

Māori Subject Extraction and the Intervention of Predicate Phrases

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1 Introduction

- Subjects are the most accessible of the grammatical functions (Keenan & Comrie 1977).
- Subject extraction is subject to various restrictions cross-linguistically.
- Different types of (subject) extraction may be subject to different restrictions within a single language.
- Māori exhibits such behaviour – what are these restrictions and how can we account for them?

Roadmap

Section 2:	Māori subject accessibility Can subject phrases be questioned and topicalised/relativised in verbal, nominal and prepositional predicate constructions?
Section 3:	Previous analyses Cleft + headless relative clause and the monoclausal complementary distribution analyses are insightful but problematic
Section 4:	A new analysis Developing a cleft + focus construction + intervention analysis
Section 5:	Conclusion

2 Māori subject accessibility

Māori has basic XS(O) order, i.e. Pred-Subj(-Obj) order.

Observation: Subject extraction for topicalisation (and relativisation) is generally allowed. However, subject extraction for *wh*-questions is restricted.¹

Claim: Predicate Phrases of different types occupy different positions in the clausal spine. This interacts with extraction of the Subject Phrase.

Māori constructions:

Verbal	Existential possessive (E-POSS)
Equational (EQ)	Classifying- <i>hei</i> (CLS- <i>hei</i>)
Classifying- <i>he</i> (CLS- <i>he</i>)	Prepositional possessive (P-POSS)
Numerical (NUM)	Actor Emphatic (AE)
	Locational (LOC)

¹ This is almost exactly the opposite of predicate inversion structures in English, which do not generally permit any type of A'-extraction of the subject (see Moro 1997; den Dikken 2006). If the subject can undergo any form of A'-extraction in predicate inversion structures, it is for *wh*-questions, not topicalisation or relativisation (see Williams 2011; Abels 2012).

With a few exceptions concerning glossing, which are pointed out, examples and glosses are as given in the original sources.

2.1 Verbal constructions

The main predicate is verbal. It follows TAM markers (glossed as T/A) but usually precedes the Subject Phrase.

(1) (Adapted from Bauer 1993: 7, ex (29))

Kua	hoki	a	Hone	ki	te	kaainga.
T/A	return	PERS	John	to	the	home

‘John has gone home.’

The Subject Phrase can be questioned by *ko*-fronting.

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

Ko	wai	kua	hoki	ki	te	kaainga? ²
KO	who	T/A	return	to	the	home

‘Who has gone home?’

The Subject Phrase can be topicalised by *ko*-topicalisation.

(3) (Harlow 2007: 174)

Ko	Rewi	e	whāngai	ana	i	te	kūao	kau. ³
TOP	Rewi	T/A	feed	T/A	OBJ	the	young.of	cow

‘Rewi is feeding the calf.’ (from Bauer 1991)

Focus-*ko* and topic-*ko* are distinct (Bauer 1991, 1993, 1997; Pearce 1999), e.g. focus-*ko* is obligatory and associated with strong stress on the focussed element, whilst topic-*ko* can be dropped and main sentence stress falls on the verbal predicate. I gloss focus-*ko* as KO and topic-*ko* as TOP.

2.2 Non-verbal constructions

The remaining constructions are generally treated as non-verbal (except perhaps NUM and AE constructions).

Non-verbal constructions can be subdivided into two groups depending on whether the Subject Phrase can be questioned or not.

Generalisation: if the Predicate Phrase is a DP, the Subject Phrase cannot be questioned (de Lacy 1999). If the Predicate Phrase is a PP, the Subject Phrase can be questioned.

² Bauer glosses *ko* as TOP but makes it clear in other passages and other work that topic *ko* is distinct from focus *ko* (see also Pearce 1999). I thus adopt the gloss KO instead if *ko* introduces a *wh*- or focus element.

³ As Bauer (1991) and Harlow (2007) note, this example 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.

2.2.1 Subject questioning prohibited

Subject questioning is prohibited in EQ, CLS-*he* and NUM constructions.

Equational constructions (EQ)

- The Predicate Phrase is introduced by equational-*ko*.
- De Lacy (1999) equates equational-*ko* and topic-*ko* (see below), but Bauer (1997) distinguishes them.

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

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

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

- The Predicate Phrase is introduced by *he*.
- De Lacy (1999) equates this *he* with the indefinite article *he*. Bauer (1997: 28-29) is a little more cautious about accepting such a conclusion and glosses this *he* as CLS (classifier).

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

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

Numerical constructions (NUM)

- The Predicate Phrase is introduced by *e* (or *ko* or *toko* depending on the numeral and/or whether people are being counted).
- There is some debate about whether NUM constructions are verbal or non-verbal. This depends on the analysis of *e*. Waite (1990: 403) equates the *e* in NUM constructions with the TAM marker *e*, whilst Bauer (1997: 94) suggests that this analysis may be more appropriate for historical stages of the language, with modern Māori having reanalysed this TAM marker as a numeral particle (as shown in the gloss).

(6) (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].')

Subject questioning is prohibited in EQ, CLS-*he* and NUM constructions.

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

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

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

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

* Ko te aha **he whereo?** (CLS-*he*)
 KO the Q CLS red
 ('What is red?')

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

* He aha **e rima?** (NUM)
 a Q NUM 5
 ('What are there five of?')

2.2.2 Subject questioning permitted

Subject questioning is permitted in E-POSS, CLS-*hei*, P-POSS and LOC constructions.

Existential possessive constructions (E-POSS)

- The Predicate Phrase is introduced by *he* (like the CLS-*he* construction).
- Subject Phrases are made up of a determiner (*t(e)* in the singular, \emptyset in the plural), the possessive preposition \bar{o} , and a (pro)noun.

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

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

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

- The Predicate Phrase is introduced by *hei*. This construction is the future-oriented counterpart of CLS-*he* constructions.
- Unlike *he*, *hei* is not independently attested as a determiner in Māori.
- It is homophonous with a future locative preposition, though it behaves somewhat differently. Bauer (1997) glosses it as CLS(FUT).

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

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

Prepositional possessive constructions (P-POSS)

- The Predicate Phrase is introduced by a possessive preposition.
- These prepositions are tensed: *m-* forms for intended possession, *n-* forms for actualised possession.

