a number of non-verbal predicate constructions in Māori. I introduce these constructions one by one in Section 3.1 and classify them according to the category of the predicate phrase as either nominal or prepositional, which is not always straightforward. I consider whether the subject of these constructions can be questioned (Section 3.2) and topicalised (Section 3.3), and then ask the same of the predicate phrase (Section 3.4). The Actor Emphatic construction, already seen briefly in Section 2.2, is described in more detail in Section 3.5, before some empirical generalisations are defended in Section 3.6. Section 3.7 provides a summary. As above, I place the (main) predicate phrase in bold.

3.1 Non-verbal predicate constructions

3.1.1 Equational constructions (EQ)

EQ constructions are equational or identificational. The predicate phrase is introduced by *ko* (glossed here as EQ, see footnote 4) and there are no TAM markers. *Ko* is incompatible with the personal article *a*, which is generally found with proper names, hence in (9) we have *ko Hera* and not *ko a Hera*. However, *ko* may appear with a determiner with common nouns, as in (10).

(9)   (Bauer 1997: 27, ex (202))

       Ko   **Hera**   taku   hoa
       EQ   Hera   my   friend
       'Hera is my friend.'

(10)   (Bauer 1997: 28, ex (203))

       Ko   **te**   **pō**   **tika**   **tonu**   tēnei
       EQ   the   night   right   indeed this
       'This is certainly the right night.'

Following Bauer (1991, 1993, 1997), I treat EQ-*ko* as distinct from focus- and topic-*ko* (see footnote 4). There is considerable debate about the category of *ko*, however. Bauer (1997: 28) calls *ko* a preposition (see also Harlow 2007: 152) because it is always followed by a nominal phrase; 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 arguably be nominal. On Bauer's analysis, however, where *ko* is a preposition, the predicate phrase would be prepositional. As pointed out by Chung & Ladusaw (2004), the evidence for *ko* being a preposition, and hence for the predicate phrase being prepositional, is not particularly strong. I thus conclude that the predicate phrase in EQ constructions is nominal. For concreteness, I will adopt de Lacy's

(1999) intuition that *ko* is a DP-internal element, higher than the definite article and competing for the same functional position as the personal article *a* (hence their complementary distribution).

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

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

(11)   (Bauer 1997: 28, ex (204))

> **He**   **māhita**   a   Hera.
> CLS   teacher   PERS   Hera
> 'Hera is a teacher.'

(12)   (Bauer 1997: 28, ex (205))

> **He**   **nui**   te   whare nei.
> CLS   big   the   house PROX1
> 'This house is big.'

De Lacy (1999) takes *he* to be identical to the indefinite determiner *he*, though Bauer (1997: 28-29) notes there are slight differences between this *he* and the indefinite determiner *he*. Waite (1994) suggests that *he* may be a TAM marker in such cases, in which case we would have a nominal predicate in (11) and an adjectival predicate in (12) (see also Harlow 2007). I will adopt de Lacy's (1999) analysis whereby *he* is an indefinite article in the extended nominal projection of the predicate phrase, i.e. the predicate phrase is nominal.[8] On this account, the predicate phrase in (12) is either nominalised or has a null nominal head.

      CLS-*he* constructions cannot be used to express future roles or functions. To do this, a CLS-*hei* construction must be used instead (see Section 3.1.5).

3.1.3 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).

(13)   (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].')

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[8] See de Lacy (1999, Appendix 2) for a detailed critique of treating *he* as a TAM marker.

(14)   (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 two and nine 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).

Waite (1990: 403) equates the *e* in NUM constructions with the TAM marker *e*. 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. Pearce (2005) notes a phonological condition on phrases, namely 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 (15), thus suggests that *e* and the number form a constituent.

(15)   (Pearce 2005: 7, ex (16))

    ngā   whakaahua   tino   ātaahua   **e**   **toru**   nei   o   tērā
    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 (13) and (14) where the number is (or modified) 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.

3.1.4   Existential possessive constructions (E-POSS)

E-POSS constructions 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.

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

     He   **hōiho** tōna.
     CLS   horse his
     'He has a horse.'

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

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

Given what was said about CLS-*he* constructions in Section 3.1.2, I should assume that the predicate phrase of E-POSS constructions is also nominal. However, there are reasons to think that there may be a null verbal predicate in such examples (see Section 3.6), in which case the *visible* part of the predicate phrase is nominal but the predicate phrase itself is verbal.

3.1.5   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 the future-oriented counterparts of CLS-*he* constructions and are used to specify future roles and functions.

(18)   (Bauer 1997: 29, ex (207))

     Hei   **kaiako**   ia.
     CLS(FUT)   teacher   3SG
     'She is going to be a teacher.'

Unlike *he* (see Section 3.1.2), *hei* is not obviously a determiner of any kind in Māori. However, *hei* does occur independently as a future locative preposition. 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.

3.1.6   Prepositional possessive constructions (P-POSS)

In P-POSS constructions, the predicate phrase is 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 3.1.7).

(19)   (Bauer 1997: 32, ex (214))

     Nō   **Te Kao**   ia
     belong Te Kao   3SG
     'She comes from/belongs to Te Kao.'

(20)   (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 so-called A/O category distinctions and is not relevant here (see Bauer 1997, Chapter 26 for discussion and references). This yields four potential forms: *nā, nō, mā, mō*.

3.1.7   Locational constructions (LOC)

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

(21)   (Bauer 1997: 29, ex (209))

     Kei   **a**   **Hone** taku   koti
     at(PRES)   PERS   John   my   coat
     'John has my coat.'

(22)   (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.'

3.2   Subject questioning

Having introduced the different types of non-verbal predicate constructions in Māori, I will now turn to the issue of whether the subject can be questioned. As we will see, the subject cannot be questioned in EQ, CLS-*he* and NUM constructions, but can be questioned in E-POSS, CLS-*hei*, P-POSS and LOC constructions. As before, the predicate phrase is in bold.

     The subject of an EQ construction cannot be questioned. (23a) shows that the subject cannot be questioned in-situ, and (23b) shows that it cannot be questioned by *ko*-fronting.

(23)   (Bauer 1997: 432, ex (2842))

    a.   ***Ko**   **Hata**   a   wai?
            EQ   Hata   PERS   who
            ('Who is Hata?')

    b.   *Ko   wai   **ko**   **Hata**?
            KO   who   EQ   Hata
            ('Who is Hata?')

The subject of a CLS-*he* construction cannot be questioned by *ko*-fronting either, as in (24).

(24)   (Bauer 1997: 432, ex (2843a))

*Ko   te   aha   **he**   **whero**?
KO   the   what   CLS   red
('What is red?')

