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NEGATIVES IN MAORI: A LEXICAL-FUNCTIONAL APPROACH

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0. Introduction

It has long been noted that, at least superficially, negative constructions in Maori show a word-order quite distinct from their affirmative counterparts.

(1a) *E koorero ana ngaa waahine* (B62)[1]
'the women are talking'

(1b) *Kaahore ngaa waahine e koorero ana* (B62)
'the women are not talking'

> Notice that in this affirmative active sentence the verbal phrase is followed by the actor phrase, but the negative sentence begins with the negative formula, which is then followed by the actor and action in inverted order. (Biggs 1969:62)

Although it must be remembered that Biggs (1969) is a descriptive work, not purporting to give an analysis in theoretical terms, one could assume from the above description the following surface configurations for affirmative and negative sentences respectively:

(2a) $[_S\ [_{VP}$ Tns V] NP ...]

(2b) $[_S$ Neg NP $[_{VP}$ Tns V] ...]

But, as Chung (1970:1) points out, if 'we call the negatives adverbs [and thus assume Neg, NP and VP all to be daughters of a single node], these constructions seem unmotivated; for few Polynesian adverbs precede the verb, and almost no adverbs change the shape of the simple sentence'.[2]

In order to provide a principled explanation of the negative, Chung (1970), like Hohepa (1969), proposes an analysis whereby the negative elements *kaahore, kiihai, kore, kaua* and *eehara* are to be considered as higher verbs (i.e. capable of taking a sentential complement).

The present paper aims at couching the 'higher verb' analysis in the framework of Lexical-Functional Grammar (Bresnan 1982), a theory which, because it takes grammatical functions rather than syntactic configurations as the primitives of language, can handle quite elegantly non-SVO languages such as Maori.

The organisation of the paper is as follows: Section 1 is a survey of previous analyses of Maori negative constructions; Section 2 gives a basic outline of LFG theory; an LFG analysis of Maori negatives is elaborated in Section 3; some concluding remarks will be found in Section 4.

1. Earlier analyses

1.1 Hohepa (1966)

In the earliest versions of Transformational-Generative Grammar, negative sentences were considered transformations of kernel sentences for some languages.

Hohepa (1966) argues that Maori is one such language, essentially on the grounds of long-distance dependencies found in the form of agreement between verbal particles. For example, *kiihai* and *i* agree in both marking past time in (3a), whilst *ee kore* and *ee* agree for non-past time in (3b).

(3a) *Kiihai te tangata i haere* (HH61)
'the man didn't go'

(3b) *Ee kore te tangata ee haere* (HH61)
'the man won't go'

There is no mention of negatives as higher verbs.

1.2 Biggs (1969)

As has already been noted in the introduction, Biggs (1969:62) offers a surface description of negative constructions as consisting of 'the negative formula, [...] followed by the actor [NP] and action [VP]'.

Biggs suggests that negative elements are verbs when discussing *eehara* and *kaahore:*

> It is of interest to note that *ehara* (*e hara*), and *kaahore* (*ka hore*) can be regarded as verbal phrases, and in fact *hara* 'be wrong' and *hore* 'be nothing, negative' are stative verbs used elsewhere in the language. From this point of view a sentence such as *e hara a Hata i te rangatira* is seen to have the structure of a stative verbal sentence [...] i.e. predicate (*e hara*), subject (*a Hata*), comment in *i* (*i te rangatira*), with the literal meaning 'it is wrong that Hata is the chief' or 'Hata is not the chief'. Similarly *kaahore taku toki i a Pita* ['Pita did not have my axe'] can be seen as a stative verbal sentence with predicate (*ka hore*), subject (*taku toki*), comment in *i* (*i a Pita*). (Biggs 1969:76)

Biggs clearly considers such elements to be verbs, and the 'higher verb' analysis is hinted at by the literal translation of *ehara a Hata i te rangatira* as 'it is wrong that Hata is the chief'. The English version consists of a higher adjectival complex (*be* + A), which takes a sentential complement introduced by *that*.

1.3 Hohepa (1969)

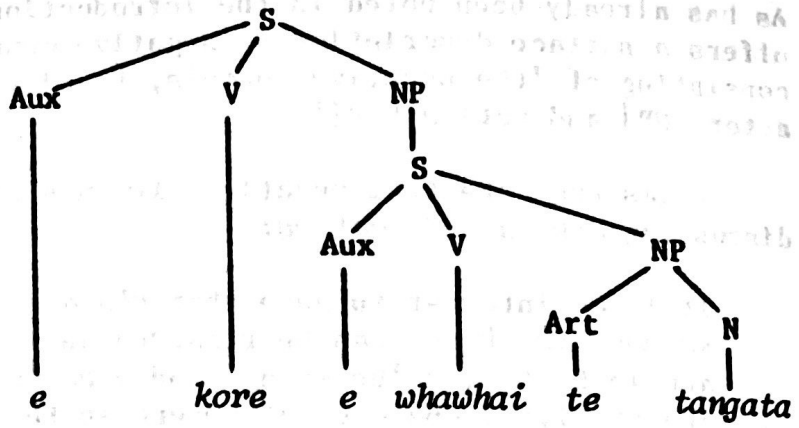
Using the *Aspects* version of TG grammar, Hohepa (1969) shows firstly that the negatives *eehara* and *kore* belong to the class of words known as stative verbs, and secondly, that negative constructions are best explained by an analysis of *eehara* and *kore* as higher verbs.[3]

Hohepa considers Maori to be a verb-initial language even in deep structure. For (4a, b), he postulates (4c) as the deep structure:

(4a) *E kore e whawhai te tangata* (H17)
'the man won't fight'

(4b) *E kore te tangata e whawhai* (H17)

