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Headedness in Māori Reflexivity: A Role and Reference Grammar Analysis

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Abstract

This article will provide an introduction to the Māori language. Particular attention is paid to Māori reflexive construction, which sometimes uses a so-called support form to express reflexivity. It will familiarise the reader with Role and Reference Grammar (RRG), a functionally motivated approach to a grammatical model which accounts for both the form and function of language. RRG provides a robust framework for analysing reflexive constructions. Finally, having considered this framework, the article will account for the occurrence of a reflexive support form in reflexive constructions.

1 Linguistic Description of Māori

This section will acquaint the reader with the Māori language. It will begin with an examination of the typical structure of the phrase. This will encompass word order, active and passive voice constructions and their marking. In preparation for the chief topics of reflexivity and reciprocity, the complex topics of pronouns and possession will be covered.

The order of occurrence in a typical unmarked Māori phrase is verb-subject-object. Māori is a head-first language, in most circumstances a head will always precede a modifier. Harlow (2007, p101) elaborates on this with “full NP possessors follow the possessum, relative clauses follow their antecedents... if two or more lexical items occur in sequence within a phrase, then the leftmost is the head of the lexical phrase and the others modify the item immediately to their left”.

Example 1(1) taken from Harlow (p26) is a prototypical Māori active clause.

(1)	Ka	hoko	te	matua	i	ngā	tīkiti	ACTIVE
	PRES .IPFV	buy	DEF.SG	parent	ACC	DEF.PL	ticket	VOICE
	“The parent buys the tickets”							

Example (1) allows us to see that the canonical Māori active voice is composed of the following.

- The verb heads the phrase. Verbs receive no numerical or gender marking. Accordingly, it is not marked by any adpositions or clitics et al. Harlow (2007, p155) tells us that “number is routinely indicated in the nominal phrase by the determiner”. Tense, aspect and mood may be marked periphrastically with particles contiguous to the verb.
- The traditional subject follows the verb. It is deemed nominative by both its non-overt morphological marking and its immediate post-verbal position.
- The direct object is marked by an accusative particle. In this case ‘i’ marks the object ngā tīkiti. Alternatively ‘ki’ may mark the direct object, indicating a different thematic role.

Harlow (p26) also provides the clause in the passive voice, shown in example (2).

(2) Ka	hoko-na	ngā	tīkiti	e	te	matua	PASSIVE
PRS.IPFV	buy-PASS	DEF.PL	ticket	OBL	DET.SG	parent	VOICE
“The tickets are bought by the parent”							

The Māori passive voice has a derived passive verbal form. The direct object is now in the traditional position of the subject (preverbal in English, immediately postverbal in Māori), the former subject is now an oblique argument marked by a preposition. The canonical Māori passive is composed of the following.

- The verb now has a passive suffix. Harlow (2007, p115) informs us that the suffix “referred to in literature on PN¹ languages as –Cia, has seventeen allomorphs”.
- The direct object is now in the immediate post verbal position, it is no longer marked with an accusative particle. Accordingly, it is now deemed to be the nominative argument.
- The former subject is now clause final and is preceded by ‘e’, an agentive marker. This downgrades the subject to an oblique argument. Bauer (1993, p404) reminds us that the “e-marking is normal whether or not the subject of the active is agentive”.

1.2 Personal Pronouns in Māori

On account of the form of the Māori reflexive and reciprocal constructions, this section will pay particular attention will be given to the Māori personal pronouns in this section. Number in Māori personal pronouns is trichotomous, distinguishing between singular forms, dual forms and plural forms for three or more people. Another striking feature is the inclusive and exclusive distinction that is applied to the first person dual and plural. An inclusive pronoun means that the speaker is including the listener, that is to say that the listener’s inclusion is implicit in the pronoun itself. By contrast, an exclusive pronoun indicates that the speaker is referring to participants that do not include the listener. Personal pronouns are neither marked for gender nor social status distinctions. By and large, personal pronouns in Māori only refer to humans.

Table 1 lists the personal pronouns and provides an English gloss that may more plainly clarify these distinctions. The translations also show that personal pronouns are not case-marked.

1.3 Possession in Māori

Before progressing specifically onto possessive pronouns this section will look at the general concept of possession in Māori since many reflexive and reciprocals involve possessive-reflexive constructions. Bauer (1993, p197) explains that Māori does not have distinct verbs of possession such as ‘belong to’, ‘own’ or ‘have’ as in English. Thus, when wishing to convey possession in Māori there are a number of considerations to be made. Bauer recounts (p197-198) that Māori distinguishes between location and ownership. Ownership is not taken for granted if the possessum is with, or in the custody of, the possessor, instead it is thought of as being location and is marked as such. This locative relationship is marked for tense

¹ PN denotes Polynesian

as can be seen in examples (3). Examples (3) through (5) taken from Bauer (1993, p208).

Table 1: Māori Personal Pronouns

Personal Pronouns			
	Singular	Dual	Plural
1st Person Inclusive	au/ahau <i>I / me</i>	tāua <i>we / us two</i>	tātou <i>we all / all of us</i>
1st Person Exclusive		māua <i>We / us two <u>but</u> not you</i>	mātou <i>we all / all of us <u>but</u> not you</i>
2nd Person	koe <i>you</i>	kōrua <i>You two</i>	koutou <i>You all</i>
3rd Person	ia <i>she / he her / him</i>	rāua <i>They two / the two of them</i>	rātou <i>They all / all of them</i>

(3) Kei a Hone te kī PRESENT LOCATION
 POSS.PRES ART John DET.SG key
 “John has the key”

(4) I a Hone te kī PAST LOCATION
 POSS.PST ART John DET.SG key
 “John had the key”

(5) Hei a Hone te kī FUTURE LOCATION
 POSS.FUT ART John DET.SG key
 “John will have the key”

Ownership in Māori has its own considerations. Māori has two possessive prepositions namely <ā> or <ō>. These prepositions can stand alone or combine with other particles to express a variety of senses. Initially, there is the choice as to whether the possession will be indicated by the possessive prepositions <ā> or <ō>. Once this <ā/ō> marking has been determined, it must be decided if the possessum is a specific or non-specific referent. More explicitly, further classification is determined by the specificity of the possessum. Specific ownership itself is divided into two categories. If the specific ownership will occur at some time in the future then it is ‘intended’ and is marked by <m> followed by the appropriate possessive preposition <ā/ō>. If the specific ownership has occurred in the past, or is ongoing, then it is deemed actual possession and <n> comes before the appropriate possessive preposition. Examples of specific ownership taken from Bauer (1993, p198) can be seen in examples (6) and (7).