Similarly, the subject of a NUM construction cannot be questioned, illustrated by the impossibility of questioning via Indefinite Subject Fronting.

(25)   (Bauer 1997: 433, ex (2848a))

*He   aha   **e**   **rima**?
a   what   NUM   five
('What are there five of?')

In contrast, the subject of E-POSS constructions can be questioned, as shown in (26).

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

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

This is particularly noteworthy given that subject questioning is not permitted in CLS-*he* constructions, which look superficially similar in terms of their predicate phrases (see Section 3.6 for further discussion of the E-POSS construction).

Similarly, the subject of CLS-*hei* constructions can be questioned, and once again this is different from CLS-*he* constructions, to which CLS-*hei* constructions have an obvious semantic similarity. (27), which is from a government website and verified as natural Māori by Winifred Bauer (p.c.), involves an embedded question rather than a matrix question. I have

bolded the relevant part and given more detail on the gloss and translation in (28) (thanks to Winifred Bauer p.c. for confirming the gloss and providing a closer translation).

(27)   Example from: http://www.teara.govt.nz/mi/waikato-iwi/page-4

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**.'

(28)   … **ko   wai**   hei   kīngi mō   te   iwi   Māori
         KO   who   CLS(FUT)   king belong the   people Māori
         '… who is to be king for the Māori people'

The subject of P-POSS constructions can also be questioned, either by *ko*-fronting or by Indefinite Subject Fronting, as in (29a) and (29b) respectively.

(29)   (Bauer 1997: 433, ex (2847a, b))

    a.   Ko   tēwhea   **mā   Rata**?
           EQ   which   belong Rata
           'Which one is for Rata?'

    b.   He   aha   **nā   Rata**?
           CLS   what   belong Rata
           'What belongs to Rata?'

Finally, the subject of LOC constructions can be questioned, either by Indefinite Subject Fronting, as in (30), or by *ko*-fronting, as in (31) and (32).

(30)   (Bauer 1997: 433, ex (2844))

He   aha   **kei**   **roto** i   te   kāpata   **rā**?
CLS   what   at(PRES)   inside   at   the   cupboard   DIST
'What is in that cupboard?'

(31)   (Bauer 1997: 433, ex (2845))

Ko   wai   **kei**   **roto** i   te   kāpata   **rā**?
EQ   who   at(PRES)   inside   at   the   cupboard   DIST
'Who is in that cupboard?'

(32)   (Bauer 1997: 433, ex (2846))

Ko	ēwhea	**kei**	**roto**	**i**	**te**	**kāpata**	**rā**?
EQ	which.PL	at(PRES)	inside	at	the	cupboard	DIST

'Which ones are in that cupboard?'

To summarise, the subject cannot be questioned in EQ, CLS-*he* and NUM constructions, but can be questioned in E-POSS, CLS-*hei*, P-POSS and LOC constructions.

3.3   Subject topicalisation

Unlike subject questioning, subject topicalisation is generally permitted in all of the constructions illustrated above, with the possible exception of EQ constructions (see de Lacy 1999). Subject topicalisation is illustrated below for CLS-*he* (33), NUM (34), CLS-*hei* (35), P-POSS (36), and LOC constructions (37). I have been unable to find an example or comment specifically relating to E-POSS constructions.

(33)   CLS-*he* construction (de Lacy 1999: 7, ex (18))

Ko	Hone	**he**	**māhita**.
TOP	John	CLS	teacher

'John is a teacher.'

(34)   NUM construction (Bauer 1997: 654, ex (4201c))[9]

Ngā	wāhine	a	Wairangi	**toko.rua**,
the.PL	women	PERS	Wairangi	PNUM.two
ko	Pare-whete,	ko	Pūroku.	
TOP	Pare-whete	TOP	Puroku	

'Wairangi had two wives, Pare-whete and Puroku.'

(35)   CLS-*hei* construction (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.'

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[9] Bauer glosses both the *ko*'s as EQ. However, according to the translations, the *ko*-marked phrases are appositional, modifying the fronted topicalised subject (which itself is not marked with *ko*). It thus seems more accurate to gloss both the *ko*'s as TOP (see also (36) and (37)). Importantly, this is not multiple topicalisation.

(36)   P-POSS construction (Bauer 1997: 654, ex (4201a))

Ko	tēnei	tangata	ko	Wairangi	**nō**	**Ngāti-Raukawa**.
TOP	this	man	TOP	Wairangi	belong	Ngati-Raukawa.

'This man, Wairangi, belonged to Ngati-Raukawa.'

(37)   LOC construction (Bauer 1997: 654, ex (4201b))[10]

Ko	tōna	kāinga ko	Rurunui	**i**	**te**	**takiwā o**
TOP	his	home TOP	Rurunui	at	the	district of

Whare-pūhunga.
Whare-puhunga
'His home, Rurunui, was in the district of Whare-puhunga.'

Subject topicalisation has been claimed to be prohibited in EQ constructions (de Lacy 1999).[11]

(38)   EQ construction (de Lacy 1999: 7, ex (17))

*Ko	tēnei	**ko**	**te**	**rōia**.
TOP	this	EQ	the	lawyer

'This is the lawyer.'   (from Bauer 1991; Bauer 1993: 79)

De Lacy (1999) equates topic-*ko* and EQ-*ko*. In other words, he argues that the nominal predicate phrase in an EQ construction (but not in other nominal predicate constructions) is a topic phrase and so prevents other phrases, such as the subject, from being topicalised. The empirical data and analysis concerning subject topicalisation in EQ constructions remain debatable. I will conclude that subject topicalisation is generally permitted in all constructions, including nominal predicate constructions, and will assume that, if it is ruled out in EQ constructions, this is for independent reasons.

Similarly to topicalisation, Bauer (1997: 566) states that any type of subject can be relativised, including the subjects of both verbal and non-verbal constructions. The following examples show subject relativisation with a verbal and LOC construction.

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[10] Bauer glosses the second *ko* as EQ. As in footnote 9, this second *ko*-marked phrase is appositional.

[11] De Lacy (de Lacy 1999: Appendix 4) analyses apparently acceptable examples as involving a cleft structure.

(39)   (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**	**i**	**te**	**ara**
TAM	stand	TAM	at	the	path

'… [she] neared the side of the scoria rock which was standing in the path'

(40)   (Bauer 1997: 566, ex (3707))

Ka	kai.nga	e	ia	ngā	āporo	**i**	**roto**	**i**	**te**
TAM	eat.PASS	by	3SG	the.PL	apple	at	inside	at	the

kāpata.
cupboard

'He ate the apples which were in the cupboard.'