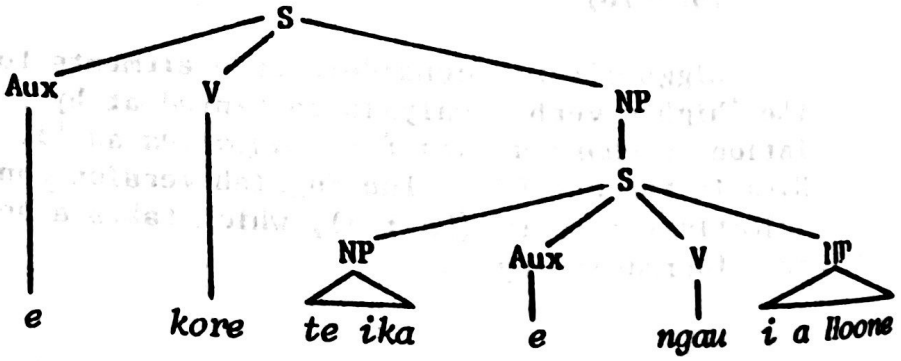
(4c)



One presumes that the surface structure of (4a) remains the same as (4c), but it is unclear how the alternative (and more common) word-order (4b) is derived. In discussing (5a), Hohepa seems to be claiming for it a surface structure like (5b):

(5a) *E kore te ika e ngau i a Hoone* (H18)
'the fish won't bite John'

(5b)



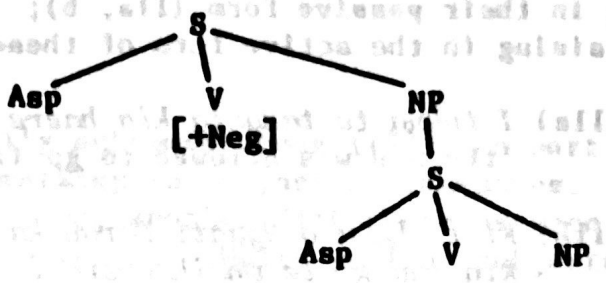
> The fact that the sentence [(5a)] cannot ever have the meaning 'the fish won't be bitten by John' (and this would be the reading if *te ika* was the surface subject and *i a Hoone* was surface agent of *kore* [according to Hohepa's distribution of grammatical functions to stative verbs]) supports the arguments for *kore* being not only a stative verb, but also a higher verb. (Hohepa 1969:18)[4]

Clearly, Hohepa considers *te ika* and *i a Hoone* both to be constituents of the embedded S, even in surface structure. The transformation involved in the passage from deep structure to surface structure in the case of (4b) and (5a) must therefore be a simple subject-verb inversion. Most importantly, there is no mention of a raising rule like that proposed by Chung (1970).

1.4 Chung (1970)

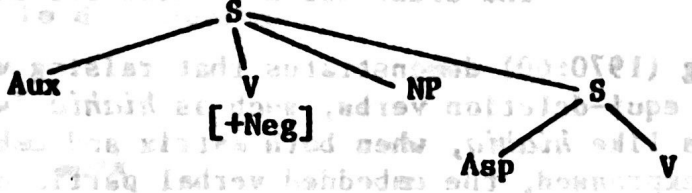
Like Hohepa (1969), Chung (1970) analyses negatives as higher verbs, positing the same kind of deep structure for negative constructions.

(6)



Where Chung differs from Hohepa is in claiming a raising rule that moves the subject NP of the embedded verb to the subject position of the higher negative verb. The resulting surface structure is then the following:

(7)



It is shown that the displaced NP is indeed the surface subject of the negative verb (Chung 1970:31). The argument used is that of indefinite subjects: whilst intransitive verbs can take indefinite subjects (8a), transitive verbs cannot (8b):

(8a) *Ka hinga he raakau* (C31)
'a tree falls'

(8b) **I patu he pirihimana i te tamaiti* (C31)
'a policeman killed the child'

As long as the subject clearly remains within the domain of the embedded verb in the negative construction, any indefinite marking is impossible:

(9) **Kaahore i patu he pirihimana i te tamaiti* (C31)
'a policeman didn't kill the child'

But when the subject is moved to the left, the sentence becomes grammatical. The displaced NP is no longer the subject of the embedded verb, but rather the raised subject of the negative (intransitive) verb:

(10) *Kaahore he pirihimana i patu i te tamaiti* (C31)

Chung (1970:52) claims that negatives seem to be the only verbs in Maori that allow raising to occur. In fact, there are verbs such as *tuku* and *whakaae* 'allow' that permit raising in their passive form (11a, b); some speakers even allow raising in the active form of these verbs (11c):

(11a) *I tukua te tangata kia haere noa* (B70)
'the man was allowed to go free'

(11b) *Ki te kawa o Ngaati Porou ka whakaaetia te wahine kia tuu ki te whaikoorero i runga i te marae*
'according to Ngati Porou protocol, women are allowed to stand and speak on the marae'

(11c) *?Kaahore te kaumatua i whakaae i te wahine kia koorero*
'the elder did not allow the woman to speak'

Chung (1970:60) demonstrates that raising verbs are distinct from equi-deletion verbs, such as *hiahia* 'want'.[5] With verbs like *hiahia*, when both matrix and embedded subject are expressed, the embedded verbal particle is *kia* (12a). When equi-deletion has taken place, as in (12b), the verbal particle must be *ki te*:

(12a) *E hiahia ana au kia haere a Hoone ki te whare* (C23)
'I am/was wanting that John go to the house'

(12b) *E hiahia ana au ki te haere ki te whare*
'I am/was wanting to go to the house'

The raising constructions do not fit the pattern, since they may preserve the embedded particle *kia*, even when the higher verb has its own surface subject (see also (11a-c)):

(13a) *Kaahore kia patu te wahine i te tuna* (C60)
'the woman hasn't killed the eel'

(13b) *Kaahore te wahine kia patu i te tuna* (C60)

(13c) **Kaahore te wahine ki te patu i te tuna* (C60)

Finally, Chung shows that historically all negative verbs, apart from *kore*, consist of an aspectual particle now agglutinated to the verb (14). *Kore* still requires a separate aspectual particle:

(14a) *kaahore = kaa + hore*

(14b) *kiihai = kii + hai*

(14c) *eehara = ee + hara*

1.5 Chung (1978)

Chung (1978) essentially subsumes Chung (1970) as part of a wider look at case marking in Polynesian languages. However, she does point out another difference between raising verbs and equi-deletion verbs. While patient subjects may be raised (15a), they may not be equi-deleted (15b):

(15a) *E kore a Hoone e mate aapoopoo* (Ch139)
'Hoone won't die tomorrow'

(15b) [4]*Ka hiahia au ki te mate aapoopoo* (Ch139)
'I want to die tomorrow'

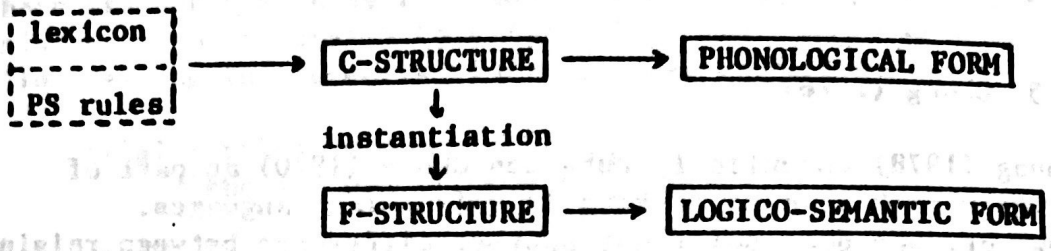
2. Theoretical framework

Lexical-Functional Grammar (LFG), like the Government-Binding model (GB) of TG grammar, is a generative theory of language. In other words, the grammar of a language is taken to be a finite set of rules, governed by certain general principles, which generate all, and only, the grammatical sentences of a language. Unlike GB however, LFG has no transformational component. There is a single level of constituent structure (c-structure), generated by the phrase-structure (PS) rules and generally represented by a tree-like structure. These PS rules are more elaborate in LFG than in GB, annotated as they are with functional equations of the type (↑SUBJ) = ↓.[6]

Although there is only one level of constituent structure, LFG possesses a second level of syntactic structure. The functional structure (f-structure) is derived from the c-structure, once lexical insertion has taken place, by means of a process known as 'instantiation'. The resulting f-structure is a non-ordered, hierarchical structure represented as an embedding of sets in parentheses. The c-structure is the only input into the phonological component, whilst the f-structure is the only input into the logico-semantic component.

The LFG model can be schematised as in Figure 1.

Figure 1. LFG Model



2.1 Lexicon

At a prelexical stage, one can represent the notion 'give' by the predicate-argument structure (16), which indicates that the predicate 'give' requires three arguments to be complete: an agent (or 'giver'), a theme (or 'thing given') and a beneficiary (or 'person to whom thing is given').

(16) give (agent, theme, beneficiary)

In the lexicon itself, such predicates are subcategorised in terms of grammatical relations (e.g. subject, object, oblique), which are taken to number among the primitives of language. The resulting structure is known as a lexical form. The elementary lexical form of the verb 'give' in Maori is shown as the underlined part of the lexical entry for *hoatu* (17). In this particular lexical form, the agent corresponds to the function 'subject', the theme to 'object' and the beneficiary to 'oblique of beneficiary'.

(17) *hoatu* +V (↑PRED) = 'GIVE <(SUBJ)(OBJ)($\underline{\text{OBL}_{\text{BEN}}}$)>'

Nouns (18a), adjectives (18b) and locative prepositions (18c), used predicatively, have similar lexical entries.[7] Thus, (18c) is to be read: '*Kei* is a preposition whose predicate, "at", has two arguments corresponding to the grammatical functions "subject" and "object", and whose tense is present':

(18a) *tamaiti* +N (↑PRED) = 'BOY <(SUBJ)>'

(18b) *moohio* +A (↑PRED) = 'CLEVER <(SUBJ)>'

(18c) *kei* +P (↑PRED) = 'AT <(SUBJ)(OBJ)>'
(↑TENSE) = PRESENT

Other prepositions (19a), tense-aspect particles (19b), and articles (19c) differ from the major category items in not having a value for the feature PRED (predicate). Rather, they contain features which in some way specify the lexical head to which they are attached:

(19a) *i* +P (↑PCASE) = OBJ

(19b) *ka* +Tns(↑TENSE) = INCEPTIVE

(19c) *a* +Det (↑SPEC) = PROPER

2.2 PS rules

The PS rules must generate the surface structure directly. For basic verbal sentences in Maori, the following annotated PS rules will suffice:

(20a)[8] $S \rightarrow VP_{\uparrow=\downarrow} \quad (NP_{(\uparrow SUBJ)=\downarrow}) \quad PP^{*}_{(\uparrow(\downarrow PCASE))=\downarrow}$