(12) (Bauer 1997: 32, ex (215))

Mā **Hera** ngā putiputi nei.
 belong Hera the(PL) flower nearI
 ‘These flowers are for Hera.’

Locational constructions (LOC)

- The Predicate Phrase is introduced by a locative preposition.
- These can be used to express temporary possession and location.
- The preposition is tensed.

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

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

(14) (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.’

Subject questioning is permitted in E-POSS, CLS-*hei*, P-POSS and LOC constructions.

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

Ko t.ā wai **he** **kurī**? (E-POSS)
 KO the.of Q a dog
 ‘Which one has a dog?’

(16) (Bauer 1997: 433, ex (2847a))

Ko tēwhea **mā** **Rata**? (P-POSS)
 KO Q belong Rata
 ‘Which one is for Rata?’

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

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

- In the reference grammars of Māori (Bauer 1993, 1997), subject questioning is said to be prohibited in classifying constructions.
- However, this is only true of CLS-*he* constructions. CLS-*hei* constructions *do* permit subject questioning.⁴

(18) CLS-*hei* 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.**'

(19) ... 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'

2.3 Predicate questioning

Questioning of the predicate phrase is permitted in all types of construction (both verbal and non-verbal). Questioning of predicate phrases takes place in-situ (Winifred Bauer p.c.).

(20) (Bauer 1993: 5, ex (13)) (EQ)

Ko wai too taatou matua?
EQ who SG.GEN.1.PL.INCL parent
'Who is our father?' (More literally 'Our father is who?')

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

He aha te mea whero **rā?**
CLS Q the thing red DIST
'What is the red thing there?'

(22) (Bauer 1993: 7, ex (25)) (NUM)

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

⁴ Thanks to Winifred Bauer (p.c.) for confirming the gloss and grammaticality of this example, and for providing a more literal translation.

- (23) (Winifred Bauer p.c.) (E-POSS)

He aha tōna?⁵
 CLS Q his
 ‘What does he have?’

- (24) (Winifred Bauer p.c.) (CLS-*hei*)

Hei aha ia?⁶
 CLS(FUT) Q 3SG
 ‘What is she going to be (when she grows up)?’

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

Mō wai tō wai?
 belong Q your water
 ‘Who is your water for?’

- (26) (Bauer 1997: 429, ex (2823)) (LOC)

Kei hea te oka?
 at(PRES) Q the butcher’s knife
 ‘Where’s the butcher’s knife?’

- (27) (Bauer 1997: 431, ex (2836)) (Verbal)

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?’

2.4 Actor Emphatic construction (AE)

- The main predicate is the prepositional possessive Predicate Phrase and the verbal predicate belongs to an embedded clause (Bauer 1993, 1997, 2004; Potsdam & Polinsky 2012).
- The main clause of the AE construction thus resembles the P-POSS construction (the *m-* and *n-* prepositional forms are used).
- The AE construction is primarily used to emphasise the external argument of the embedded (transitive) verb.
- The internal argument of the embedded verb is marked like a Subject Phrase (thought the verb is not passivised).

⁵ 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.).

⁶ *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.).

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

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

Questioning of the Subject Phrase (or any phrase for that matter, except the main Predicate Phrase itself) is prohibited in AE constructions (see Waite 1990; Pearce 1999), but see below.

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

* **Ko wai nā Hōne** i pupuhi?
KO who n(GEN) Hone T/A shoot
'Who did Hone shoot?'

- An in-situ or fronted *wh*-phrase only has an echo interpretation. In such cases, a *ko*-fronted *wh*-phrase may be a topic.

The main Predicate Phrase can be questioned.

(30) (Bauer 1997: 431, ex (2835))

Nā te aha i toko ake te hiainu?
belong the Q TAM arouse up the thirst
'What arouses thirst?'

However, ...

- Objects are not particularly accessible in Māori, whilst Subject Phrases are.
- In AE constructions, the internal argument is a Subject Phrase.
- The AE construction may thus sometimes be used to access the internal argument rather than to emphasise the external argument (its primary function).
- Bauer (1993, 1997): the Subject Phrase of the AE construction may be *ko*-focused.
- *Ko*-focusing is distinct from *ko*-topicalisation: the former involves strong stress on the focused constituent, whilst *ko*-topics do not.

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

Ko ngā KEA nā Hone i pupuhi.⁷
KO the(PL) kea belong John TAM shoot
'John shot the *keas*.'

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

Ko te KAIAKO naa.na i meke.
KO the teacher ACTGEN.3SG T/A hit
'He hit the *teacher*.'

⁷ Bauer glosses the *ko* in (31) and (32) as EQ. I have changed this to KO (see fn 2).

Either ...

- *Ko*-questioning and *ko*-focusing are distinct, ...

Or ...

- *Ko*-questioning and *ko*-focusing are the same.
- *Ko*-questioning/focusing is only permitted in the AE construction when the external argument is not in focus.
- If the external argument is in focus (as it is in the AE construction's primary function), then *ko*-questioning/focusing is prohibited.

2.5 Summary

(33) Subject and Predicate Phrase questioning

Construction	Can the Subject Phrase be questioned?	Can the Predicate Phrase be questioned?
EQ	✗	✓
CLS- <i>he</i>	✗	✓
NUM	✗	✓
E-POSS	✓	✓
CLS- <i>hei</i>	✓	✓
P-POSS	✓	✓
AE	✓/✗	✓
LOC	✓	✓
Verbal	✓	✓

2.6 Can the Subject Phrase be topicalised (and relativised)?

Subject topicalisation is generally permitted in all verbal and non-verbal constructions (with the possible exception of EQ constructions (see de Lacy 1999)).

Subject relativisation is permitted in all verbal and non-verbal constructions (Bauer 1997: 566).

- Only *ko*-topicalisation will be illustrated here (I have been unable to find an example or comment relating to E-POSS constructions).
- Recall that *ko*-topicalisation and *ko*-focus are distinct (Bauer 1991, 1993, 1997; Pearce 1999), see Section 2.1.

(34) (Bauer 1997: 654, ex (4201))⁸

a. P-POSS construction

Ko tēnei tangata ko Wairangi nō Ngāti-Raukawa.
 TOP this man TOP Wairangi belong Ngati-Raukawa.
 'This man, Wairangi, belonged to Ngati-Raukawa.'