Bauer's wording suggests that relativisation is not restricted in EQ, CLS-*he* and NUM constructions (this will be important in Section 4.1). If so, relativisation patterns more with topicalisation than with questioning/focus. Similarities between relativisation and topicalisation are also attested cross-linguistically (see, e.g., Kuno 1973, 1976; Williams 2011; Abels 2012; Douglas 2016, 2017).

3.4   Predicate questioning and topicalisation

Thus far, I have only looked as subject questioning and subject topicalisation. But what of the predicate phrase? Bauer (1997, p.c.) states that predicate topicalisation is uniformly impossible. Predicate relativisation too is said to be impossible in EQ and CLS-*he* constructions but possible in P-POSS and LOC constructions provided a resumptive strategy is used. In contrast, predicate questioning is permitted in all constructions (I will ignore predicate questioning in verbal constructions, which is claimed to be possible in Māori (Bauer 1997: 431, ex (2836))). It is generally accepted that this occurs in-situ. Examples are given below for EQ (41), CLS-*he* (42), NUM (43), E-POSS (44), CLS-*hei* (45), P-POSS (46), and LOC constructions (47).

(41)   EQ construction (Bauer 1993: 5, ex (13))

Ko	**wai**	tō tātou	matua?
EQ	who	our.INCL	parent

'Who is our father?' (More literally 'Our father is who?')

(42)   CLS-*he* construction (Bauer 1997: 432, ex (2843b))

He	**aha**	te	mea	whero	rā?
CLS	what	the	thing	red	DIST

'What is the red thing there?'

(43)   NUM construction[12] (Bauer 1993: 7, ex (25))

E   hia   ngaa   poaka?
NUM   how.many   the.PL   pig
'How many pigs are there?'

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

He   aha   tōna?[13]
CLS   what   his
'What does he have?'

(45)   CLS-*hei* construction (Winifred Bauer p.c.)

Hei   aha   ia?[14]
CLS(FUT)   what   3SG
'What is she going to be (when she grows up)?'

(46)   P-POSS construction (Bauer 1997: 431, ex (2833))

Mō   wai   tō   wai?
belong who   your   water
'Who is your water for?'

(47)   LOC construction (Bauer 1997: 429, ex (2823))

Kei   hea   te   oka?
at(PRES)   where   the   butcher's knife
'Where's the butcher's knife?'

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[12] 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?')

[13] 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.).

[14] *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.).

3.5 Actor Emphatic constructions (AE)

AE constructions are discussed separately because, although the consensus is that AE constructions do not permit questioning of the subject (or any other element for that matter), there appear to be some cases where subject focus seems to be possible.

The AE construction, as the name suggests, emphasises the agent argument. Two examples are given below:

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

Nā   Pani   i   āwhina   a   Hera.
belong Pani   TAM   help   PERS   Hera
'*Pani* helped Hera.'

(49)   (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). The emphasised agent is expressed in a prepositional phrase introduced by a possessive preposition: *nā* for past actions, as in (48), and *mā* for future actions, as in (49). These prepositions are the same as those found in P-POSS constructions (though the *-ō* form possessive prepositions also found in P-POSS constructions, *nō* and *mō*, are impossible in the AE construction). 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.

There are a number of analyses of the AE construction (see Waite 1990; Bauer 2004 for overviews), some of which revolve around whether it is monoclausal (Waite 1990; Pearce 1999) or biclausal (Bauer 1993; Bauer 1997; Potsdam & Polinsky 2012). I will assume a biclausal analysis where the main predicate phrase is the prepositional phrase introducing the agent and the remainder of the clause is an embedded clause whose subject is the internal argument.

In Section 2.2, we saw that the AE construction could be used to question the agent of transitive predicates, as in (50), repeated from above. However, given the structure of the AE construction, this involves predicate questioning rather than subject questioning.

(50)   (Pearce 1999: 260, ex (37))

     a.   **Nā** **wai** i   here   atu   te   kurī?
         belong who TAM tie   away the   dog
         'Who tied up the dog?'

     b.   **Mā** **wai** e   here   atu   te   kurī?
         belong who TAM tie   away the   dog
         'Who will tie up the dog?'

Subject questioning, i.e. questioning of the internal argument of the transitive predicate, is not permitted.

(51)   (Pearce 1999: 259, ex (30))

     *Ko   wai **nā** **Hōne** i   pupuhi?
     KO   who belong Hone TAM   shoot
     'Who did Hone shoot?'

Questioning of the subject results in an echo-interpretation only. This holds both when the subject is in-situ (see also Bauer 1997: 433) and when it is fronted, as in (52) and (53) respectively.

(52)   (Bauer 1993: 16, ex (69))

     Nā **Hata** i   here   te   aha?
     belong Hata TAM tie   the   what
     'Hata tied up *what*?'

(53)   (Bauer 1993: 16, ex (69a,b))

     a.   Ko   te   aha   **nā** **Hata** i   here?
         KO   the   what belong Hata TAM tie
         '*What* did Hata tie up?'

     b.   He   aha   **nā** **Hata** i   here?
         a   what belong Hata TAM tie
         '*What* was it Hata tied up?'

It is possible that the fronting in (53) is actually an instance of topicalisation since an echo questioned-subject would in some sense be discourse-given. Nonetheless, the claim still holds that (non-echo) subject questioning is not permitted in AE constructions.

       However, there is a complication. As Bauer (1993, 1997) observes, whilst the primary function of the AE construction is to emphasise the actor/agent, it is also sometimes exploited

for its structure. Direct objects are not typically very accessible in Māori making it difficult to extract internal theme arguments (see also Section 5.2.1). To extract a theme argument, it must generally be expressed as a subject, either through passivisation or through the AE construction. Interestingly, there are some examples where the subject of the AE construction is focused with *ko*-fronting, which is apparently at odds with what was presented above (*ko*-focus is associated with strong stress, indicated by capitalisation). This is particularly strange if focus and questioning are equated, as in commonplace in the cartographic literature.

(54)   (Bauer 1997: 669, ex (4337))

Ko   ngā   KEA   **nā**   **Hone**   i   pupuhi.
KO   the.PL   kea   belong   John   TAM   shoot
'John shot the *keas*.'

(55)   (Bauer 1993: 230, ex (928))

Ko   te   KAIAKO   **nā.na**   i   meke.
KO   the   teacher   belong.3SG   TAM   hit
'He hit the *teacher*.'

Ko-fronting for focus thus seems to be possible in AE constructions. I will return to this complication in Section 3.6.

Finally, subject topicalisation is permitted in AE constructions, as in (56).