(20b) VP → (Tns) V Adv*

(20c) NP → (Det) N

(20d)[9] $PP \rightarrow P \quad NP_{\uparrow=\downarrow}$

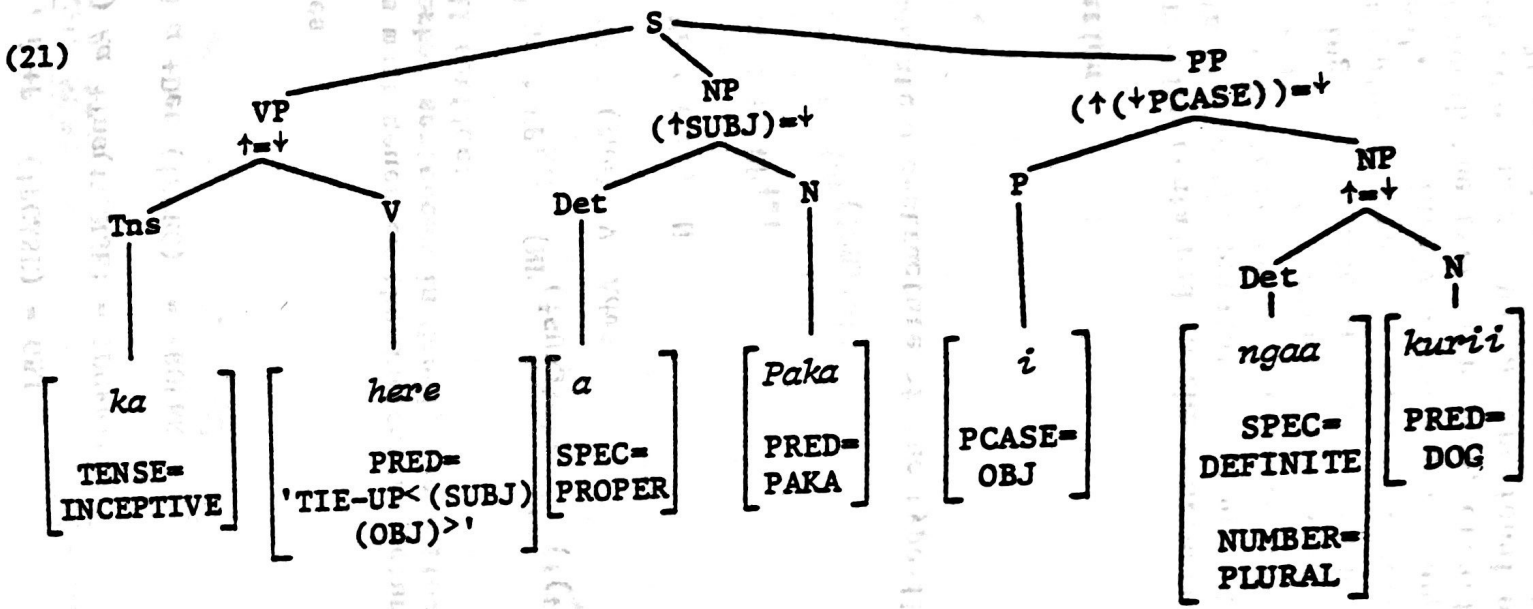
(20e) $PP \rightarrow P \quad (NP_{(\uparrow OBJ)=\downarrow})$

Such rules generate a c-structure of the type illustrated in (21).

2.3 Instantiation

Using the information contained in the c-structure - functional information attached to the phrasal nodes and lexical information attached to the terminal nodes when lexical insertion takes place - one can build up the corresponding f-structure, from which in turn a logico-semantic structure can be derived. The process of mapping c-structure onto f-structure is known as 'instantiation'. It involves passing the appropriate information up through the tree structure, creating sub-f-structures each time one reaches a functional node such as SUBJ or OBJ. These sub-f-structures are combined into one main f-structure corresponding to the complete sentence.

(21)


S
VP
↑=↓
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PRED=
'TIE-UP<(SUBJ)
(OBJ)>'
a
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For example, the c-structure (21) will yield (22) as its f-structure:

(22)
$$\begin{bmatrix} \text{PRED} & \text{'TIE-UP <(SUBJ)(OBJ)>'} \\ \text{TENSE} & \text{INCEPTIVE} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'PAKA'} \\ \text{SPEC} & \text{PROPER} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'DOG'} \\ \text{SPEC} & \text{DEFINITE} \\ \text{NUMBER} & \text{PLURAL} \\ \text{PCASE} & \text{OBJ} \end{bmatrix} \end{bmatrix}$$

2.4 Well-formedness

The well-formedness of the resulting f-structure is determined by a set of conditions. The uniqueness condition ensures that each feature has no more than a single value; the completeness condition, that a given f-structure (which may itself be a sub-f-structure) contain a value for each grammatical function subcategorised for by the predicate (PRED); and the coherence condition, that a given f-structure (or sub-f-structure) not contain values for any grammatical function *not* subcategorised for by the predicate.

3. LFG analysis of negatives

Maori, like all VSO languages, constitutes a potential problem for the GB model inasmuch as the direct object does not form a single constituent with the verb in surface structure. Since the GB model postulates as universal for configurational languages a D-structure of the type:

$$[_S\ NP_1\ [_{VP}\ V\ NP_2]]$$

where NP_1 is the underlying subject and NP_2 the underlying direct object, one is required to claim that the VSO word order in S-structure is the result of a movement rule.[10]

As we have seen, LFG has only one level of constituent structure. Since there is no transformational component, the surface structure must be generated directly by the PS rules. Therefore, the VSO order of Maori must be considered a basic structure, requiring no movement rule.[11]

Accepting that negatives in Maori are best considered as higher verbs, we must show how such verbs are represented in LFG. First let us examine the 'equi-deletion' verbs, such as *hiahia* and *piirangi* 'want', and then pass on to the 'raising' verbs, such as *whakaae* 'allow' and the negatives. Finally, we take a look at the 'non-raised' form of negative constructions, as well as the negative form of nominal sentences.

3.1 'Equi-deletion'

The basic generalisation that one was trying to capture by setting up an equi-deletion rule (and since then, in GB terms, the mechanism of PRO control) for sentences such as (23) was the identity of the 'underlying' subjects of the higher and lower verbs (here, *piirangi* and *haere* respectively).

(23) *Ka piirangi ngaa waahine ki te haere*
'the women want to go'

Since the c-structure is the only constituent structure available in LFG, it must represent the surface form of the sentence. As the notion of 'underlying subject' is rather more semantic in nature, it is appropriate that it should be represented in f-structure (the input into the logico-semantic component) and not at all in c-structure. The linking of the 'underlying subjects' is executed in the f-structure by a mechanism known as lexically-induced functional control. This type of control is induced by the lexical entry of the higher verb (24):

(24) *piirangi* +V (↑PRED) = 'WANT <(SUBJ)(XCOMP)>'
(↑XCOMP SUBJ) = (↑SUBJ)