⁸ Bauer glosses the second *ko* of (34b) and both the *ko*'s of (34c) as EQ. However, according to the translations, these are appositional phrases, therefore it seems more accurate to gloss them as TOP, like the other instances of *ko* here. Importantly, this is not multiple topicalisation.

b. LOC construction

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.’

c. NUM construction

Ngā wāhine a Wairangi toko.rua,
 the(PL) women PERS Wairangi PNUM.2
 ko Pare-whete, ko Pūroku.
 TOP Pare-whete TOP Puroku
 ‘Wairangi had two wives, Pare-whete and Puroku.’

(35) (de Lacy 1999: 7, ex (18))

CLS-*he* construction

Ko Hone he māhita.
 TOP John DET teacher
 ‘John is a teacher.’

(36) (Bauer 1997: 156, ex (1070))

CLS-*hei* construction

Ko taku teina hei kura māhita.
 TOP my younger.sibling CLS(FUT) school teacher
 ‘My younger brother will be a school teacher.’

(37) (Harlow 2007: 174)

Verbal construction

Ko Rewi e whāngai ana i te kūao kau.
 TOP Rewi T/A feed T/A OBJ the young.of cow
 ‘Rewi is feeding the calf.’
 (from Bauer 1991)

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

AE construction

Ko te tamaiti mā te pirihimana e kite.
 TOP the child m(GEN) the policeman T/A find
 ‘As for the child, it is the policeman who will find it.’

De Lacy (1999) claims that subject topicalisation is prohibited in EQ constructions. This is his argument for equating topic-*ko* and equational-*ko*.

(39) (de Lacy 1999: 7, ex (17))⁹

EQ construction

* Ko tēnei ko te rōia.

TOP this EQ the lawyer

‘This is the lawyer.’

(from Bauer 1991; 1993: 79)

De Lacy (1999) analyses apparently acceptable examples as involving a cleft structure.¹⁰

Predicate Phrases cannot be topicalised (Bauer 1997, p.c.).

Prepositional Predicate Phrases (including the AE construction) can be relativised, but they must use a resumptive strategy; the Predicate Phrase of equational and classifying constructions apparently cannot be relativised at all (Bauer 1997: 581).

2.7 Summary

(40) Subject Phrase topicalisation

Construction	Can the Subject Phrase be topicalised?	Can the Predicate Phrase be topicalised?
EQ	(✗)	✗
CLS- <i>he</i>	✓	✗
NUM	✓	✗
E-POSS	n/a	✗
CLS- <i>hei</i>	✓	✗
P-POSS	✓	✗
AE	✓	✗
LOC	✓	✗
Verbal	✓	✗

⁹ De Lacy glosses the second *ko* as TOP rather than EQ. He equates equative and topic *ko* so I have glossed the second *ko* as EQ to bring out my point more clearly.

¹⁰ De Lacy (1999: Appendix 4) argues that cases where it appears that we have two *ko*-marked DPs (a *ko*-Topic + *ko*-Predicate) are actually clefts. Note that Bauer (1991, 1997) and Pearce (1999) explicitly argue against conflating Topic *ko* and Predicative (Equational) *ko*.

3 Previous analyses of Māori

3.1 Relevance of category

- There is a link between the category of the Predicate Phrase and the (im)possibility of Subject Phrase questioning.
- Setting aside E-POSS and AE constructions (see below), we have the following bidirectional implications (see also de Lacy 1999):

- (i) Predicate Phrase is DP \leftrightarrow Subject Phrase questioning prohibited
- (ii) Predicate Phrase is \neg DP \leftrightarrow Subject Phrase questioning permitted

(41) Category and Subject Phrase questioning

Construction	Category of Predicate Phrase	Can the Subject Phrase be questioned?
EQ	DP	✗
CLS- <i>he</i>	DP	✗
NUM	DP (probably)	✗
E-POSS (!)	DP	✓
CLS- <i>hei</i>	PP	✓
P-POSS	PP	✓
AE (!)	PP	✓/✗
LOC	PP	✓
Verbal	VP	✓

What about AE and E-POSS constructions?

AE constructions (see Section 2.4):

- The AE construction is primarily associated with focus/emphasis on the actor/agent.
 - The Predicate Phrase thus seems to receive focus for independent reasons (Waite 1990; Pearce 1999).
- However, as noted in Section 2.4, the AE construction may also serve to promote the internal argument to subject, thereby allowing topicalisation, relativisation and questioning of the internal argument (which would otherwise remain inaccessible).
- If the AE construction is exploited because it makes the internal argument accessible, the agent/actor may not necessarily be focused/emphasised, i.e. the Predicate Phrase is not focused.
 - The internal argument, i.e. the Subject Phrase, can thus be questioned so long as the actor/agent is not in focus.

E-POSS constructions:

- In other Polynesian languages, there is a distinction between EQ- and CLS-*he*-type constructions on the one hand, and PP and VP constructions on the other.

- For example, the former cannot appear with TAM markers or pre-predicate subject pronouns, whilst the latter can. This *generally* applies to Samoan (Mosel & Hovdhaugen 1992) and Tongan (Otsuka 2005).¹¹
- E-POSS-like constructions in other Polynesian languages are often expressed with an existential verb followed by a nominal phrase then a possessive phrase, for example, in Tuvaluan (Besnier 2000).

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

Koo isi se paala a laatou.
 INC EXIST a kingfish of they.3
 ‘They already have one kingfish.’

Suggestion: Māori has a null existential verb so the E-POSS construction is actually a non-nominal (verbal) predicate construction, hence it permits Subject Phrase questioning.