(6)	Mō	Hone	ēnei	hū	SPECIFIC
	intended.POSS	John	DEM	shoe	INTENDED OWNERSHIP
	"These shoes are for John"				
(7)	Nā	Hone	te	pukapuka	nā
	actual.POSS	John	DET.SG	book	DEIC
	"That book belongs to John"				
(8)	He	hōiho	tō	Tohe	NON-SPECIFIC
	PRED	horse	SG.POSS	Tohe	SINGULAR OWNERSHIP
	"Tohe has a horse"				
(9)	He	pukapuka	ā	Pou	NON-SPECIFIC
	PRED	book	PL.POSS	Pou	PLURAL OWNERSHIP
	"Pou has some books"				

Likewise, non-specific ownership is split into two categories. If the possessum is singular then <t> comes before the possessive preposition, a plural possessum is indicated by the absence of <t>. These categories can be seen in examples (8) and (9). These steps involved in clarifying the type of possession are shown diagrammatically in Figure 1 as inspired by Bauer (1993, p198).

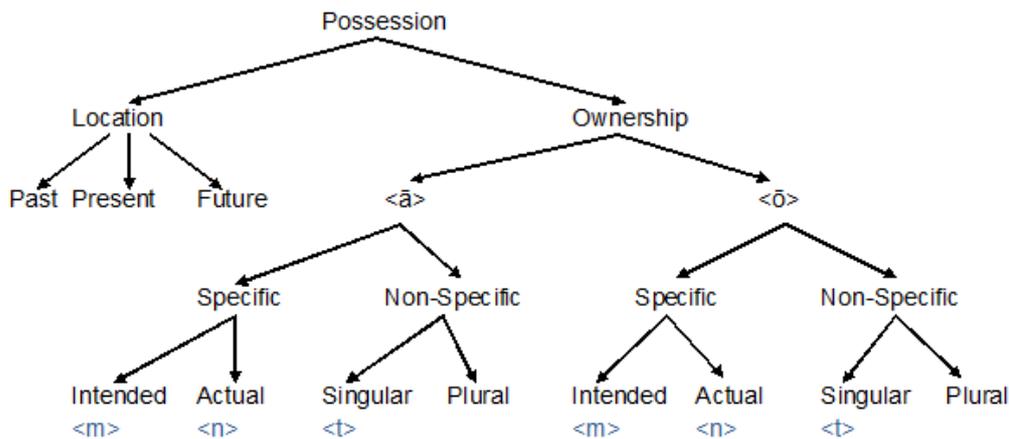


Figure 1: Overview of Possession Categories

The rationale for choosing <ā> or <ō> to convey possession is extremely complex. The <ā/ō> preposition alternation that Harlow (2007, p23) terms “the double possessive system” has been repeatedly commented on in literature. There seems to be much discussion and very little concord about exactly why some possessed items take either the <ā> or the <ō> form. Harlow (p168) states that “encoded in the choice of a-forms or o-forms is rather the relationship between the possessor and the possessum... there is general agreement that notions of ‘dominance’ and ‘control’ play a crucial role”.

Inherent thematic relations mean that some noun phrases usually fall into one category. As example (10) from Harlow (2001, p159) shows, family relationships usually are marked with <ā>. Nonetheless, there is no definitive list of <ā> or <ō> category noun phrases. The expression of different senses leads to noun phrases that can potentially take either <ā> or <ō>. The choice depends on the relationship

being described. Such a situation can be seen in examples (10) and (12), again from Harlow (p158). In example (10) category <ō> denotes that the relationship is between the possessor and the possessed. In example (12) category <ā> indicates that the relationship between is between creator and creation.

(10)	Te DET "Mary's niece/nephew"	irāmutu niece/nephew	a POSS	Mere Mary	FAMILIAL RELATIONSHIP
(11)	Nō-ku actual.ōcategory-1SG "Those are my clothes" ie "I bought/wear them"		ēnā DEM	kākahu clothes	POSSESSION
(12)	Nā-ku actual.ācategory-1SG "Those are my clothes" ie "I made/designed them"		ēnā DEM	kākahu clothes	CREATION

We will not attempt to shed light on such a complex issue here, except to say that there seems to be some semantic factors at play, most authors concur that the <ā> marking is typical when the possessor plays a dominant role over the possessum.

1.4 Possessive Pronouns in Māori

Leading on from the general discussion on possession, this section deals exclusively with possessive pronouns. These occur in the possessive-reflexive constructions. Table 2 shows the three classes of possessive pronouns, namely class ā, marked with <ā>, class ō marked with <ō>, and finally the neutral possessive pronouns. The class ā and class ō possessive pronouns are comprised latterly of the personal pronouns, as previously seen in Table 1. Preceding this, the possessive pronouns have a possessive preposition, either <ā> or <ō>. If the possessum is plural then the preposition is not preceded by <t>.

Like the personal pronouns, the possessive pronouns make distinctions based on singularity, duality, plurality and inclusivity. It should be noted that the neutral possessive pronouns are restricted to use with a singular possessor and so are not used for dual or plural possessors. Like the class <ā> and class <ō> possessive pronouns, their use depends on the word class of possessum, Bauer (1993, p376) remarks that "the conditions for the use of these neutral forms are not at all clear". It is not within the scope of this study to explore the issues around <ā>, <ō> or neutral choices further but to only to recognise the possessive pronouns when they occur in the reflexive construction.

As previously mentioned, personal pronouns in Māori normally only refer to humans. Contrastively, Bauer (p375) tells us that the possessive pronouns "are fairly readily extended to animals and inanimates". Surprisingly, Bauer (p155) then goes on to say that personal pronouns used in a reflexive construction can allude to non-humans. It would seem then that, in reflexive constructions, the broader scope of reference of the possessive pronouns extends to personal pronouns.