(56)   (Pearce 1999: 258, ex (27))

Ko   te   tamaiti   **mā   te   pirihimana**   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 5.2.2). This strategy can also be used for relativisation of internal arguments (Bauer 1997: 570).

3.6   Empirical generalisations

We have seen that there are a number of different constructions in Māori. The subject can be questioned/focused in verbal, CLS-*hei*, P-POSS, E-POSS and LOC constructions, but cannot be questioned in EQ, CLS-*he* and NUM constructions. AE constructions seem to permit both options. In contrast, the subject can be topicalised in all constructions (except perhaps the EQ construction, and noting that relevant data could not be found for the E-POSS construction). This information, as well as the (likely) category of the predicate phrase, is summarised in the table below.

(57)

Construction	Can the subject be questioned/focused?	Can the subject be topicalised?	Category of the predicate phrase
EQ	✘	?	DP
CLS-*he*	✘	✓	DP
NUM	✘	✓	DP
E-POSS	✓	n/a	DP
CLS-*hei*	✓	✓	PP
P-POSS	✓	✓	PP
LOC	✓	✓	PP
AE	✓/✘	✓	PP
Verbal	✓	✓	VP[15]

A correlation seems to emerge between whether the subject can be questioned/focused and the category of the predicate phrase. In brief, in nominal predicate constructions, the subject cannot be questioned/focused, whilst in non-nominal (i.e. prepositional and verbal) predicate constructions, it can (see also de Lacy 1999). This successfully describes all constructions but two, namely the E-POSS and AE constructions. The E-POSS construction seems to be an example of a nominal predicate construction where subject questioning is permitted, and the AE construction seems to be an example of a prepositional predicate construction where subject questioning is usually prohibited. However, I suggest that there may be independent reasons for these anomalies.

Let us first consider the AE construction. As pointed out in Section 3.5, the primary function of the AE construction is to emphasise the actor/agent argument. Suppose then that this means that, for independent reasons, the main PP predicate of the AE construction is ordinarily focused. In other words, the PP predicate phrase occupies the focus position and so blocks questioning/focus of all other elements (see Pearce 1999). Evidence for this comes from the observation that adverbial questioning is also prohibited in the AE construction (Waite 1990; Pearce 1999).

(58)   (Pearce 1999: 259, ex (29))

    a.   *Inawhea   **nā   Pita**   i   tīhore (ai)   te   hipi?
          when   belong Pita   TAM   fleece PART   the   sheep
          'When did Pita fleece the sheep?'

    b.   *__Nā Pita__ inawhea i tīhore (ai) te hipi?

(58) shows that *inawhea* 'when' cannot be questioned, and it makes no difference whether the adverbial precedes or follows the main predicate phrase of the AE construction (in bold).

However, as also pointed out in Section 3.5, the AE construction may be exploited for the fact that the internal argument of a transitive predicate is expressed as a subject and hence

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[15] Assuming a predicate-fronting (VP-raising) analysis.

is more accessible for extraction. Suppose that when the AE construction is exploited for this purpose, the prepositional predicate phrase is not necessarily in focus. If so, it behaves like any other non-focused prepositional predicate construction where subject questioning/focus is permitted. If this is correct, subject questioning/focus in the AE construction is permitted or prohibited depending respectively on whether the main prepositional predicate phrase is truly in focus, as in its primary function, or not.

As for the E-POSS construction, other Polynesian languages express this construction using an existential verbal predicate. Consider the following example from Tuvaluan:

(59)   (Besnier 2000: 228, ex (1205))

Koo   isi   se   paala   a   laatou.
TAM   exist   a   kingfish   of   them
'They already have one kingfish.'

Here, we have a TAM marker and an existential verb followed by a nominal phrase then a possessive phrase. Suppose that Māori has a null existential verb in E-POSS constructions with the TAM marker deleting under adjacency with the remaining DP-part of the nominal predicate (see Chung & Ladusaw 2004; Collins 2017: 8, fn 7), bringing Māori more into line with what Tuvaluan shows overtly. If so, the E-POSS construction is actually a type of verbal predicate construction. Since subject questioning is permitted in verbal predicate constructions, subject questioning in E-POSS constructions is expected.

Therefore, although further research is needed, I do not believe that E-POSS and AE constructions necessarily constitute counterexamples to the emerging correlation between the availability of subject questioning/focus and the category of the predicate phrase.

3.7   Summary

I introduced several different types of construction in Māori: verbal, EQ, CLS-*he*, NUM, E-POSS, CLS-*hei*, P-POSS, LOC and AE constructions. I considered whether subject questioning, subject topicalisation, predicate questioning and predicate topicalisation are permitted in these constructions or not. The results are summarised below:

(60)   Summary of Māori subject and predicate questioning and topicalisation

Construction	Subject questioning?	Subject topicalisation?	Predicate questioning?	Predicate topicalisation?
Verbal	✓	✓	-	-
EQ	✗	(✗)	✓	✗
CLS-*he*	✗	✓	✓	✗
NUM	✗	✓	✓	✗
E-POSS	✓	n/a	✓	✗
CLS-*hei*	✓	✓	✓	✗
P-POSS	✓	✓	✓	✗
LOC	✓	✓	✓	✗
AE	✗/✓	✓	✓	✗

Predicate questioning is uniformly allowed and occurs in-situ (recall I did not include verbal predicate constructions), whilst predicate topicalisation is uniformly prohibited. Subject topicalisation is generally permitted (except perhaps in EQ constructions), whilst subject questioning is restricted. Subject questioning/focus is permitted in verbal, E-POSS, CLS-*hei*, P-POSS and LOC constructions, as well as in some instances of the AE construction, but it is prohibited in EQ, CLS-*he*, NUM and most instances of the AE construction. I proposed that, all else being equal, 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).

There were two exceptions to this generalisation: E-POSS and AE constructions. I suggested that Māori E-POSS constructions may contain a null verbal existential predicate and so may actually be a type of verbal predicate construction. I also suggested that AE constructions generally prohibit subject questioning because the main predicate is generally already independently focused. If the main predicate of the AE construction is not focused, subject focus is possible. This is summarised in (61) (I have arranged the constructions by category of the predicate phrase and have starred the E-POSS and AE constructions):

(61)   Category of predicate phrase and possibility of subject questioning

Construction	Category of predicate phrase	Subject questioning?
EQ	DP	✗
CLS-*he*	DP	✗
NUM	DP	✗
CLS-*hei*	PP	✓
P-POSS	PP	✓
LOC	PP	✓
AE *	PP	✗/✓
E-POSS *	VP	✓
Verbal	VP	✓

In Section 5, I will provide an analysis of why subject questioning is sensitive to the category of the predicate phrase but subject topicalisation is not. However, before presenting my analysis, I will evaluate previous analyses of these Māori subject extraction phenomena.