3.2 Previous analyses

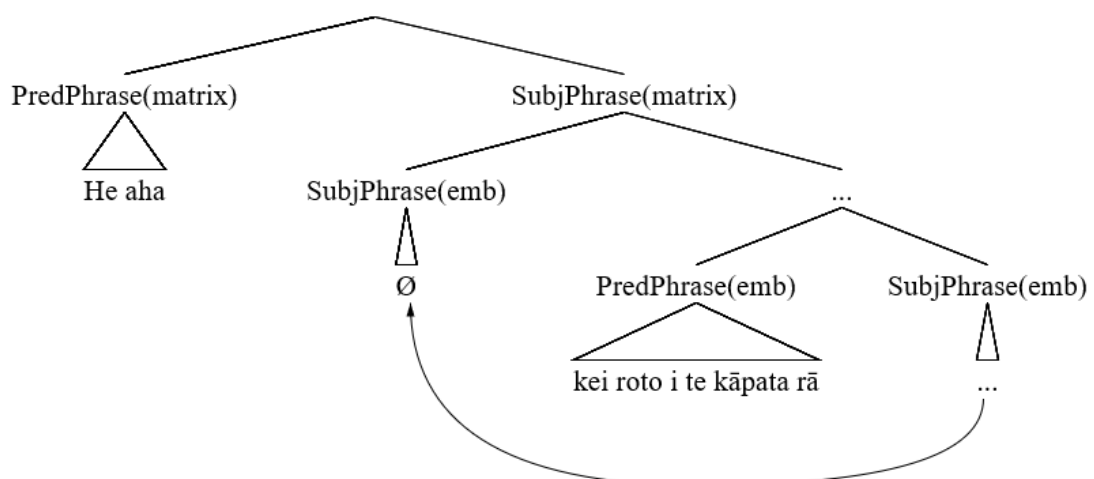
3.2.1 Cleft + headless relative clause analysis

Bauer (1991, 1993, 1997) suggests that Subject Phrase questioning is generally disallowed in Māori. Where it appears to be allowed, we actually have a cleft-like construction: the Predicate Phrase is the questioned constituent and the Subject Phrase is a headless relative clause.

(43) (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?’

(44) Bauer’s cleft analysis



¹¹ In Samoan, both P-POSS and LOC constructions must appear with a TAM marker, but whilst LOC constructions can appear with a pre-predicate subject pronoun, P-POSS constructions cannot (Mosel & Hovdhaugen 1992) (see Section 3.2.2 and Appendix B).

There are two major problems with this analysis: (i) the use of headless relatives, and (ii) overgeneration.

Problem 1: Headless relatives

- Headless relatives are independently attested in Māori, but only with the possessive-relative strategy, and never with the gap strategy associated with subject relativisation (Harlow 2007: 175).

Possessive-relative strategy: the relative subject is expressed as a possessor attached to the head noun. This possessor can be postnominal, as in (45a), or prenominal, as in (45b).

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

- a. Ka mōhio ahau ki te tangata a **Hone** [i
 TAM know 1SG 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 1SG to the.of John man TAM murder
 ai].
 PART
 ‘I knew the man that John murdered.’

In cases like (45b) where the possessor is prenominal, the relative head may be null, yielding a headless relative clause, as in (46).

(46) (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 1SG
 ‘... what my hand has cultivated, that should be left for me’

In all other contexts, the head noun must be overt. This includes all instances of subject relativisation, which uses a gap strategy.

- Therefore, headless relatives are *not* independently attested for subject relatives in Māori.
- To adopt Bauer’s analysis, one would need to admit the existence of headless subject gap relatives and explain why they are only found in cleft contexts.

Problem 2: Overgeneration

- The subjects of all constructions can be relativised (Bauer 1997: 566).
- If so, (44) is predicted to be available for EQ, CLS-*he* and NUM constructions.
 - Without an explanation for why it is not, this analysis overgenerates.

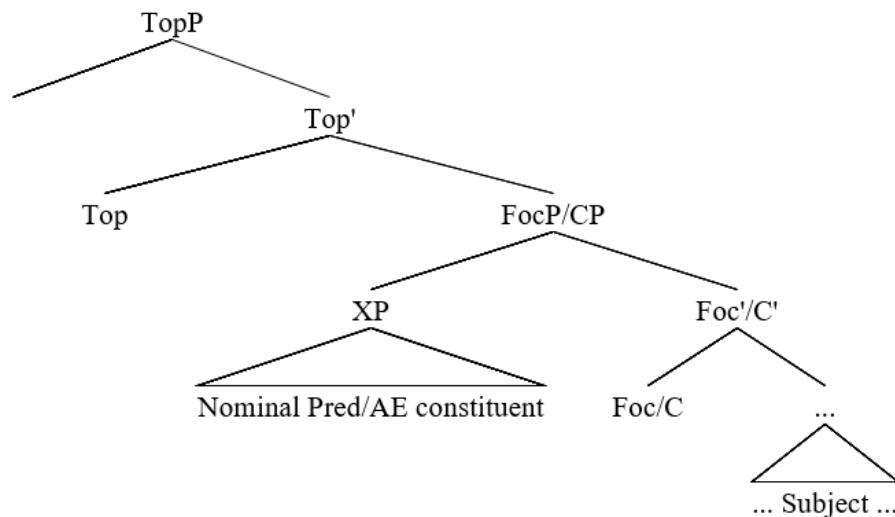
3.2.2 Monoclausal complementary distribution analysis

De Lacy (1999), on the basis of EQ and CLS-*he* constructions, and Pearce (1999), on the basis of AE constructions, propose that Subject Phrase questioning is ruled out in those constructions because the Predicate Phrase occupies the position targeted by question movement.

- De Lacy (1999) proposes:
 - that nominal Predicate Phrases occupy SpecCP, the position also targeted by question movement, hence Subject Phrase questioning is prohibited when the Predicate Phrase is nominal.
 - that non-nominal Predicate Phrases occupy a position lower than SpecCP, hence Subject Phrase questioning is permitted when the Predicate Phrase is not nominal.
- Pearce (1999) argues that the emphasis on the agent/actor in the AE construction comes from the agent/actor being in SpecFocP, the position also targeted by question movement.
 - Movement of the Subject Phrase (or any phrase) for questioning is thus ruled out. The main Predicate Phrase itself, however, can be questioned.

According to both de Lacy (1999) and Pearce (1999), Subject Phrase topicalisation is permitted in all constructions (except EQ constructions according to de Lacy) because topicalisation targets SpecTopP, which is higher than SpecCP/SpecFocP.

(47) Monoclausal complementary distribution analysis



Independent evidence for DP vs. PP/VP Predicate Phrases occupying different positions

Evidence comes from cross-linguistic comparisons:

(48) Are TAM markers present?

	DP predicate constructions	PP predicate constructions	VP predicate constructions
Māori	✗	✗ (but prepositions are tensed)	✓
Samoan	✗	✓	✓
Tongan	✗	✓	✓

(49) Are pronominal subject (clitics) possible?