Table 2: Māori Possessive Pronouns

Possessive Pronouns							
	Class ā			Class ō			Neutral Class
	Singular	Dual	Plural	Singular	Dual	Plural	Singular
1 st Person Inclusive	t-ā-ku <i>my</i>	t-ā tāua <i>our (just the two of us)</i>	t-ā tātou <i>our (all of us)</i>	t-ō-ku <i>my</i>	t-ō tāua <i>our (just the two of us)</i>	t-ō tātou <i>our (all of us)</i>	t-a-ku <i>my</i>
1 st Person Exclusive		t-ā māua <i>our (just the two of us but not you)</i>	t-ā mātou <i>our (all of us but not you)</i>		t-ō māua <i>(just the two of us but not you)</i>	t-ō mātou <i>our (all of us but not you)</i>	
2 nd Person	t-ā-u <i>your</i>	t-ā kōrua <i>your (the two of you)</i>	t-ā koutou <i>your (all of you)</i>	t-ō-u <i>your</i>	t-ō kōrua <i>your (the two of you)</i>	t-ō koutou <i>your (all of you)</i>	t-ō <i>your</i>
3 rd Person	t-ā-na <i>her/his</i>	t-ā rāua <i>their (the two of them)</i>	t-ā rātou <i>their (all of them)</i>	t-ō-na <i>her/his</i>	t-ō rāua <i>their (the two of them)</i>	t-ō rātou <i>their (all of them)</i>	t-a-na <i>her/his</i>

All the forms above indicate a single possessum, a plural possessum may be indicated by the absence of the initial “t”

2 An introduction to Māori Reflexivity

2.1 The form of the Māori Reflexive

Maori has no special reflexive or verbal forms. Rather reflexivity is expressed by the addition of a personal pronoun or possessive pronoun. Additionally, what Bauer (1993, p165) calls a “support form” may accompany the pronouns. The support forms are ‘anō’ or ‘anake’, they mean ‘again’ and ‘only’ respectively. The combination of the pronoun and support form is elucidated diagrammatically in Figure 2.

antecedent is the possessor, the possessive pronoun is the anaphor. Co-reference occurs between the antecedent and the possessive pronoun, which refer to the same participant. The possessive pronoun marks the antecedent's tenure of the possessed argument. As pointed out by Nolan (p85), these reflexives are not in fact valency decreasing since the number of arguments remain the same syntactically and semantically.

Upon initial examination, it seemed that the presence of a support form was quite arbitrary. Bauer (p165) stated that a support form was more likely to accompany "functions less semantically central to the verb". In addition, Bauer (p156) explains that non-human antecedents are far more likely to trigger the occurrence of a reinforcing particle. There seemed to be a multitude of factors affecting whether a support form is necessary. As shall be shown, the occurrence of a support form is chiefly dependent on the headedness of both the antecedent and the anaphor.

3 An Overview of Role and Reference Grammar

Van Valin and LaPolla (1997, p13) explain how Role and Reference Grammar, hereafter RRG, differs from other grammatical models. The principal distinction that sets RRG apart is that it posits that "grammatical structure can only be understood with reference to its semantic and communicative functions". RRG manages to take into account both the form and the function of language. This is achieved by way of the 'linking algorithm', shown in Figure 3. Van Valin (2008, p3) tells us that the linking algorithm "maps from semantics to syntax and from syntax to semantics" and insightfully points out that "this is an idealization of what a speaker does (semantics to syntax) and what a hearer does (syntax to semantics)".

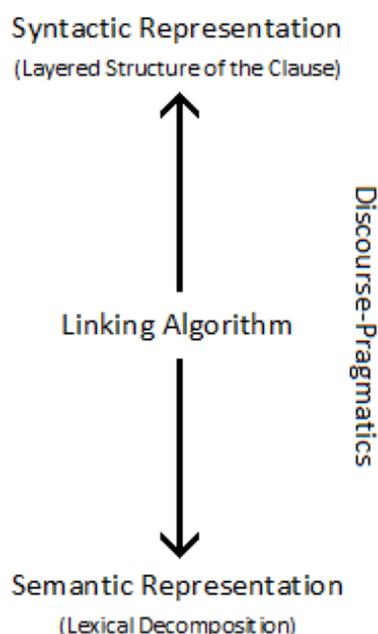


Figure 3: The 'linking algorithm'

3.1 Semantic Representation in Role and Reference Grammar

The semantic representation is provided by “lexical decomposition”. Van Valin and LaPolla (1997, p90) tell us that this involves “paraphrasing verbs in terms of primitive elements in a well-defined semantic meta-language”. Van Valin and LaPolla (1997, p91) go on to explain how this meta-language is based on Vendler’s (1957) four original Aktionsart distinctions. The metalanguage representation of the classes is known as the ‘logical structure’ of the predicate, hereafter abbreviated to the LS. The predicate is shown in **bold** font followed by an apostrophe, whilst the argument(s) of the predicate are shown in regular font encased in brackets. More detail about the predicate classes and their representations in RRG can be found in Van Valin and LaPolla (1997, p82-196).

Pavey (2010, p118) tells us that RRG condenses “the number of semantic roles down to two general groups of semantic roles, two macroroles termed actor and undergoer”. These two macroroles absorb all the traditional thematic relations and bifurcate them into more agentive-like actor and the more patient-like undergoer. The actor and the undergoer tend, marked choices aside, to be found as particular arguments of the predicate. This can be seen in the Actor-Undergoer Hierachy in Figure 4 as reproduced from Van Valin (2008, p13).

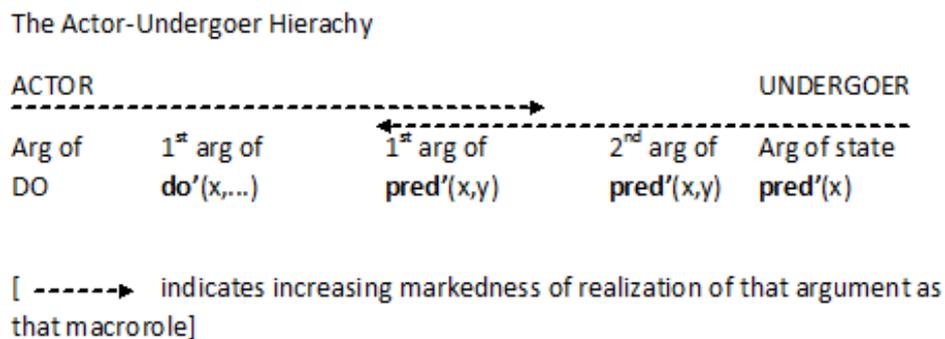


Figure 4 The Actor-Undergoer Hierachy

3.2 Syntactic Representation in RRG

The syntactic representation of the clause is provided by the layered structure of the clause, abbreviated to the LSC. The composition of the LSC is made clear in Figure 5 which is inspired by Van Valin and LaPolla (1997, p26). It is worth remembering (p28) that since “the nucleus, core, periphery and clause are syntactic units that are motivated by... semantic contrasts”, their components can often be roughly analogous to one another. This is shown in Figure 6 which was inspired by Pavey (2010, p9).