4   Previous analyses

There are essentially two types of analysis in the literature that have been proposed to account for the subject extraction phenomena illustrated in Section 3. I call these the cleft + headless relative clause analysis (Section 4.1) and the complementary distribution analysis (Section 4.2). I believe that both analyses have various merits, but also various shortcomings.

4.1   Cleft + headless relative clause analysis

Bauer (1993, 1997) suggests that subjects in non-verbal predicate constructions cannot be questioned in general (but can all be topicalised). In other words, the task becomes to explain why subject questioning in CLS-*hei*, P-POSS and LOC constructions is apparently possible. Commenting on P-POSS and LOC constructions, Bauer proposes that subject questioning in these constructions involves a cleft structure. Specifically, it involves a cleft in which the questioned subject is actually the matrix predicate phrase and the matrix subject is actually a headless relative clause (see also Bauer 1991). To illustrate, an example like (62), repeated from above, is claimed to have the schematic constituent structure in (63).

(62)   (Bauer 1997: 433, ex (2844))

He   aha   **kei**   **roto**   **i**   **te**   **kāpata**   **rā**?
a   what   at(PRES)   inside   at   the   cupboard   DIST
'What is in that cupboard?'

(63)   [Pred Phrase He aha] [Subj Phrase [Relative Head Ø]i [[Pred Phrase kei roto i te kāpata rā] *ti*]]?

However, there are two major problems with this analysis. The first concerns the appeal to headless relative clauses, the second concerns overgeneration.

Harlow (2007: 175) points out that, although headless relative clauses are independently found in Māori, they are only found with a particular type of relativisation strategy, namely 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 (64a) or pre-nominal (64b) position (the relative clause is in square brackets).

(64)   (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 (64b), the relative head may be null, yielding a headless relative clause, as in (65).

(65)   (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 a gap strategy and not the possessive-relative strategy. Therefore, to adopt the cleft + headless relative clause analysis, one would need to admit headless subject relatives using a gap strategy and only permit them in certain contexts, such as in interrogative clefts (see also the discussion of pseudo-cleft analyses in Potsdam & Polinsky 2011).

A second problem concerns overgeneration. If one adopts the cleft + headless relative clause analysis, it is unclear why all the examples of subject questioning in EQ, CLS-*he*, CLS-*hei*, NUM and AE constructions are ungrammatical, i.e. why can they not be analysed as involving clefts with headless relative clauses as well? It is independently claimed that the subject of all non-verbal constructions can be relativised (Bauer 1997: 566; see Section 3.3 above), so why is a cleft possible for the likes of P-POSS and LOC constructions but not for the likes of EQ and CLS-*he* constructions? The cleft + headless relative clause analysis thus overgenerates unless some reason can be found for why this structure is available for some constructions but not others.

4.2   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.[16] Consequently, subject questioning is prohibited in nominal predicate constructions, but permitted in prepositional (and verbal) predicate constructions. Similarly, Pearce (1999) proposes that the emphasis on the agent/actor in the AE construction is the result of this phrase being in SpecFocP, the position targeted by question movement in her analysis. Consequently, subject questioning is prohibited in the AE construction. For both these authors, subject topicalisation is permitted in the relevant constructions (except the EQ construction according to de Lacy (1999)) because topicalisation targets SpecTopP, which is higher than SpecCP/SpecFocP. These analyses are schematically represented in (66).

(66)   a.   Nominal predicate constructions
              [$_{TopP}$ Top [$_{CP}$ [$_{DP}$ NOMINAL PREDICATE] C [$_{TP}$ … [$_{DP}$ SUBJECT] …]]]

        b.   AE constructions
              [$_{TopP}$ Top [$_{FocP}$ [$_{PP}$ nā/mā + AGENT] Foc [$_{TP}$ … [$_{DP}$ SUBJECT] …]]]

Note that both de Lacy (1999) and Pearce (1999) adopt monoclausal analyses. However, monoclausality is not an inherent part of a complementary distribution analysis. One could easily imagine such an analysis that holds entirely of the embedded clause of a bi-clausal structure, for example. In fact, Māori questions and AE constructions are widely believed to be bi-clausal (Chung 1978; Bauer 1993, 1997, 2004; Potsdam & Polinsky 2011, 2012). I will adopt a bi-clausal cleft analysis in Section 5. But what about the complementary distribution proposal itself? Is subject questioning ruled out because the position targeted by questioning is occupied by some other constituent?

       Following the cartographic tradition, Pearce (1999) assumes that questioning and focus target the same position, namely SpecFocP. In the AE construction, the main prepositional predicate phrase (which introduced the agent/actor) is generally focused, i.e. it occupies SpecFocP. Consequently, it correctly predicts that subject questioning is ruled out. It also predicts that questioning of other elements will be ruled out. As we saw in Section 3.6, adverbial questioning is not permitted in the AE construction, as in (67), repeated from above.

(67)   (Pearce 1999: 259, ex (29))

    a.

*Inawhea	**nā**	**Pita**	i	tīhore	(ai)	te	hipi?
when	belong	Pita	TAM	fleece	PART	the	sheep

             'When did Pita fleece the sheep?'

    b.   ***Nā Pita** inawhea i tīhore (ai) te hipi?

The complementary distribution analysis thus seems to work quite well for explaining why subject questioning is not permitted in the AE constructions.

       However, the same facts do not hold of nominal predicate constructions. First, nominal predicate phrases are not necessarily or typically associated with focus interpretation, unlike the prepositional predicate phrase of the AE construction. In cartographic terms, this would

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[16] De Lacy (1999) adopts a V-raising analysis for verbal predicate constructions.

suggest that nominal predicate phrases do not necessarily occupy SpecFocP. Second, whilst adverbial questioning is prohibited in the AE construction, it seems to be possible in nominal predicate constructions (Winifred Bauer p.c.). (68) shows that an adverbial phrase may precede the predicate phrase (in bold) of a nominal predicate construction in declarative contexts.

(68) https://teara.govt.nz/mi/biographies/3n5/ngata-apirana-turupa (thanks to Winifred Bauer p.c. for the examples, which are conjuncts of one clause in the original)

    a.   CLS-*he* construction

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 …'

    b.   EQ construction

… nō	te	mutunga	o	1899,	**ko**	**ia**	te	minita
belong	the	end	of	1899	EQ	3SG	the	minister

mō	ngā	take	Māori[17]
belong	the.PL	affairs	Māori

'… from the end of 1899 he was the minister of Māori affairs'

As (69) shows, this adverbial may be questioned (note the fronting of the subject in question contexts as well – crucially this is not subject questioning though).