	DP predicate constructions	PP predicate constructions	VP predicate constructions
Māori	n/a	n/a	n/a
Samoan	✗	✓ (except P-POSS constructions)	✓
Tongan	✗	✓	✓

- These data are suggestive and rely on ancillary assumptions/analyses.
- I tend to think that they do suggest a difference in structural position with DP Predicate Phrases being higher than PP/VP Predicate Phrases (see the analyses of de Lacy 1999; Collins 2017).
 - However, it turns out that this is not particularly important for the analysis I develop in Section 4.

However, there are problems for the monoclausal complementary distribution analysis:

Problem 1: Evidence for cleft structure

- Many authors argue that questions and AE constructions in Māori are bi-clausal constructions (Chung 1978; Bauer 1993, 1997, 2004; Potsdam & Polinsky 2011, 2012).

Problem 2: Nominal predicate phrases do not have focus interpretations

- Nominal predicate phrases are not necessarily or typically associated with focus interpretations.
 - This differs from the AE construction, where the AE construction is typically associated with focus (see Section 3.1).

Problem 3: Absence of complementary distribution

- The complementary distribution analysis predicts that no element at all can be questioned (except the nominal Predicate Phrase or AE constituent itself).
- However, it seems to be possible to question adverbials in nominal predicate constructions, though the crucial data need to be confirmed by native speakers (Winifred Bauer p.c.).

(50) <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 Māori¹²
 belong the(PL) affairs Māori
 ‘... from the end of 1899 he was the minister of Māori affairs’

(51) a. CLS-*he* construction

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?’

b. CLS-*he* construction

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?’

c. EQ construction (adapted from (50b), thanks to Winifred Bauer p.c.)

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?’

- NB fronting of the Subject Phrase in question contexts. This also suggests that nominal Predicate Phrases are not so high in the clausal structure.

¹² Winifred Bauer (p.c.) points out that *ko ia* may be a topicalised Subject Phrase, 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 do this in EQ constructions.

In AE constructions, however, questioning of adverbials does indeed appear to be prohibited (see Waite 1990; Pearce 1999).

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

- a. *Inawhea **nā** **Pita** i tīhore (ai) te hipi?
when n(GEN) Pita T/A fleece PTCL the sheep
‘When did Pita fleece the sheep?’
- b. ***Nā Pita** inawhea i tīhore (ai) te hipi?

These data suggest that, whilst a complementary distribution analysis may be correct for ruling out Subject Phrase questioning in AE constructions, it is incorrect for nominal predicate constructions, i.e. EQ, CLS-*he* and possible also NUM constructions (but see Section 4.2.1).

Solution for nominal predicate constructions:

Adopt a cleft analysis but one where the embedded clause is a focus construction rather than a relative clause (see Belletti 2008, 2012, 2015; Haegeman, Meinunger & Vercauteren 2015).

Adopt an analysis where nominal Predicate Phrases block Subject Phrase questioning through intervention rather than through complementary distribution.

4 A new analysis

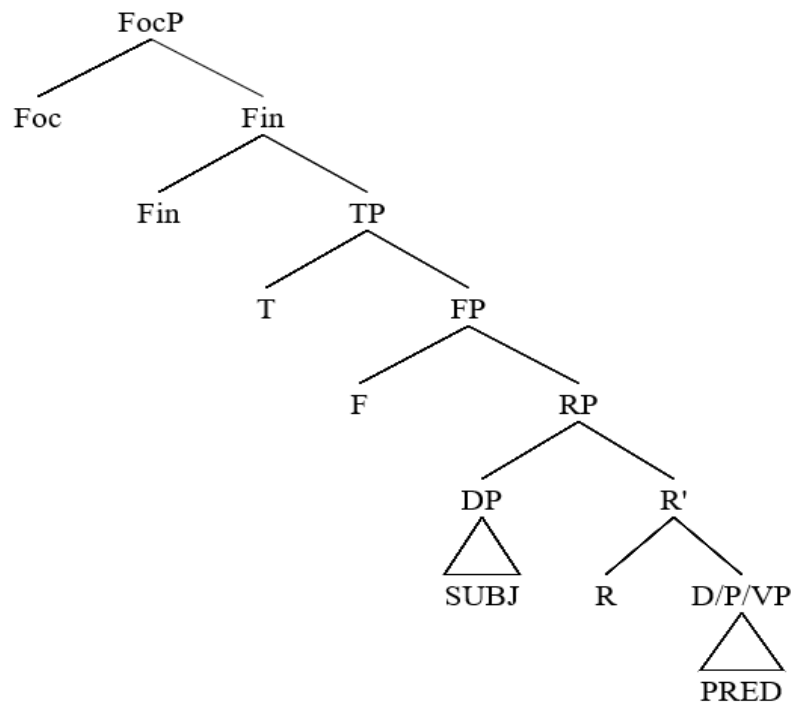
4.1 Assumptions

I adopt:

- a predicate raising analysis of Māori XS(O) order (*pace* de Lacy 1999; Pearce 2002, at least for verbal constructions); see Massam (2000) on Niuean, Medeiros (2013) on Hawai'ian, and Collins (2017) on Samoan.
 - a slightly different analysis for AE constructions, which are biclausal (Bauer 1993, 1997, 2004; Potsdam & Polinsky 2012; *pace* Waite 1990 and Pearce 1999).
- the presence of FP immediately below TP (Collins 2017).
 - I assume that PP and VP Predicate Phrases target SpecFP, but that DP Predicate Phrases move on to SpecTP (see Section 3.2.2), though this is not crucial.