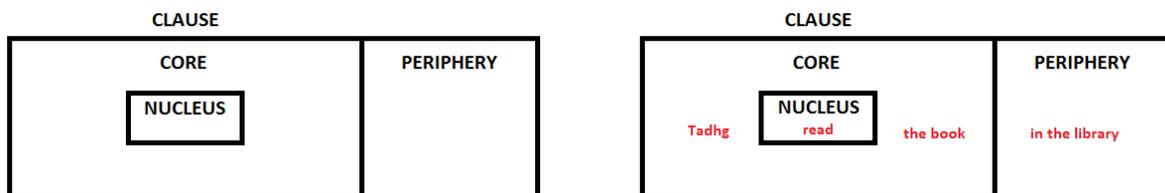


Figure 5: Layered Structure of the Clause

		Syntactic Unit		Semantic Unit		
Clause	}	Nucleus	≈	Predicate	}	Clause
		Core	≈	Predicate + Arguments		
		Periphery	≈	Non – Arguments		

Figure 6: Analogous Syntactic and Semantic Units

In RRG, the LSC is illustrated with a combination of two ‘projections’, these two projections are what Van Valin and LaPolla (1997, p46) terms “an explicit syntactic representation of clause layers and their operators”.

The constituent projection is a tree diagram. This diagram captures the syntactic layers of the clause, namely the nucleus, the core, the periphery and their constituents. These constituents, to be precise, are the predicate, it’s arguments and it’s non-arguments respectively. The constituent projection of a clause is shown in Figure 7.

“Tadhg read the book in the library”

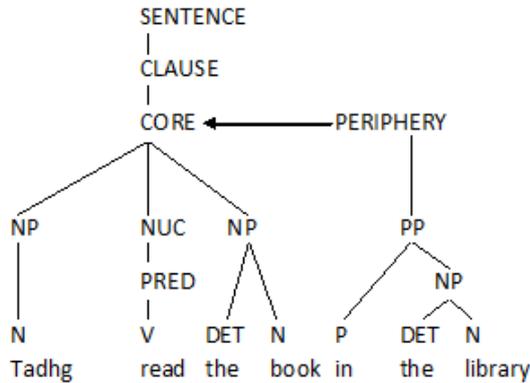


Figure 7: Sample Constituent Projection

The ‘operator projection’ is the other projection that can be illustrated by the LCS. Operators do not explicitly predicate or refer. Rather, they add extra depth to our knowledge about the constituents. Some examples of familiar operators include tense, negation and aspect. The operator projection itself is shown in Figure 8 and a sample operator constituent of a clause is shown in Figure 9.

The Operator Projection in the LSC

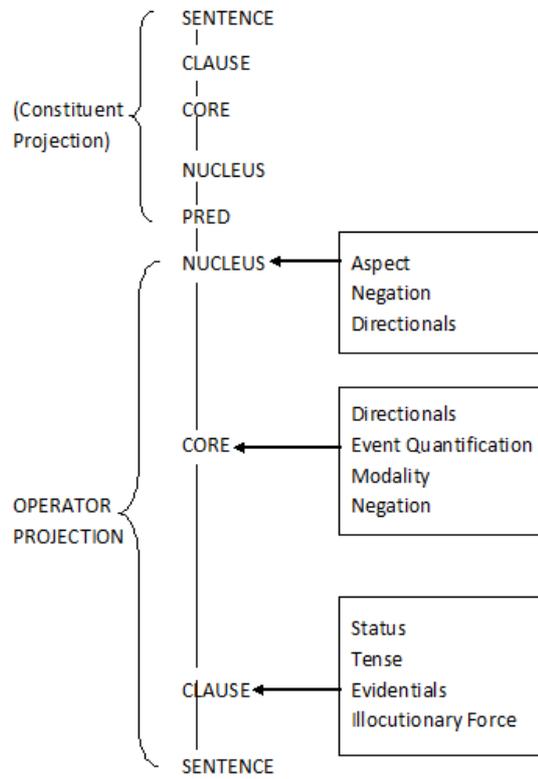


Figure 8: Operator Projection

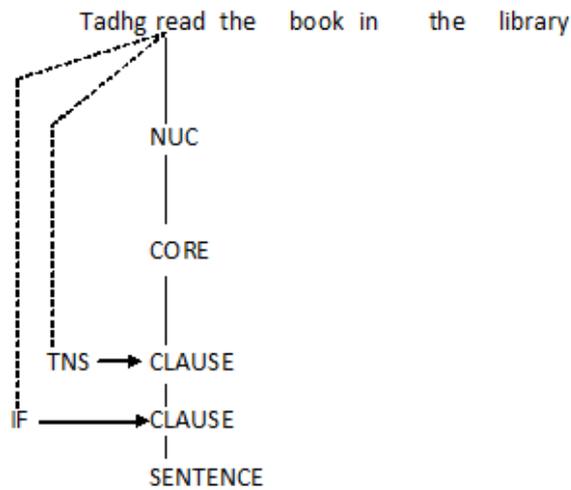


Figure 9: Sample Operator Projection

3.3 The Privileged Syntactic Argument

RRG does not make use of traditional grammatical names. The notion of subject varies greatly both within a language and cross-linguistically. Therefore it is particularly unusable since it can be dependent on numerous presumptions. Instead, RRG posits that the predicating element has a “Privileged Syntactic Argument”, or from this point onward, the PSA. The PSA is what ‘controls’ the predicate, Pavey (2010, p143) explains how this argument is “privileged because it has special functions that the other arguments do not have”. The PSA may be an actor or an undergoer. The choice is determined by with Van Valin’s (2001, p213) “Privileged Argument Selection Principles” and “Privileged Syntactic Argument selection hierarchy”. Both of which can be seen in Figure 10. More simply put, the left-most argument is the least-marked choice of PSA in Nominative-Accusative constructions whilst the right-most argument is the least-marked choice in Ergative-Accusative constructions. This is directly related to the AUH in Figure 11, in which the left-most choices are more agent-like, whilst the right-most choices are more patient-like.