(69)   a.   CLS-*he* construction

Nō	hea	a	Kara	**he**	**minita**
belong	when	PERS	Carroll	CLS	minister

nō	**te**	**kāwanatanga**	**Rīpera**?
belong	the	government	Liberal

'When was Carroll a minister in the Liberal government?'

    b.   CLS-*he* construction

I	ēwhea	tau	a	Kara	**he**	**minita**
in	which.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?'

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[17] Winifred Bauer (p.c.) points out that *ko ia* may be 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. Modern Māori speakers often drop the *ko* in EQ constructions.

c.   EQ construction (adapted from (68b), thanks to Winifred Bauer p.c.)

Nō   hea   ia   **ko**   **te**   **minita**
belong when   3SG   EQ   the   minister
mō   **ngā**   **take**   **Māori**?
belong the.PL affairs Māori
'When was he the minister of Māori affairs?'

These data suggest that nominal predicate phrases cannot occupy the position targeted by questioning. If they could, we would expect adverbial questioning to be ruled out, just as it was with the AE construction. Furthermore, the subject is also fronting to a position below the questioned constituent but above the nominal predicate phrase. I thus conclude that the complementary distribution analysis may well be appropriate for explaining the restriction on subject questioning in the AE construction, but is problematic when applied to nominal predicate constructions.

5   Analysis

In the previous section, I evaluated the cleft + headless relative clause analysis and the complementary distribution analysis. I argued that the embedded clause of a cleft question in Māori cannot be a headless relative clause since headless relative clauses are not attested with subject relativisation elsewhere in Māori and because subjects can generally be relativised in all constructions, meaning a grammatical cleft question should be possible for all constructions (contrary to fact). I also argued that, whilst a complementary distribution analysis may be right for explaining the restriction on subject questioning in the AE construction, it is problematic when applied to nominal predicate constructions since nominal predicate phrases are not obligatorily focused and can co-occur with adverbial questioning, thus suggesting that nominal predicate phrases do not occupy the position targeted by questioning.

To overcome these problems, I will adopt a cleft analysis but one where the embedded clause is a focus construction (see Belletti 2008, 2012, 2015; Haegeman, Meinunger & Vercauteren 2015) rather than a relative clause. Furthermore, I will argue that nominal predicate phrases intervene with movement of the subject for questioning/focus but do not occupy the position targeted by questioning itself.

5.1   Assumptions

I will assume the following structure for basic Māori clauses:

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

TAM markers are merged in T. They potentially raise further to a C-domain position (see Collins 2017 on Samoan) but this is unimportant for the present analysis so I will ignore it here.

R stands for Relator (in the sense of den Dikken 2006), i.e. whichever head mediates the predication relation between the subject (in its specifier) and the predicate (in its complement) (see also Bowers 1993). The predicate, which I have labelled XP in (70), can be one of three categories: DP, VP or PP, yielding nominal, verbal or prepositional predicate constructions respectively. For example, in verbal predicate constructions, the predicate would

be VP and R would be a v head (I remain agnostic concerning the category of R in nominal and prepositional predicate constructions).

Following Collins (2017), I assume that F, a functional head between the subject and T, bears a [PRED] feature which triggers predicate fronting to SpecFP (slightly adapting proposals by Massam (2000) where predicate fronting is to SpecTP). Assuming that the DP subject remains low, this straightforwardly captures the basic predicate-initial order of all Māori clauses.[18]

Also following Collins (2017), who builds on Massam (2000), 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 VP predicate fronting. Assuming that subjects do not move, this position would be to a SpecvP or adjoined position lower than that occupied by the subject (see Collins 2017).

(71) a. Step 1: Object extraction

$[_{vP} [_{DP} \text{SUBJECT}] [_{v'} \textbf{[DP OBJECT]} [_{v'} \text{v} [_{VP} \text{V } \textbf{t}_{\textbf{object}}]]]]$

b. Step 2: Predicate fronting

$[_{FP} \textbf{[VP V t}_{\textbf{object}} \textbf{]} [_{F'} \text{F} [_{vP} [_{DP} \text{SUBJECT}] [_{v'} [_{DP} \text{OBJECT}] [_{v'} \text{v } \textbf{t}_{\textbf{vP}}]]]]]$

Interestingly, something analogous can be observed with (complex) nominal and prepositional predicate constructions as well. When the predicate phrase is complex, part of it may appear following the subject. This is illustrated for EQ (72), CLS-*he* (73), P-POSS (74) and LOC constructions (75). Note that splitting is not generally obligatory but is preferred in many cases, particularly if the subject is short.

(72) 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.'

(73) 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.'

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[18] 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 can also be found in other Polynesian languages such as Samoan (Mosel & Hovdhaugen 1992; Collins 2017) and Tongan (Otsuka 2006). However, I leave such differences for future research.

(74) 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.'

(75) 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.'

This could plausibly be analysed in an analogous way to the derivation of basic VSO order. The post-subject part of the predicate phrase moves out of the predicate phrase to a position below the subject prior to predicate fronting.[19]

5.2   Intervention

5.2.1   Cleft + focus clause

There is a growing consensus in the literature that focus and question constructions in many Polynesian languages, including Māori, are cleft structures rather than monoclausal ones (Chung 1978; Bauer 1993, 1997, 2004; Potsdam & Polinsky 2011, 2012). However, as pointed out in Section 4.1, analysing the embedded clause of such clefts as a relative clause leads to several problems: (i) we would have to allow headless subject relative clauses, something that is not otherwise attested in Māori, and (ii) it is unclear why a focus/question cleft cannot be formed on the subject of nominal predicate constructions given that the subject of nominal predicate constructions can otherwise be relativised.

I propose that these problems can be avoided if we say that the embedded clause of the cleft is not a relative clause, but rather a focus clause (see Belletti 2008, 2012, 2015; Haegeman, Meinunger & Vercauteren 2015). Failure to create a licit embedded focus clause will thus lead to ungrammaticality. Simplifying Belletti's (2015) proposal (see footnote 21 below for more discussion), I assume that the matrix clause contains a copula, which is null in Māori, and that

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[19] 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 have seen, Māori is essentially the opposite: extraction of the subject is free except in nominal predicate constructions where it is subject questioning that is restricted.

this copula takes a FocP as its complement. FocP constitutes the embedded clause, as in (76) (I am ignoring other potential heads in the C-domain for the sake of exposition).