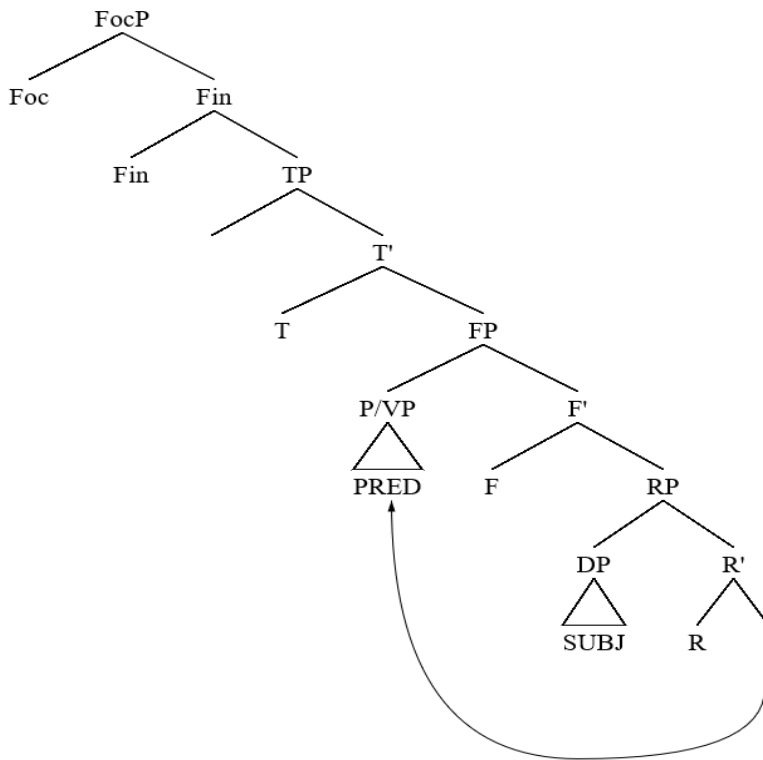
4.2 Analysis

(53) Basic clausal spine



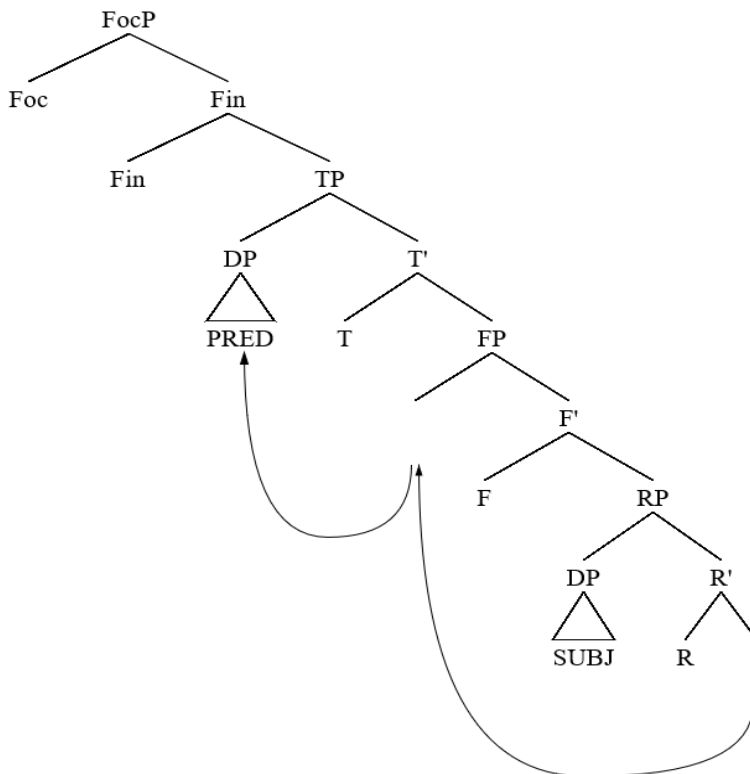
- RP is a Relator Phrase (den Dikken 2006). R stands for the functional head that mediates the predication relation between the Subject Phrase in SpecRP and the Predicate Phrase in R's complement. The Predicate Phrase can be a DP, PP or VP (D/P/VP).

(54) Non-nominal predicate constructions



- F has a [PRED] feature. $F_{[PRED]}$ attracts the Predicate Phrase to SpecFP, resulting in Predicate > Subject order (see Massam 2000; Collins 2017).

(55) Nominal predicate constructions



- $F_{[PRED]}$ attracts the Predicate Phrase to SpecFP.
- T attracts DP Predicate Phrases to SpecTP. Therefore, assume that T has a [D] feature.
- DP Predicate Phrases thus end up higher than VP and PP Predicate Phrases, as suggested by data in Section 3.2.2. This is not crucial here, however.

4.2.1 Subject Phrase questioning

- Subject Phrase questioning is prohibited in nominal predicate constructions, but permitted in non-nominal predicate constructions.
- SpecFocP is available as evidenced by the ability to question adverbials in nominal predicate constructions (see Section 3.2.2).
- Therefore, suppose that DP Predicate Phrases (but not PP or VP Predicate Phrases) intervene with movement of the Subject Phrase to SpecFocP.
- This can be encoded by attributing a [D] feature to Foc.
 - $Foc_{[D]}$ cannot attract the DP Subject Phrase in nominal predicate constructions because the DP Predicate Phrase intervenes.
 - $Foc_{[D]}$ can attract the DP Subject Phrase in non-nominal predicate constructions because the PP/VP Predicate Phrase does not intervene.
 - NB this FocP serves as the embedded clause in a (corrective/contrastive) focus cleft (Belletti 2008; Belletti 2012; Belletti 2015; Haegeman, Meinunger & Vercauteren 2015).

This predicts that in non-nominal predicate constructions with multiple DP arguments, only the Subject is accessible for Focus. This prediction is borne out. *Ko*-focus with a gap strategy is only available with subjects.

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

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

Ko-focus fronting with ‘direct objects’ must use a possessive-relative strategy (the ‘direct object’ may be a grammatical subject in such examples (see Herd, Macdonald & Massam 2011)).

(57) (Bauer 1997: 666, ex (4316)) (Bauer glosses *ko* as EQ)

- 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’

- $Foc_{[D]}$ is able to access DPs inside Predicate Phrases (though the Predicate Phrases arguably do not move (Winifred Bauer p.c.)).
- Since Predicate Phrases are higher than the Subject Phrase, the DP Subject Phrase will not intervene between $Foc_{[D]}$ and a Predicate Phrase.

- In non-nominal predicate constructions, a DP inside the Predicate Phrase and the DP Subject Phrase are both accessible to $\text{FOC}_{[D]}$ in principle because neither DP c-commands the other.

How does the PP Predicate Phrase in AE constructions get focus?