“Privileged Syntactic Argument Selection Principles
 a. syntactically accusative constructions: highest ranking macrorole is default choice
 b. syntactically ergative constructions: lowest ranking macrorole is default choice”

“Privileged syntactic argument selection hierarchy:
 Arg of DO > 1st arg of do’ > 1st arg of pred’ (x,y) > 2nd arg of pred’ (x,y) > pred’ (x)”

Figure 10: PSA Selection Principles and Hierarchy

4 Reflexivity in Role and Reference Grammar

The Māori reflexive is what Van Valin and LaPolla (1997, p396) term a co-reference reflexive. In co-reference reflexives the antecedent and the reflexive pronoun are separate syntactic arguments. The reflexive pronoun refers to the antecedent. RRG posits a set of conditions governing reflexivity. The first condition dictates which arguments may be the antecedent or reflexive pronoun. Nolan (2012, p72) cites the following condition in Figure 11 taken from Van Valin (2005, p162).

Role hierarchy condition on reflexivization

The reflexive pronoun must not be higher on the privileged syntactic argument (PSA) hierarchy, as applied to the selection of privileged syntactic arguments in the language than its antecedent.

Figure 11: Role hierarchy condition on reflexivization

In this context ‘higher’ means left-most. Figure 11 is stating that the controlling antecedent must have a more actor-like semantic role than the reflexive pronoun, the controlled. Van Valin and LaPolla (1997, p399) explain that ergativity or accusativity is inconsequential for the Role Hierarchy Condition. They say that “actors are always the antecedents for undergoers, never the other way around”. This is not surprising since case-marking is syntactic denotation for semantic categories. Semantic

categories are universal and in the mind of the speaker, and they do not change regardless of how a language is case-marked. It is important to remember that the PSA selection criteria vary, so the idiosyncrasies of the selection process of the individual language must be considered. Van Valin and LaPolla (1997, p397) expand on this by stating that, because of PSA selection restrictions, “in some languages only a macrorole argument may function as the antecedent of a reflexive, whereas in other languages a non-macrorole direct core argument can be the antecedent”.

Logical structure superiority (LS-superiority)

A constituent P in logical structure is LS-superior to a constituent Q if there is a constituent R in logical structure such that:

1. Q is a constituent of R; and
2. P and R are primary arguments of the same logical structure.

Superiority condition on reflexivization

A bound variable may not be LS superior to its binder

Figure 12: Reflexivity constraints

Van Valin (1997, p400) also sets out the above conditions involving logical structure superiority in Figure 12. The LS-superiority simply states that, within a phrase, any head argument is superior to any dependent argument. In the superiority condition on reflexivization, the antecedent is the binder argument, whilst the reflexive is the bound argument. Considered jointly, the two constraints simply state that a dependent argument cannot be the antecedent for a reflexive head argument. The head of the noun phrase is indicated in the logical structure by being underlined, as in example (16).

(16) Noun Phrase	Logical Structure	MOTHER IS THE HEAD NOUN
Tadhg’s mother	have.as.kin’(Tadhg,mother)	as is <u>mother</u>

The final constraint laid down by Van Valin (1997, p405) is shown in Figure 13 below. It establishes the scope of reflexivization. Essentially a reflexive form is obligatory when co-reference occurs between two semantic arguments. Semantic co-arguments are syntactically realised arguments of the same logical structure. Syntactic co-arguments are arguments in the same simple clause, yet they are not part of the same logical structure, that is they are not semantic co-arguments.

Domain of obligatory reflexivization (DOR) constraint

One of two co-referring semantic co-arguments within a simple clause must be realized as a reflexive, while one of two co-referring syntactic arguments (which are not semantic co-arguments) within a simple clause may be realised as a reflexive.

Figure 13: Domain of obligatory reflexivization constraint

This can be illustrated more clearly with the examples shown in (17). When co-reference occurs between two syntactic arguments a reflexive form is optional. Nolan (2012, p71) defines a simple sentence as “constructions with a single nucleus within the core of a single clause”.

(17) Clause	Logical Structure	
Conall loves himself	love' (Conall,himself))	<i>CONALL AND HIMSELF ARE ARGUMENTS OF THE SAME LS semantic co-arguments</i>
Brendan saw the cat beside him	see' (Brendan,cat) \wedge be-near' (him,cat)	<i>BRENDAN and HIM ARE NOT ARGUMENTS OF THE SAME LS syntactic co-arguments</i>

5 Headedness within Māori reflexive constructions.

This section will begin with a look at a simple transitive clause taken from Bauer 1993, p168). The clause is shown in (18) with the linking algorithm shown in Figure 14.

(18) Kei te	horoi	a	Mere	i	a	ia	anō/anake
TNS	wash	ART	Mary	ACC	ART	3SG	again/only
“Mary washed herself”							
(19) I	hoatu	a	Mere	i	te kete	mā-na	ake
PST	give	ART	Mary	ACC	the kit	DAT-3SG	only
“Mary gave herself the kit”							

The constraints on reflexivization mentioned in the previous section will prove crucial in analysing this and succeeding constructions. The linking in Figure 14 illustrates that the antecedent “Mere” is the first argument of an activity predicate. At its highest position on the PSA Hierarchy, the reflexive pronoun “ia” is the first argument of the two place predicate **wash'**. The antecedent is therefore superior to the reflexive pronoun on the PSA Hierarchy and the Role Hierarchy Condition on reflexivization is satisfied. The Superiority Condition on Reflexivization states that a bound variable may not be superior to its binder. Here both the binding antecedent ‘Mere’ and the bound reflexive pronoun ‘ia’ are primary arguments of the LS. This presents an interesting situation where the constraint is not strictly complied with but is not quite violated. This is seen repeatedly in Māori. Under Van Valin’s (1997, p406) terms ‘Mary’ and ‘ia’ are semantic co-arguments in that they “are arguments of the same logical structure and are realized as syntactic arguments”. The Domain of Obligatory Reflexivization constraint states that in an LS with semantic co-arguments a reflexive form must be realised. In Māori the definitive reflexive form includes one of the three support forms. Undeniably, there is a support form in this simple clause. Yet as shall be seen this principally linked to the Superiority Condition on Reflexivization. When