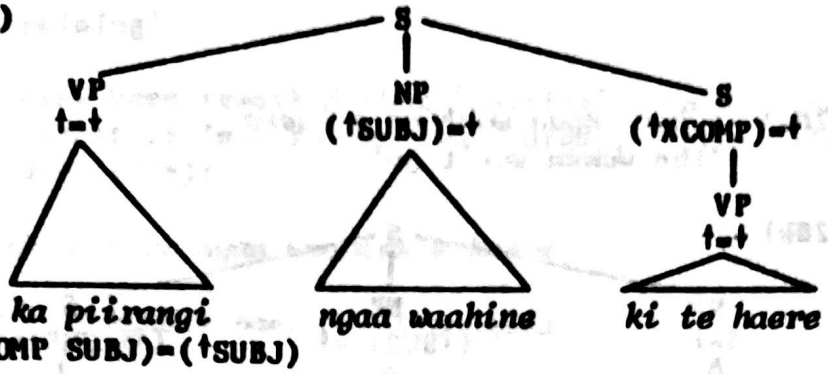
The open function XCOMP is carried by governed constituents (NP, PP, VP, AP, S) and includes a subject function whose value must be obtained from outside the XCOMP itself by functional control. The control equation (↑XCOMP SUBJ) = (↑SUBJ) requires that the subject of the function XCOMP take the value of the subject of the higher verb.

In order to generate a satisfactory c-structure, we must extend the expansion of S to allow for sentential complements bearing the function XCOMP:

(25) $S \rightarrow VP_{\uparrow=\downarrow}\ (NP...)\ PP^{*}...\ (S_{(\uparrow XCOMP)=\downarrow})$

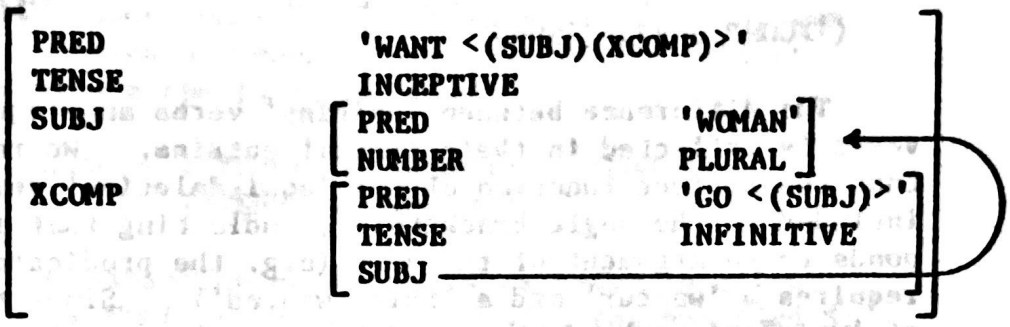
For (23), the following c-structure will be generated:

(26)



From this is derived the f-structure that will have the lower 'underlying' subject controlled by the subject of the higher verb (the control is indicated by an arrow):[12]

(27)



What is important to note here is:-

i) the nature of the function XCOMP,
ii) the nature of functional control, and
iii) that the SUBJ that subcategorises *piirangi* lies within the angle brackets <>, which indicate that it fills an argument position.

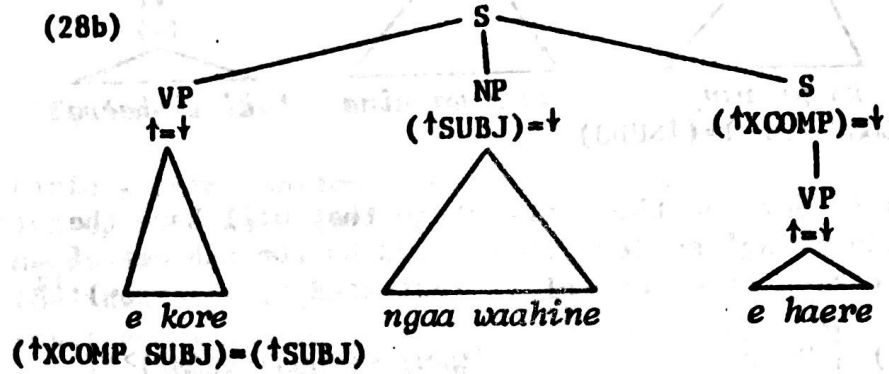
3.2 'Raising'

Unlike 'equi-deletion' verbs, 'raising' verbs do not take an argumental subject. Whereas the 'underlying subjects' of both the 'equi-deletion' verb and its embedded verb are identical- the 'raising' verb has no 'underlying subject' of its own, but rather usurps the 'underlying subject' of its embedded verb, taking it as its own surface subject.

The fact that the surface configuration of the 'raising' construction (28a) is the same as that of 'equi-deletion' verbs means that their c-structures follow the same pattern (28b):

(28a) *E kore ngaa waahine e haere*
'the women won't go'

(28b)



(↑XCOMP SUBJ)=(↑SUBJ)

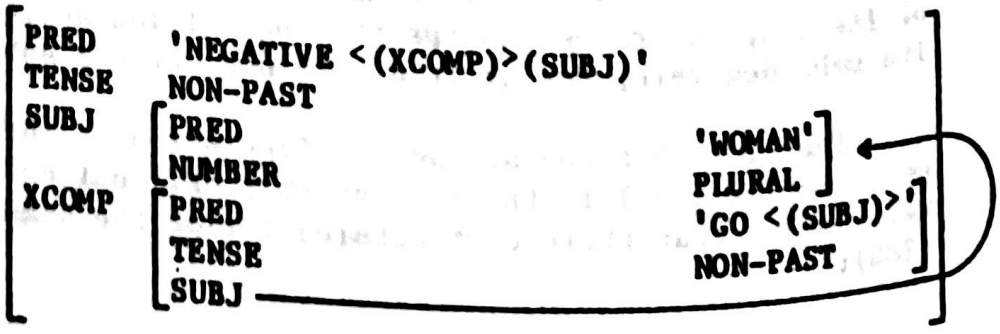
The difference between 'raising' verbs and 'equi-deletion' verbs is reflected in their lexical entries. We remember that the subject function of the 'equi-deletion' verbs is included in the angle brackets <>, indicating that it corresponds to an argument of the verb (e.g. the predicate 'want' requires a 'wanter' and a 'thing wanted'). Since the subject of 'raising' verbs does not fill an argument position, it falls outside the angle brackets, thus becoming a non-logical non-argumental function.[13]

Kore has, like the other negatives, the 'raising' type of lexical entry (29), for the predicate '(be) negative' requires only one argument: the 'thing negated'. It is to be noted that the value of the subject of the embedded verb is once again passed on by a control equation.