- AE constructions are bi-clausal (see especially Potsdam & Polinsky 2012).
- The PP Predicate Phrase is the matrix Predicate Phrase and is not present in the embedded clause at any stage of the derivation.
- Therefore, this PP Predicate Phrase is not in SpecFocP.
 - This suggests that the complementary distribution analysis may not hold for the AE construction after all.

How can adverbial phrases be questioned?

- Adverbial phrases in declarative contexts can generally appear in initial position anyway. Therefore, $\text{FOC}_{[D]}$ can probe the adverbial phrase in-situ without intervention.

4.2.2 Subject Phrase topicalisation

- Subject Phrase topicalisation (and relativisation) is permitted in all constructions.
- Top can only attract the Subject.
 - This suggests Top has a [D] feature.
- Predicate Phrases cannot be topicalised (Bauer 1997, p.c.).
 - This suggests Top has a [D-ARG] feature, i.e. it attracts the closest DP *argument*.

Topicalisation with a gap strategy can only target subjects (Bauer 1993, 1997; Pearce 1999). The topic is in bold.

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

- a. I kite te pirihi mana i te tamaiti.
 T/A find the policeman ACC the child
 ‘The policeman found the child.’
- b. **Ko te pirihi mana** i kite i te tamaiti.
 KO the policeman T/A find ACC the child
- c. ***Ko te tamaiti** i kite te pirihi mana

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

- a. I kite-a te tamaiti e te pirihi mana.
 T/A 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 pirihi mana. [Hohepa 1967: (43)]
- c. ***Ko te pirihi mana** 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).¹³ Furthermore, topicalisation cannot target predicate phrases (Winifred Bauer, p.c.).

The intervention analysis thus suggests that Māori makes a featural distinction between arguments and predicates, but does not make a featural distinction between A' and A, i.e. Māori may lack A'-features entirely (see also Davies 2003; Davies & Kurniawan 2013; Aldridge 2015, 2017a,b; Douglas 2017), at least in clauses (there may be evidence for A'-like features in Māori nominals (see Pearce 2005; Douglas 2017)).

5 Conclusion

- Māori Subject Phrases can be topicalised (and relativised) in all constructions.
- Māori Subject Phrases can be questioned in verbal and prepositional predicate constructions, but cannot be questioned in nominal predicate constructions.
- Questions are cleft-like structures where the embedded clause is a focus construction.
 - Focus has a [D] feature: it probes for the closest DP element (argument or predicate, though only arguments can move to SpecFocP).
 - DP Predicate Phrases are closer to Foc_[D] than DP Subject Phrases, hence Subject Phrase questioning is ruled out in nominal predicate constructions.
- Topicalisation structures could be monoclausal.
 - Topic has a [D-ARG] feature: it probes for the closest DP argument.

¹³ Certain constituents of subject noun phrases can be topicalised, as well as certain types of subordinate clause subjects, which includes negative sentences and AE constructions if these are taken to be biclausal structures, as is typically the case (Bauer 1997: 658).

Appendices

Appendix A: Negation

- Māori uses one of two negative verbs to negate the constructions illustrated above:
 - *ēhara* (EQ, CLS-*he*, P-POSS and AE constructions)
 - *kāhore* (NUM, E-POSS, CLS-*hei*, LOC and verbal constructions)
- There is apparently no correlation between the choice of negative verb and the category of the Predicate Phrase; Bauer (2004) suggests it may be more to do with Tense than category.

The Predicate Phrase of EQ, CLS-*he*, CLS-*hei*, NUM, and E-POSS constructions changes form under negation in present-day Māori, and the same happens in P-POSS and AE constructions in older stages of the language.

No change takes place with LOC or verbal constructions in any attested stage of the language. For all but NUM and E-POSS constructions, which I will ignore here, the change involves *i* plus a noun.¹⁴

(A1) (Bauer 1997: 464, ex (3013))

EQ construction

- a. **Ko Tamahae** tērā.
EQ Tamahae that
‘That is Tamahae.’
- b. * **Ēhara** tērā **ko Tamahae.**
NEG that EQ Tamahae
(‘That’s not Tamahae.’)
- c. **Ēhara tērā i a Tamahae.**
NEG that PREP PERS Tamahae
‘That’s not Tamahae.’

(A2) (Bauer 1997: 464, ex (3015))

CLS-*he* construction

- a. **He whero** te whare.
CLS red the house
‘The house is red.’
- b. **Ēhara** te whare **i te whero.**
NEG the house PREP the red
‘The house is not red.’

¹⁴ There is disagreement on the nature of *i*. Bauer (2004) says that it is probably a neutral locative preposition, hence the gloss PREP in the following examples.

(A3) (Bauer 1997: 466, ex (3028))

CLS-*hei* construction

- a. **Hei kaiako** ahau.
 CLS(FUT) teacher 1SG
 ‘I am going to be a teacher.’
- b. Kāhore ahau **i te kaiako.**
 NEG 1SG PREP the teacher
 ‘I am not going to be a teacher.’

Note that Subject Phrases tend to precede the Predicate Phrase in negative contexts (this is virtually obligatory if the Subject Phrase is pronominal).

(A4) (Bauer 1997: 465, ex (3018))

P-POSS construction

- a. **Nā.na** te pukapuka nei.
 belong.3SG the book nearI
 ‘This is his book.’
- b. Ēhara **nā.na** te pukapuka nei.
 NEG belong.3SG the book nearI
 ‘This is not his book.’
- c. Ēhara te pukapuka nei **i a ia.**
 NEG the book nearI PREP PERS 3SG
 ‘This is not his book.’ (fine for older texts and older speakers)

(A5) (Bauer 1997: 465, ex (3021))

AE construction

- a. **Mā Mere** e horoi ngā rīhi.
 belong Mary TAM wash the(PL) dishes
 ‘Mary will wash the dishes.’
- b. Ēhara **mā Mere** e horoi ngā rīhi!
 NEG belong Mary TAM wash the(PL) dishes
 ‘Mary won’t wash the dishes.’

(A6) (Bauer 2004: 31, ex (19c))

AE construction

- Ēhara **i a Mere** i whaka-pai te tēpu.
 NEG PREP PERS Mary PAST CAUSE-good the table
 ‘It wasn’t Mary who set the table.’ (fine for older texts and older speakers)

(A7) (Bauer 1997: 465, ex (3022))

LOC construction

- a. I te kura ia.
at(PT) the school 3SG
'He was at school.'
- b. Kāhore ia i te kura.
NEG 3SG at(PT) the school
'He was not at school.'