(76)   COPULA [$_{FocP}$ Foc [$_{TP}$ T [$_{FP}$ [$_{XP}$ PREDICATE] F [$_{RP}$ [$_{DP}$ SUBJECT] [$_{R'}$ R t$_{predicate}$]

To form a subject question cleft, the subject of the embedded clause must move to SpecFocP. This is permitted in non-nominal predicate constructions, but is prohibited in nominal predicate constructions. As pointed out in Section 4.2, it seems unlikely that nominal predicate phrases are competing for the same position as the focused/questioned subject. Instead, it appears to be that nominal predicates block movement of the subject to SpecFocP through intervention. I thus propose that Focus probes for a [D] element. In nominal predicate constructions, the DP nominal predicate is closer than the DP subject and so blocks movement of the subject by Relativised Minimality (Rizzi 1990; Starke 2001), as in (77). In contrast, in non-nominal predicate constructions, the closest DP is the DP subject and subject movement to SpecFocP succeeds, as in (78). Only the structure of the embedded clause is illustrated.

(77)   Nominal predicate constructions
        *[$_{FocP}$ **[$_{DP}$ SUBJECT]** Foc$_{[uD]}$ [$_{TP}$ T [$_{FP}$ **[$_{DP}$ PREDICATE]** F [$_{RP}$ t$_{subject}$ [$_{R'}$ R t$_{predicate}$]]]]]

(78)   Verbal and prepositional predicate constructions
        [$_{FocP}$ **[$_{DP}$ SUBJECT]** Foc$_{[uD]}$ [$_{TP}$ T [$_{FP}$ **[$_{VP/PP}$ PREDICATE]** F [$_{RP}$ t$_{subject}$ [$_{R'}$ R t$_{predicate}$]]]]]

Note that I am proposing that Focus probes for [D] rather than a [FOC] or [WH] feature. If Focus had a [FOC] 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 [FOC] or [WH] feature too).

Furthermore, if Focus probes for [D] rather than a [FOC] or [WH] feature, we predict that in transitive verbal predicate constructions, subjects should block movement of direct objects. This prediction is borne out. Subject focus *ko*-fronting using a gap strategy is perfectly acceptable. (79a) is the basic transitive verbal construction: the subject (in bold) is *ko*-fronted for focus in (79b).

(79)   (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.'

In contrast, direct object focus *ko*-fronting is not possible with a gap strategy. To focus a direct object, a possessive-relative strategy must be used, as in (80).

(80)   (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')

This relativisation strategy was briefly introduced in Section 4.1 and can also be used to relativise direct objects (Bauer 1997: 570-572). Importantly, the particle *ai* is obligatory in such constructions (see Bauer 1997: 375-389 for detailed discussion of *ai*). Pearce (1999) suggests it 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.[20]

Again, if Focus probed for a [FOC] or [WH] feature, we would incorrectly predict direct objects to be able to move across DP subjects (as they can in English).[21]

5.2.2   Topic movement

Topicalisation is movement to SpecTopP. As illustrated in Sections 2.3 and 3.3, subject topicalisation is permitted in all constructions, i.e. no predicate phrase seems to intervene, unlike with subject questioning. Consequently, we would not want to say that Topic probes for [D].

However, just as direct objects are quite inaccessible for questioning, they are inaccessible for topicalisation, at least using a gap strategy (Bauer 1993, 1997; Pearce 1999). This suggests that Topic does not probe for [TOP] or some other A'-feature for the same reasons

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[20] Oblique arguments are questioned in-situ in Māori (Bauer 1997: 435-436), so presumably do not involve movement either.

[21] Note that on Belletti's (2015) analysis, subjects moving to SpecFocP in the embedded clause results in a contrastive/corrective focus cleft. For new information focus clefts, such as are used in answers to questions, the structure is slightly different. Belletti posits a Pred head in the C-domain below FocP. The focused element is argued to move first to SpecPredP and then on into the matrix clause to a clause-medial focus position dedicated to new information focus interpretations. Interestingly, Belletti argues that contrastive/corrective focus clefts in languages like French can be formed on subjects and non-subjects because Foc has an A'-probe. In contrast, new information focus clefts in French can only be formed on subjects. Belletti proposes that this is because SpecPredP is an A-position, i.e. it has an A-probe. Consequently, subjects can move to SpecPredP, but non-subjects cannot because the subject would intervene. My proposal could be translated into Belletti's system in the following way: for new information clefts, what I have been calling Foc is directly equivalent to Belletti's Pred, i.e. an A-probe. All I would have to add is that elements in SpecFocP move on into the matrix clause to the new information focus position. As for contrastive/corrective clefts, we could simply posit another position equivalent to Belletti's Foc head, call it Foc2. Now, focus in Māori cannot target non-subjects in contrastive/corrective or new information contexts (Bauer 1997: 666; Bauer refers to 'contradictory' and 'non-contradictory' focus contexts). Therefore, the contrastive/corrective focus position in Māori would also be an A-position rather than an A'-position (as in Belletti's analysis of French). This could be stated as a parametric difference.

Head	Belletti's Foc = my Foc2 Contrastive/corrective focus position		Belletti's Pred = my Foc Intermediate position on way to new information focus position	
Language	French	Māori	French	Māori
Type of probe	A'	A	A	A

as before. In the following examples, (a) illustrates the basic transitive verbal construction, (b) illustrates subject *ko*-topicalisation, and (c) illustrates failed direct object *ko*-topicalisation. The topicalised phrase is in bold (note that this pattern holds regardless of whether topic-fronting occurs with or without *ko*).

(81) (Pearce 1999: 251, ex (7))

  a. I   kite   te   pirihimana   i   te   tamaiti.
      TAM   find   the   policeman   ACC   the   child
      'The policeman found the child.'

  b. **Ko   te   pirihimana** i   kite   i   te   tamaiti.
      TOP   the   policeman   TAM   find   ACC   the   child

  c. ***Ko te tamaiti** i kite te pirihimana

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

  a. I   kite-a   te   tamaiti   e   te   pirihimana.
      TAM   find-PASS   the   child   by   the   policeman
      'The child was found by the policeman.'   [Hohepa 1967: (42)]

  b. **Ko te tamaiti** i kite-a e te pirihimana.   [Hohepa 1967: (43)]

  c. ***Ko te pirihimana** i kite-a te tamaiti.

Non-subjects can be topicalised but this is not common and a resumptive pronoun (or even a full resumptive noun phrase) is generally required (Pearce 1999: 252; Bauer 1997: 657-659).[22] Furthermore, topicalisation cannot target predicate phrases (see Section 3.4).

These data suggest that Topic targets the closest DP argument, which in Māori would be the nominative subject. I will thus implement this by saying that Topic probes for [K], i.e. Case/Kase, on the assumption that nominal arguments have Case/Kase whilst nominal predicates do not. However, the main point I wish to highlight here is that neither Focus nor Topic in Māori seem to use A'-probes.