(29) *kore* +V (↑PRED) = 'NEGATIVE <(XCOMP)>(SUBJ)'
(↑TENSE) = NON-PAST[14]
(↑XCOMP SUBJ) = (↑SUBJ)

This entry, when inserted into the c-structure (28b), gives the following f-structure:

(30)



3.3 'Non-raising'

It has already been remarked that 'raising' constructions have an alternative 'non-raised' word-order. Thus, alongside (31a), we have (31b):

(31a) *E kore ngaa waahine e haere*

(31b) *E kore e haere ngaa waahine*

The lexical form of the negative that enters into this 'non-raised' structure is different from the lexical form of its 'raising' counterpart. Alongside (29), we have the form (32), subcategorised by the closed sentential function COMP. Unlike XCOMP, whose subject value is provided from outside the function by means of control, COMP's subject is contained within the function itself.

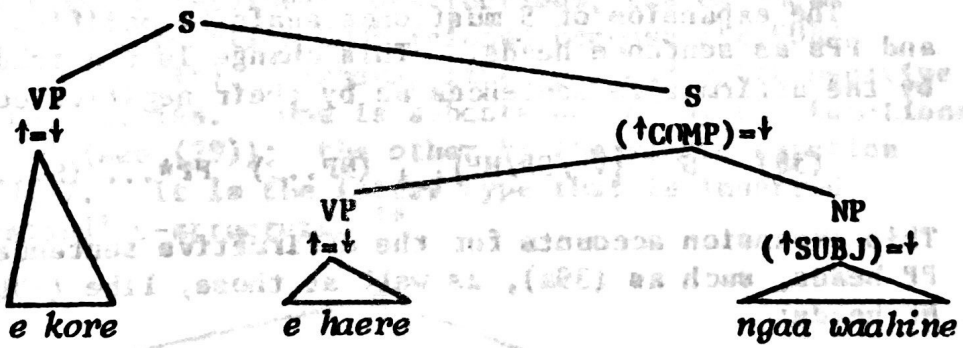
(32) *kore* +V (↑PRED) = 'NEGATIVE <(COMP)>'
(↑TENSE) = NON-PAST

Once again, the expansion of S must be extended to allow for the function COMP to be associated with the embedded S:

(33) $S \rightarrow VP_{\uparrow=\downarrow}$ (NP...) PP*... $(S_{(\{\uparrow XCOMP/\uparrow COMP\})=\downarrow})$

When the entry (32) is inserted into the c-structure (34a), the 'non-raised' f-structure (34b) is derived:

(34a)



(34b)

$$\begin{bmatrix} \text{PRED} & \text{'NEGATIVE <(COMP)>'} \\ \text{TENSE} & \text{NON-PAST} \\ \text{COMP} & \begin{bmatrix} \text{PRED} & \text{'GO <(SUBJ)>'} \\ \text{TENSE} & \text{NON-PAST} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'WOMAN'} \\ \text{NUMBER} & \text{PLURAL} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

3.4 Negatives of nominal sentences

The 'raising' analysis of negatives as verbs whose predicate has the value 'NEGATIVE <(XCOMP)>(SUBJ)' can be applied to the negative versions (35b, 36b, 37b) of nominal sentences (35a, 36a, 37a):

(35a) *Kei ngaa whare ngaa manuhiri* (B76)
'the guests are at the houses'

(35b) *Kaahore ngaa manuhiri i ngaa whare* (B76)
'the guests are not at the houses'

(36a) *Na te tangata ra teeraa kurii* (B75)
'that dog belongs to that man'

(36b) *Eehara teeraa kurii i te tangata ra* (B75)
'that dog does not belong to that man'

(37a) *He pukapuka teenei* (C32)
'this is a book'

(37b) *Eehara teenei i te pukapuka* (C32)
'this is not a book'

The expansion of S must once again be modified to allow NPs and PPs as sentence heads. This change is required as much by the affirmative sentences as by their negative counterparts.

(38) $S \rightarrow \{VP/PP/NP\}_{\uparrow=\downarrow}$ (NP...) PP*... (S...)

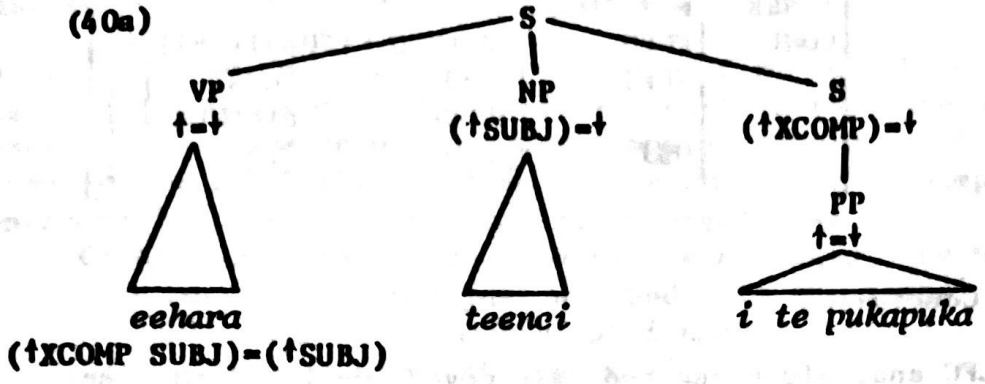
This expansion accounts for the affirmative sentences with PP heads, such as (39a), as well as those, like (39b), with NP heads:

(39a) $[_{PP}$ *kei ngaa whare*$]$ $[_{NP}$ *ngaa manuhiri*$]$

(39b) $[_{NP}$ *he pukapuka*$]$ $[_{NP}$ *teenei*$]$

At the same time, it accounts for the negative sentences, which are analysed as a negative verb governing an embedded S with a 'raised' subject. The c-structure (40a) and f-structure (40b) for the negative construction are as follows:

(40a)



(↑XCOMP SUBJ)=(↑SUBJ)

(40b)

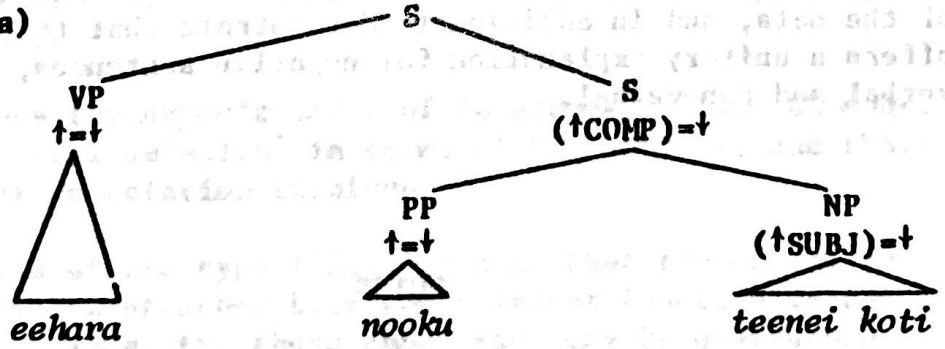
$$\begin{bmatrix} \text{PRED} & \text{'NEGATIVE } \langle(\text{XCOMP})\rangle \text{ (SUBJ)'} \\ \text{TENSE} & \text{NON-TIME} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'THIS'} \\ \text{NUMBER} & \text{SINGULAR} \end{bmatrix} \\ \text{XCOMP} & \begin{bmatrix} \text{PRED} & \text{'EQUIVALENT } \langle(\text{SUBJ})(\text{OBJ})\rangle\text{'} \\ \text{SUBJ} & \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'BOOK'} \\ \text{NUMBER} & \text{SINGULAR} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Just as there are 'non-raised' versions of negative verbal sentences, so there are 'non-raised' versions of negative nominal sentences:

(41) *Eehara nooku teenei koti* (B77)
'this coat is not mine'

Like the earlier 'non-raised' constructions, the embedded S bears the closed function COMP (closed because its SUBJ is contained within it). *Eehara*, like *kore* and other negative verbs, has two entries. One is subcategorised by the functions XCOMP and SUBJ (see (29)); the other by the single function COMP (see (32)). It is the latter type that is inserted into 'non-raised' c-structures.[15]

(42a)



(42b)
$$\begin{bmatrix} \text{PRED} & \text{'NEGATIVE <(COMP)>'} \\ \text{TENSE} & \text{NON-TIME} \\ \text{COMP} & \begin{bmatrix} \text{PRED} & \text{'BELONG <(SUBJ)(OBJ)>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'COAT'} \\ \text{NUMBER} & \text{SINGULAR} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'I'} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

4. Conclusion

The LFG analysis presented here covers much the same set of facts as Chung's (1970) raising analysis. As with Chung, the basic negative word-order falls out of an approach claiming that negative elements are higher verbs, for Maori is a VSO language. The admissibility of indefinite subjects with negatives is also accounted for by an approach that claims that negatives are intransitive verbs.

The difference between, on the one hand, verbs such as *kore*, *eehara* and *whakaae* and on the other, verbs like *piirangi*, is accounted for by Chung by positing the former as raising verbs and the latter as equi-deletion verbs. LFG has no movement rules; hence another explanation must be found. In LFG terms, both sets of higher verbs involve functional control, whereby the lower subject derives its value from the higher subject; whereas 'raising' verbs have non-argumental subjects, 'equi-deletion' verbs have argumental subjects.

Chung does not examine the negatives of nominal sentences. This is not, of course, to say that such constructions could not be handled by her model. Indeed, it is not the purpose of the present paper to criticise the model chosen by Chung (which, as a transformational-generative model, has been superseded by the Government-Binding model in its *Barriers* form). Our purpose is to show an alternative analysis of the data, and in addition to demonstrate that this analysis offers a unitary explanation for negative sentences, both verbal and non-verbal.

NOTES

[1] Letters in parentheses identify source (v. References).

I wish to thank anonymous reviewers for their helpful comments. Thanks go also to Gini Ahu, Charles Berryman, Vic Hokaraka, Merimeri Penfold and Ngapo ('Bub') Wehi for their graciousness in acting as consultants.

[2]In fact, it is false to claim that almost no adverbs change the shape of the simple sentence, at least in the case of Maori. Indeed, more or less any temporal adverb or phrase often stands initially and does change the shape of simple sentences in ways loosely parallel to negatives:

Kaatahi anoo te waewae tapu ka eke ki runga i te marae
'the *waewae tapu* has just stepped onto the marae'
Noonawhea taatou i poowhiri ai i ngaa manuhiri?
'when did we welcome the guests?'

But Chung shows that there are differences between negative constructions and these adverb-fronting constructions. Whilst negatives allow the following verb to be introduced by *e* (indicating an embedded S), fronted adverbs do not:

Kaahore e haere te tangata ki te hopu ika (C38)
'the man won't go to catch fish'
*Aawhea {ka/*e} patu koe i te poaka* (C38)
'when will you kill the pig?'

Secondly, whereas negatives allow an indefinite fronted NP, adverbs do not:

Kiihai he wahine i patu i te kurii (C31)
'a woman didn't kill the dog'
**Aawhea he pirihimana ka whakamau ai i te taahae?*
'when will a policeman arrest the thief?'

These differences are due to the fact that negatives are higher intransitive verbs governing an embedded S, while there is no embedding in the adverb-fronting construction.

[3]It is claimed in addition that in order to account for the verbal marking on *kore*, one must posit above *kore* a performative verb, which will later be deleted. This particular argument does not concern us here.

[4]This quotation is chosen simply to illustrate Hohepa's representation of negative sentences rather than as a description of the facts.