Speculative idea

- Suppose negative verbs are restructuring verbs in Māori and may take complements of a specific size.
- If the complement of a negative verb can only be as large as FP, all constructions which are ordinarily formed with structure higher than FP will be impossible under negation.
- To be embedded under negation, such constructions would need to be expressed differently, i.e. the Predicate Phrase would have to be prepositional or verbal.
- If, over time, the complement of negative verbs changes size, this might account for why AE and P-POSS constructions no longer have to change the form of their Predicate Phrases under negation.
 - This would place P-POSS PPs higher than LOC PPs (see Appendix B).

Appendix B: P-POSS vs. LOC

Distinctions between P-POSS and LOC constructions appear in different guises in various Polynesian languages.

Tuvaluau: Discontinuous complex Predicate Phrases are permitted if the embedded PP is a LOC PP, but not if it is a P-POSS PP (Besnier 2000). This is not true of Māori.

Samoan: P-POSS constructions cannot have pre-Predicate Phrase subject pronouns, whilst LOC constructions can (Mosel & Hovdhaugen 1992).

Māori: In older Māori, the Predicate Phrase of P-POSS constructions changed form under negation, whilst that of LOC constructions did not (Bauer 1993, 1997). If the restructuring idea in Appendix A is on the right lines, it suggests that P-POSS PP Predicate Phrases are higher than LOC PP Predicate Phrases, and that the upper bound of the restructuring complement was between P-POSS and LOC.

English possessor PPs also appear to be structurally higher than locative PPs. Hallman (2015: 399), on the basis of binding of PRO in purposes clauses in double object and locative constructions, argues that “the possessor argument of verbs like *give* occurs in a higher syntactic position than the locative argument of verbs like *put*, even when it surfaces in a prepositional phrase.”

- (B1) a. Mary gave the horse to John_i [PRO_i to feed]. (*John* is possessor)
 b. * Mary led the horse to John_i [PRO_i to feed]. (*John* is location)

FP may thus stand for a more fine-grained part of structure.

Appendix C: Belletti's cleft analysis

Belletti's (2008, 2012, 2015) analysis of clefts says that the embedded clause is not a relative clause, but rather a focus clause (see also Haegeman, Meinunger & Vercauteren 2015).

(C1) COPULA [_{FocP} Foc [_{PredP} Pred [_{FinP} Fin [_{TP} T ...

The copula selects a 'small clause', i.e. a reduced CP extending no further than FocP. PredP is crucial for Belletti to account for an asymmetry between subject and non-subject clefts found in various languages, e.g. French.

Subject clefts:	New information focus	Corrective/contrastive focus
Non-subject clefts:	New information focus	Corrective/contrastive focus

(C2) New information clefts (Belletti 2015: 44-45)

a. Subject cleft

- Q: Qui (est-ce qui) a parlé?
 who is-it who has spoken
 'Who spoke?'
 A: C'est Jean (qui a parlé).
 it.is Jean who has spoken
 'It is Jean (that spoke).'

b. Object cleft¹⁵

- i. Q: Qu'est-ce-que t'as acheté?
 what.is-it-that you.have bought
 (Qu'as-tu acheté?)
 (what.have-you bought)
 'What have you bought?'
 A: *C'est un livre (que j'ai acheté).
 it.is a book that I.have bought
 'It is a book (that I bought).'
- ii. Q: Qui est-ce-que t'as rencontré?
 who is-it-that you.have met
 (Qui as-tu rencontré?)
 (who have-you met)
 'Whom have you met?'
 A: *C'est Jean (que j'ai rencontré).
 it.is Jean that I.have met
 'It is Jean (that I met).'

¹⁵ The answers in the object cleft examples are ungrammatical as new information clefts; these strings are grammatical as corrective/contrastive clefts but this is not a felicitous interpretation in the given context.

(C3) Corrective/contrastive clefts (Belletti 2015: 45)

- a. Subject cleft
- i. Context:
 On m'a dit que Marie a parlé.
 one me.has told that Marie has spoken
 'They told me that Marie has spoken.'
- ii. Correction:
 Non, c'est JEAN qui a parlé.
 no it.is Jean who has spoken
 'No, it is JEAN that/who has spoken.'
- b. Object cleft
- i. Context:
 On m'a dit que hier t'as acheté
 one me.has told that yesterday you.have bought
 un journal.
 a newspaper
 'They told me that yesterday you have bought a newspaper.'
- ii. Correction:
 Non, c'est UN LIVRE que j'ai acheté.
 no it.is a book that I.have bought
 'No, it is A BOOK that I have bought.'

Belletti proposes that in corrective/contrastive clefts, the focussed element moves to SpecFocP, where Foc is dedicated to corrective/contrastive interpretations. This is an instance of A'-movement, i.e. objects can move across subjects.

(C4) Corrective/contrastive clefts

- a. COPULA [_{FocP} **[SUBJ]** FOC [_{PredP} Pred [_{FinP} Fin [_{TP} t_{SUBJ} ... OBJ ...
- b. COPULA [_{FocP} **[OBJ]** FOC [_{PredP} Pred [_{FinP} Fin [_{TP} SUBJ ... t_{OBJ} ...

Belletti proposes that in new information focus clefts, the focussed element must first move to SpecPredP and then on to the new information focus position at the edge of the matrix *v*-domain (not shown).

Crucially, Belletti stipulates that SpecPredP and SpecTP (the subject position) are treated as being of the same type with respect to Relativised Minimality, i.e. they are both A-positions.

- Subjects are able to move to SpecPredP and then on to the matrix clause.
- However, if a non-subject tries to move to SpecPredP, the subject in SpecTP will intervene.

Non-subjects are thus unable to reach the new information focus position in the matrix clause.

(C5) New information cleft (only movement to SpecPredP shown)

- a. COPULA [_{FocP} FOC [_{PredP} **[SUBJ]** Pred [_{FinP} Fin [_{TP} t_{SUBJ} ... OBJ ...
- b. * COPULA [_{FocP} FOC [_{PredP} **[OBJ]** Pred [_{FinP} Fin [_{TP} SUBJ ... t_{OBJ} ...

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