In fact, the same seems to be true of relativisation as well. Relativisation with a gap strategy can generally only target subjects.[23] An example of this is seen in (83), repeated from above. The head noun is in bold and the relative clause is in square brackets.

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[22] Certain constituents of subject noun phrases can be topicalised, as well as the subjects of certain types of subordinate clauses, which includes negative sentences and AE constructions if these are taken to be biclausal structures, as is typically the case (Bauer 1997: 658).

[23] 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 experiencer verbs (Bauer 1997: 568-569).

(83)   (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	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.

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

*Ka	mōhio	ahau	ki	**te**	**tangata**	[i	kōhuru	a	Hone].
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, or on its own (just using a resumptive is a strategy rejected by many older speakers). In any case, Māori relativisation does not appear to make use of A'-probes either.

5.3   Discussion

This analysis captures the subject extraction facts of Māori. Crucially, it implies that topicalisation and focus/questioning is implemented in featural terms quite differently from more familiar European languages. More specifically, Māori appears to use A-features, i.e. [D] and [K], to formally trigger the movements that are interpreted as focus and topic respectively, whereas European languages use formally distinct A'-features. I thus propose that Māori lacks A'-features in the clausal domain entirely.

This is similar to several other proposals for various languages in the literature. Davies (2003) and Davies & Kurniawan (2013), for example, argue that Madurese and Sundanese respectively lack *wh*-movement, whilst Aldridge (2017a, b) similarly argues that Tagalog, Late Archaic Chinese and Old Japanese lack A'-movement and, in fact, A'-features. This is different from the proposals of van Urk (2015) and van Urk & Richards (2015), who argue that Dinka A- and A'-features form composite probes and so this language, whilst formally distinguishing A- and A'-features, lacks a formal distinction between A- and A'-movement.

If one believes that A'-features are innate and/or that discourse-related notions like topic and focus can only be formally implemented in the syntax using A'-features, then the present proposal may appear quite strange. However, if one takes formal features to be

emergent rather than innately prespecified, I suggest that systems such as the one proposed here for Māori are to be expected.

According to this (neo-)emergentist approach (Biberauer 2011, 2017; Biberauer & Roberts 2015a, b, 2017), formal features result 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 (MMM), 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 (FE) and Input Generalisation (IG) (see also Roberts & Roussou 2003; Roberts 2007; Biberauer & Roberts 2017).

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

(86)   Input Generalisation (IG)
        Maximise already-postulated features.

Now, suppose that a language acquirer has already postulated A-features in their system, such as [D], [K] and/or [PHI], to account for some property of the input/intake. When it comes to formally encoding the formal featural probe for question and topic movement, MMM will guide the learner to use these A-features as much as possible (following IG) rather than to postulate additional formal features (thus satisfying FE). It makes sense to use such features since the goal of this probing also bears A-features. An acquirer with this system will essentially only permit subject extraction, since the A-features of the subject would intervene in the movement of any lower A-feature-bearing element. This is schematically represented in (87) ([A] stands for A-features, XP and YP are phrases, H is a probing head).

(87)   a. $XP_{[A]} H_{[A]} \dots t_{XP} \dots YP_{[A]}$ (e.g. subject extraction)
        b.   * $YP_{[A]} H_{[A]} \dots XP_{[A]} \dots t_{YP}$ (e.g. direct object extraction)

An acquirer who only observes movement dependencies like (87a) and none like (87b) in their input/intake will have no motivation to override FE and hence will not postulate formal features akin to A'-features. On this approach, this is effectively the default formal system for implementing nominal extraction. I propose that this is essentially what happens in Māori.

However, now consider what would happen if an acquirer *does* observe movement dependencies like (87b) in their input/intake. Such dependencies are not accounted for by a formal system as it stands so far. Consequently, FE is overridden and an additional formal feature is postulated to account for the otherwise unaccounted-for input/intake. These

additional features are A'-features. A'-features are thus used to derive dependencies like (87b), as in (88), i.e. H probes for A'-features and nominals may optionally have A'-features.[24]

(88) $YP_{[A, A']} H_{[A']} \ldots XP_{[A]} \ldots t_{YP}$

I propose that this is essentially what happens in a language like English.

MMM thus gives us principled grounds to expect the existence of systems where question and topic movements are formally implemented using A-features rather than A'-features. Systems which implement these movements with A-features are also, in some sense, the default system, at least relative to a system with both A- and A'-features.

This provides a new formal perspective on Keenan & Comrie's (1977) Accessibility Hierarchy. Investigations stemming from Keenan & Comrie's proposal have converged on the result that subject dependencies are easier to acquire, parse and process. However, it is still not clear why some languages apparently do not permit non-subject dependencies at all, whilst others do. The MMM model suggests that the formal systems of languages with non-subject dependencies have to be motivated by robust cues from the input/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, which seem to hold of discrete grammars as well as of parsing and processing preferences.

6   Conclusion

I argued that, whilst subject topicalisation is generally permitted in all types of construction, subject questioning is restricted: it is prohibited in nominal predicate constructions, but permitted in verbal and prepositional predicate constructions.

I proposed that questions take the form of clefts where the embedded clause is a focus construction rather than a relative clause. I argued that, within the embedded clause, the questioned constituent must move to SpecFocP where Focus probes for [D]. In verbal and prepositional predicate constructions, the subject is the closest DP and so can move to SpecFocP. However, in nominal predicate constructions, the nominal predicate phrase (a DP) is closer to Focus than the subject (Māori generally having predicate-subject order) and, hence the nominal predicate phrase blocks subject questioning through intervention. In contrast, I argued that Topic probes for [K], i.e. Case/Kase, which by assumption can only appear on

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[24] I leave open for future research the question of whether H in examples like (87a) would probe for A- or A'-features in a system where both types of feature are available. IG would potentially lead us to think that H would probe for A'-features, but on the other hand, evidence of the form in (87b) does not demonstrate that H probing for A-features is incorrect for *all* movements, only those involving non-subjects. In this respect, it is worth mentioning that subject extraction is often marked differently to non-subject extraction in various ways, which potentially reflects differences in the features used to implement subject and non-subject extraction in systems with A'-features.

arguments. Consequently, predicate phrases do not intervene with subject topicalisation no matter what category they are.

I concluded that Māori formally implements question and topic movement using A-features rather than A'-features and argued that such formal systems are to be expected if 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, DIST = distal, EQ = equational *ko*, EXCL = exclusive, INCL = inclusive, KO = interrogative/focus *ko*, 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, TAM = tense/aspect/mood marker, TOP = topic *ko*, 3SG = third person singular

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