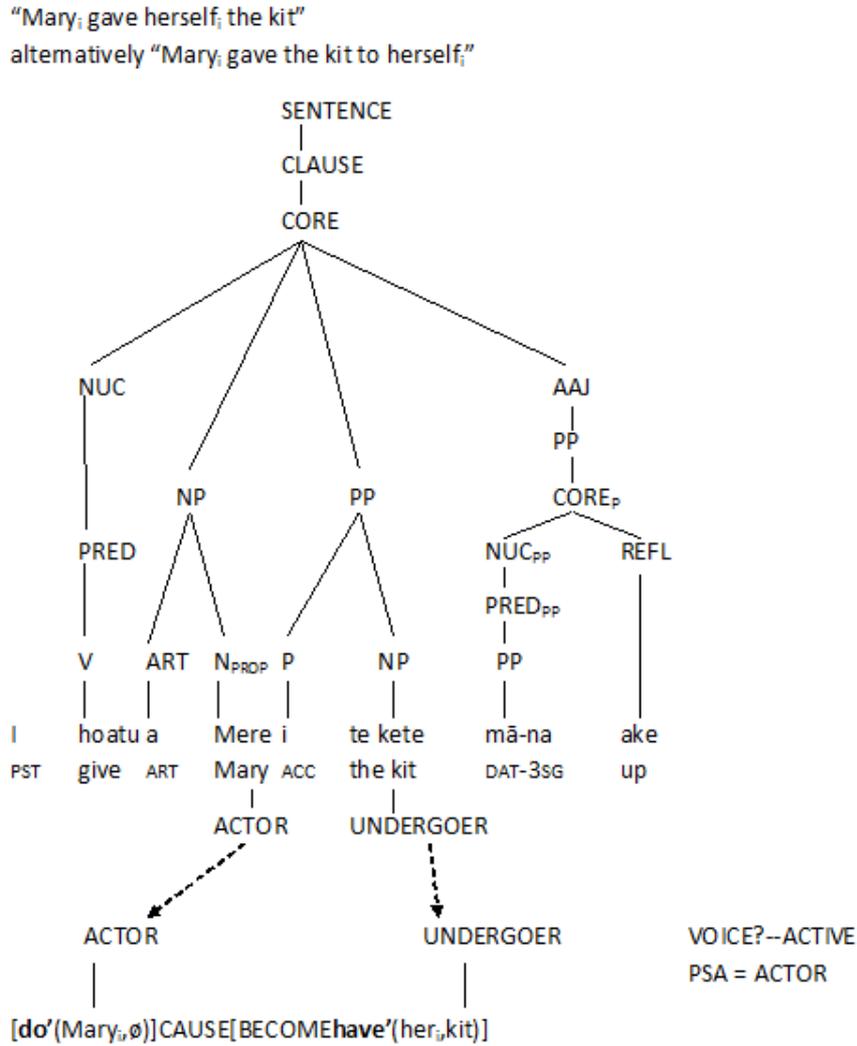


Figure 15: Ditransitive clause, sole primary antecedent, sole primary reflexive

Example (20), from Bauer (1993, p169), provides the next example of a transitive clause. It seems to have a similar form to the previous examples and at first seems unremarkable.

- (20) E patu ana te hoa o Hone i a ia anake
 PROG beat PROG the friend P John ACC ART 3SG only
 "John's friend is hitting himself"

The linking algorithm is provided in Figure 16. The antecedent is the second argument of the **have'** predicate noun phrase. The complete NP in which the antecedent is contained is the argument of a **do'** predicate. The reflexive pronoun is the second argument of the **hit'** predicate. The antecedent is then unequivocally higher on the PSA Hierarchy than the reflexive pronoun. Ergo, the role hierarchy condition on reflexivization is satisfied. The antecedent 'friend' is the primary constituent, or head noun, of the noun phrase [**have'**(John, friend)]. The complete noun phrase, hereafter NP, includes both a primary and a dependent constituent. The reflexive pronoun is also a primary argument. The antecedent and the reflexive pronoun are again equal according to the Superiority Condition on Reflexivization. Again, the antecedent and

the reflexive are semantic co-arguments and a support form ‘anake’ is present. Although it is tempting to presume that the Domain of Obligatory Reflexiviation constraint is responsible for the presence of the support form in (20). The next example ought to encourage caution about making such an assumption. Bauer (p169) also presents the previous clause without a support form as seen in (21) below, with linking shown in Figure 17: .

(21) E patu ana te hoa o Hone i a ia
 PROG beat PROG the friend P John ACC ART 3SG
 “John’s friend is hitting him”

The antecedent is now ‘John’, the dependent constituent of the NP [**have**’(John,friend)]. The reflexive pronoun is still the second argument of the **hit**’ predicate. The antecedent and the reflexive pronoun are no longer semantic co-arguments so a support form is not obligatory. Furthermore, they are not syntactic arguments, ‘John’ being an argument of a complete noun phrase, this leave ought to leave the status of the support form doubtful. However, the PSA Hierarchy and the SCR together disambiguate any uncertainty. This is an acceptable and grammatical clause yet the bound reflexive is a primary argument. It is therefore LS-superior to the dependent antecedent argument and in violation of the superiority condition of reflexivization, hereafter SCR. Notice that in both Figure 16 and Figure 17: the complete NP [**have**’(John, friend)] is higher on the PSA hierarchy than the reflexive pronoun, the second argument of a **hit**’ predicate. If the complete NP, within which the antecedent is contained, is higher on the PSA Hierarchy then the condition is deemed satisfied.

In Māori reflexivization, if the role hierarchy condition is satisfied then the presence or absence of a support form can override the SCR and the speaker can chose an entirely grammatical antecedent. In this and other examples the antecedent can, under the correct circumstances, be chosen from a primary or dependent constituent of a noun phrase. It follows that, under agreeable conditions, a support form implies ‘headedness’ of an antecedent. More clearly, a support form denotes that a primary reflexive antecedes another primary constituent whether it has an accompanying dependent or not. The underlying criterion is that the antecedent is higher on the PSA Hierachy. Even if there is no dependent constituent, as in Figure 14, two co-referencing primary arguments require a support form.

- (22) E horoi ana ngā hoa o Hone i tana motokā
 PROG wash PROG the friends P John ACC 3SG.POSS car
 “Johns’ friends are cleaning his car”
- (23) E horoi ana te hoa o Hone i tana motokā (anake)
 PROG wash PROG the friend P John ACC 3SG.POSS car (only)
 “John’s friend is cleaning (only) his car

In Figure 18: the antecedent ‘John’ and the reflexive possessive pronoun ‘tana’ are both first place arguments in a **have**’ predicate, the complete antecedent NP is the argument of a **do**’ predicate. The role hierarchy condition is satisfied. As regards the SCR, the antecedent and reflexive constituents are both dependent constituents contained within NPs. This is another example of equality testing but not quite violating a constraint. The antecedent and the reflexive are not semantic co-arguments, the semantic co-arguments of the LS of ‘horoi/wash’ are ‘friends/hoa’ and ‘car/motokā’. Both the antecedent and the reflexives are arguments within an NP and so are not syntactic co-arguments either. Unsurprisingly, a reflexive form is then neither obligatory nor optional. In summation, in Figure 18: the dependent reflexive co-references the dependent antecedent. Preliminarily, it seems that a dependent reflexive antecedes a dependent antecedent.