[5]Chung uses the *Aspects* model of TG grammar. The GB model explains 'equi-deletion' in terms of PRO-control, and there is in fact no deletion involved.

[6]Subscripts of the type $(\uparrow SUBJ)=\downarrow$ mean that the phrase to which they are attached bear the relevant function in the sentence. Thus, the above annotation may be understood

as follows: 'My mother's subject is me' (or alternatively, 'I am the subject of the node which directly dominates me'). The subscript $\uparrow=\downarrow$ indicates identity of functional structure ('my mother is identical to me'), and thus marks the head of the sentence.

[7]Nouns such as *tamaiti* have in fact two lexical entries, linked by a redundancy rule: one for the predicative use (*he tamaiti a Hoone* 'John is a boy'), the other for non-predicative uses (*e tangi ana te tamaiti* 'the boy is weeping'). In the second case, no grammatical function corresponds to the thematic argument; its place is held by the symbol $\emptyset$.

[8]Parentheses (): optional constituent; Kleene star*: constituent may occur any number of times, including zero. Whereas the function SUBJ is assigned by virtue of the position of its NP, the functions assigned to PPs are done so in accordance with the PCASE (prepositional case) value associated with the particular preposition involved. This value is passed up from the preposition at the time of lexical insertion; so although the variable PCASE appears in the PS rule, its value is fixed (e.g. OBJ, OBL_{BEN}) once instantiation occurs.

[9]The two expansions of PP correspond to the two types of PP. The exocentric PP is represented in (20d); its head is the NP it contains, while the preposition is simply a case marker (e.g. *kua kite au i a Hoone* 'I have seen John'). The endocentric PP is shown in (20e); the preposition itself is now the head and takes an NP object (e.g. *kei Taamaki-makau-rau ia* 'he is in Auckland'.

[10]There are analyses being worked out within the GB framework to deal with this problem. Emonds (1981) argues that some VSO languages are best described as transformed SVO languages (i.e. S ≠ VP) and implies that some other VSO languages do not have this property (i.e. S = VP). Also, Jaeggli (1986) discusses the possibility of nominative case being assigned to a [NP, VP] (i.e. a 'subject' within the VP).

[11]In addition to the basic VSO order in Maori, one finds a preferred VOS order when the subject is complex. To explain this word order, we are not obliged to include among the PS rules a separate rule to generate VOS sentences. The existing PS rules generate sentences in the VSO form, and it is this structure which is instantiated to produce an f-structure. After instantiation has taken place, but before the c-structure is sent off the phonological component, the structure passes through a component containing stylistic rules, such as 'heavy

shift'. Since these rules operate after a copy of the c-structure has left to be instantiated, they have no effect on the 'meaning' of the sentence. The 'heavy shift' rule then moves a 'heavy', or complex, subject NP to the right of other complements, thus producing the VOS order.

[12]The verb *piirangi* has another lexical entry, in which the second argument is filled by the function COMP, corresponding to a sentential complement whose subject takes its value from within the COMP itself. This entry is inserted into the c-structure of sentences such as the following:

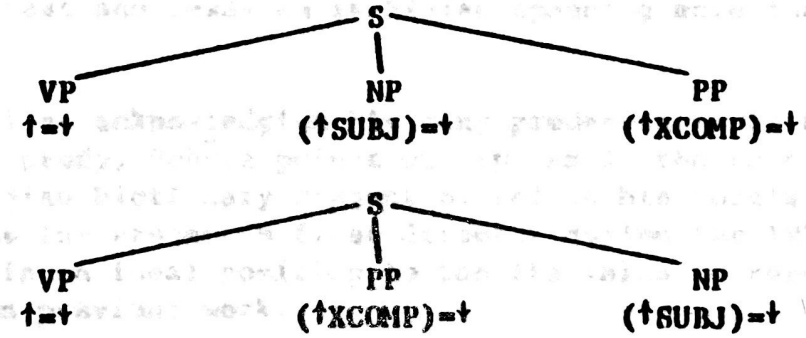
Ka piirangi ngaa waahine kia haere a Hoone
'the women want John to go'

[13]Non-logical non-argumental functions contrast with formal non-argumental functions such as the dummy subject of the verb *rain* in *it rains*.

[14]*Kore* can be marked with the past tense marker *i*:

Na te aha ia i kore ai e haere?
'why did s/he not go?'

[15]One may ask: 'Why c-structures as in (40a) and (42b)? Why not flatter structures, such as the following?'



In such structures, the PP is governed directly by the negative verb. The first of the above structures could be generated by the basic PS rules (were one to add XCOMP to the list of functions borne by PPs), while the second could perhaps be accounted for by the heavy-shift rule.

In both structures, the subject NP would be 'raised' from a PP (and in the case of the second, would simply be post-posed to the PP). This analysis is rejected precisely because unity of explanation is lost. Firstly, the PS rules would be further complicated by the addition of the function XCOMP to the PP node; and secondly, the parallelism between 'raised' and 'unraised' forms of all negative verbs is lost, whether used in verbal or nominal constructions.

REFERENCES

(Letters in parentheses after titles are abbreviations used in article to identify source of example sentences.)

Biggs, Bruce. 1969. *Let's learn Maori.* Wellington: Reed. (B)

Bresnan, Joan (ed.). 1982. *The mental representation of grammatical relations.* Cambridge, MA: MIT Press.

Chung, Sandra. 1970. *Negative verbs in Polynesian.* Unpublished ms., Harvard University. (C)

---------- 1978. *Case marking and grammatical relations in Polynesian.* Austin, TX: University of Texas Press. (Ch)

Emonds, Joseph. 1981. 'Word order in generative grammar', *Journal of Linguistic Research,* 1:33-54.

Hohepa, Patrick. 1966. 'Negatives as transformations: the case for Maori', *Te Reo,* 9:57-71. (HH)

---------- 1969. '*Not* in English and *kore* and *eehara* in Maori', *Te Reo,* 12:1-34. (H)

Jaeggli, Osvaldo. 1986. 'Passive', *Linguistic Inquiry,* 17: 587-622.