However, examining a very similar construction such as Figure 19 shows that such a presumption would be mistaken. Recall that number in Māori nouns is marked on the determiner. In this clause the primary constituent of the antecedent NP is now singular. As can be seen in the linking in Figure 19 it is now the antecedent of the possessive pronoun. Even the addition of a support form cannot alter the antecedent, and would only serve as the verbal modifier ‘only’. It can be stated that, where both the antecedent and the reflexive contain a dependent and a primary constituent, a dependent reflexive must agree with the primary constituent of the antecedent where numerical agreement allows. Only if the primary constituent of the antecedent does not agree in number with the dependent reflexive pronoun may it antecede the dependent antecedent constituent. These constructions highlight an important, so far unmentioned, axiom. Namely, that a potential antecedent must agree in number with the reflexive.

"John's friend; is cleaning (only) his; car"

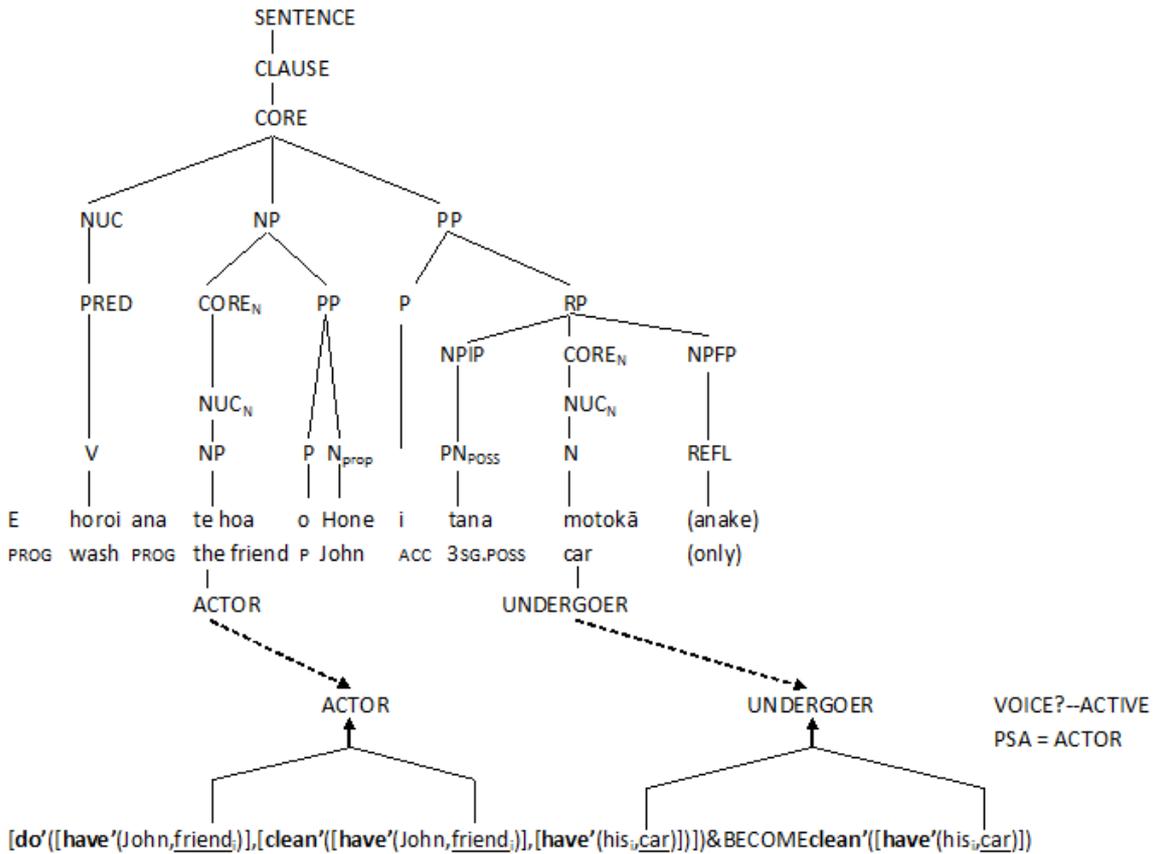


Figure 19: Primary antecedent within an NP, dependent reflexive without support form

Having examined (22) and (23) above, it is worth considering example (24), taken from Bauer (p168). The linking for (24) is shown in Figure 20. The role hierarchy condition is satisfied since the antecedent 'Mary' is the higher than the reflexive possessive pronoun 'ōna'. The binder 'Mary' is the sole primary constituent and the bound reflexive possessive pronoun 'ōna' is a dependent constituent so the SCR is met unequivocally. The antecedent and the reflexive are neither semantic nor syntactic co-arguments. Yet again, if added, a support form would not serve as such but would act as a determiner modifying the noun. More precisely, it would modify the noun serving to intensify the sense of possession by the antecedent. Although optional, a support form is preferred in this clause.

(24) Kei te horoi a Mere i ōna kākahu (anake)
 TNS wash ART Mary ACC 3SG.POSS clothes (only)
 "Mary is washing her (own) clothes"

(25) E whakāri atu ana ahau i a Hone ki tōna pāpā
 PROG show PROG 1SG ACC ART John ACC 3SG.POSS father
 "I showed John to his father"

It is useful to compare (24) with example (25) from Bauer (p172). The linking for (25) is shown in Figure 21. Here, the antecedent is also the sole primary constituent

“Hone”, the reflexive possessive pronoun is a dependent constituent. The antecedent is second argument of **see**’ and is lower on the hierarchy than the reflexive possessive pronoun which is the first argument of **have.as.kin**’. However as with Figure 16, if the complete noun phrase containing the antecedent [**have.as.kin**’(his_i, father)] is higher on the hierarchy, then the condition is deemed satisfied and the phrase is grammatical. Once more the antecedent and the reflexive are neither semantic nor syntactic co-arguments. In this sentence there is no support form, although Bauer deems it optional. Initially the presence of the support form in these constructions seemed entirely arbitrary. But this analysis found that in these constructions the optional support form was favoured if the antecedent was also the actor.

Having examined the data above, it is more clearly summarised in Table 3 below. Table 3 summarises the overall pattern for Māori reflexives and correctly predicts when a support form will occur. It also anticipates the consequences of the inclusion or exclusion of a support form.

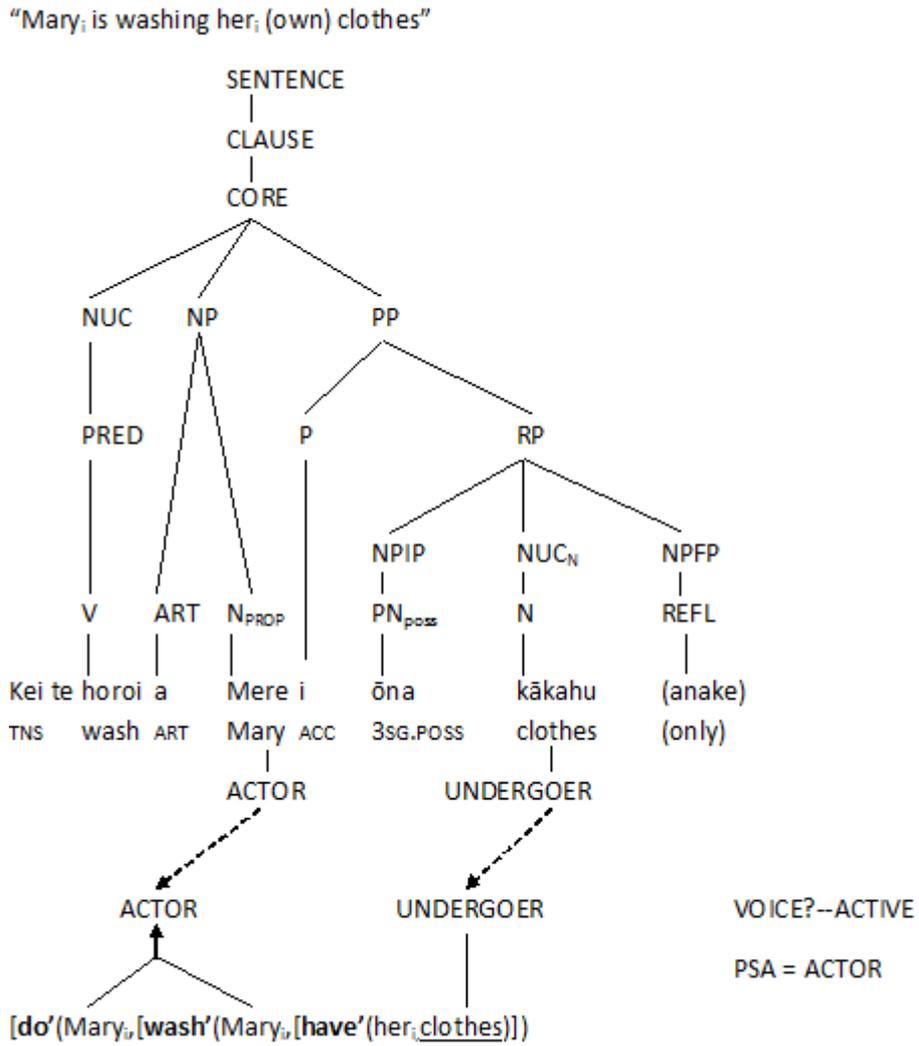


Figure 20: Primary antecedent, dependent reflexive within an NP, support form preferred

Table 3² Criteria for the inclusion or exclusion of a support form

Antecedent	Reflexive	Support Form
Sole primary constituent	Sole primary constituent	Obligatory <i>Kei te horoi a Mere i a ia anō/anakewash wash</i> <i>Mary 3SG again/only</i> <i>"Mary is washing herself"</i>
Sole primary constituent	Dependent of a primary constituent	Optional Preferred if antecedent is an actor <i>Kei te horoi a Mere i ōna kākahu (anake)</i> <i>wash Mary 3SG.POSS clothes (only)</i> <i>"Mary is washing her own clothes"</i> <i>E whakāri atu ana ahau i a Hone ki tōna pāpā</i> <i>show 1SG John 3SG.POSS father</i> <i>"I am showing John to his own father"</i>
Dependent and Primary constituents	Dependent of a primary constituent	None. The reflexive must antecede the primary if it agrees numerically. <i>E horoi ana te hoa o Hone i tana motokā</i> <i>wash John's friend 3SG.POSS car</i> <i>"John's friend is washing his own car"</i> <i>E horoi ana ngā hoa o Hone i tana motokā</i> <i>wash Johns' friends 3SG.POSS car</i> <i>"Johns friends are washing his car"</i>
Dependent and Primary constituents	Sole primary constituent	With support the reflexive antecedes the other primary constituent <i>I hoatu te tama o Hone i te kai mā-na anake</i> <i>give John's son the food DAT-3SG only</i> <i>"John's son gave himself food"</i> Without support the reflexive antecedes the dependent constituent <i>I hoatu te tama o Hone i te kai mā-na</i> <i>give John's son the food DAT-3SG</i> <i>"John's son gave him food"</i>

6 Conclusion

This article illustrated the importance of headedness in anaphora in Māori. Compliance with the Role Hierarchy Condition on reflexivization was deemed obligatory. Be that as it may, there are instances where an antecedent, within an NP, appeared not to comply with the condition. It was found that if the complete noun phrase was higher on the PSA Hierarchy then the condition was deemed satisfied. In judging the Role Hierarchy Condition satisfied, it allows a primary or dependent antecedent to be chosen from within an NP under the correct circumstances. In Māori, the Superiority Condition on Reflexivization is of lesser importance than the Role Hierarchy Condition. This provided an explanation for the occurrence of support forms in reflexive constructions. It followed that the headedness of the antecedent and reflexive is crucial in predicting the occurrence of a support form.

² Some glossing has been omitted in the table for clarity; a full gloss is given in the linking algorithms seen above.

7 List of Abbreviations used

1	first person
3	third person
ACC	accusative
ART	article
DEF	definite
DEIC	deictic
DEM	demonstrative
FUT	future
IPFV	imperfective
OBL	oblique
P	preposition
PASS	passive
PL	plural
POSS	possessive
PRED	predicative
PRES	present
PROG	progressive
PST	past
REFL	reflexive
SG	singular
TNS	tense

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