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Author(s): Jennifer Arnold

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Inverse Voice Marking in Mapudungun¹

Jennifer Arnold
Stanford University

1. Inverse Systems

Many languages have been described as having an "inverse voice system", most notably native American languages such as Algonquian. Although the languages which have received this label do not fall into a completely homogeneous group, there is a core of characteristics which typify inverse systems. A survey of several languages² which have been claimed to have an inverse system shows only one characteristic to be common to all of these languages: the interaction between a saliency hierarchy and a thematic hierarchy which determines the verbal form. Mapudungun,³ an indigenous language of Chile, shares this and other common characteristics of inverse languages. This paper will discuss the verbal system of Mapudungun in light of these characteristics and argue that verbal morphology of Mapudungun constitutes a re-linking of the Grammatical Relations to arguments, in that the Subject and Object switch between the inverse and direct forms.

The feature which has been found to be central to the classification of a voice system as 'inverse' is that the verbal form is dependent on a saliency hierarchy (or animacy hierarchy), in which first and second person are generally considered more salient, as are characters who are the focus of discourse. A common saliency hierarchy is: 1st person > 2nd person > 3rd person proximate > 3rd person obviative. The term 'proximate' denotes a 3rd person that is more salient in terms of the discourse structure, and 'obviative' indicates a more distant 3rd person argument, perhaps a nominal whose referent has not previously been introduced. The terms originate in Algonquian linguistics, where 'proximate' and 'obviative' are also morphologically marked.

In languages with a direct/inverse opposition, the saliency hierarchy for the arguments interacts with a thematic relations hierarchy such as: agent > goal > benefactive > theme, such that between two arguments, the higher on the thematic hierarchy is the Actor, and the lower is the Undergoer. When the Actor is higher on the saliency hierarchy than the Undergoer, the direct verbal form is used, but when the Undergoer is higher, the inverse verbal form is used. The inverse verbal form can be identified in some languages by the appearance of an inverse morpheme. Other languages, however, depend on the distribution of the person/number morphemes to indicate the difference between the inverse and the direct constructions.

In many languages there is only one verbal form available for each combination of arguments; that is, for each combination of the arguments to the verb, the verb must be either in direct form or inverse form. For example, in Mapudungun, the following distribution of direct and inverse forms is found:

(1) Direct:		Inverse:	
Actor	Undergoer	Actor	Undergoer
1.....	3	1.....	2 ⁴
2.....	3	2.....	1
3 prox.....	3 obv	3.....	1, 2
		3 obv.....	3 prox

In most of the languages I surveyed, both of the verbal forms are possible only when the arguments are 3rd person (reflecting the distinction between proximate

and obviative), although the distribution of forms will vary from language to language.

What I am calling an inverse system is by no means the only analysis that this construction has received. Some linguists have called it a passive (such as Kroskrity for Tanoan, cited in Klaiman 1989, p. 262), since it resembles the passive in English, where the Undergoer becomes the Subject, and the Actor either disappears or is demoted to an Oblique. The inverse, however, can be distinguished from the passive on two counts: first, in all cases of the inverse, the Actor is obligatory, while the passive voice is usually characterized by the potential or obligatory absence of the Actor; second, in all languages with an inverse voice, there is also a passive voice where the Actor is not specified. Thompson (1989, as cited by Payne, et al. to appear, p. 5), finds the difference between inverse and passive to be that in the inverse, the Undergoer is promoted, but the Actor is not demoted, whereas in passive, the Actor is "so completely demoted that it loses the privileges of argumental status" (Payne et al., p. 5).

Another issue in the analysis of such systems is if and how inverse constructions affect the linking of arguments and Grammatical Relations (GRs). The crucial syntactic function of GRs in any language is to tell us essentially "who did what to whom." That is, if a given verb projects an argument structure including an agent and a theme, we want to know which element in a phrase is the agent, and which is the theme. One theoretical way to do this is to identify the syntactic elements of the proposition, the Grammatical Relations (GRs): Subject, Object, Object-theta, and Oblique, and link them to the semantic elements of the proposition, the arguments (agent, theme, goal, etc.).

In section 2.4 we will see how Lexical Mapping Theory (Bresnan and Kanerva 1989) can help us to link the Grammatical Relations to the arguments, and how this linking appears to change between the inverse to the direct constructions in Mapudungun. Re-linking the arguments and Grammatical Relations is one way in which the inverse system can work, simplified examples of which are given below:

(2) a. DIRECT

b. INVERSE

This analysis contrasts with one which does not posit re-linking the Grammatical Relations and the arguments in the inverse construction, and instead reserves the label 'Subject' for the higher thematic role.

2. Mapudungun

The data to be used in this section comes mostly from descriptions of Mapudungun by scholars such as Ineke Smeets (1989) and Adalberto Salas (1978, 1979, 1980, 1992), in addition to field work by the author. The present analysis, however, differs from previous analyses primarily in that it presents the verbal system of morphology in Mapudungun as a function of the interaction between a saliency hierarchy and a thematic hierarchy, thus relating Mapudungun to other known languages. In addition, I argue that the Grammatical Relation-argument linking changes between the inverse and direct forms, an issue which heretofore has not been raised in relation to Mapudungun.

2.1 Verbal Morphology

Mapudungun exhibits a highly complex and agglutinative verbal morphology. There are nearly forty verbal suffixes in Mapudungun (see Smeets 1989, ch. 4), which mark such things as person and number of Subject, Object, Mood (Indicative, Hypothetical, or Subjunctive), and arguments like benefactive or source. The morphemes relevant to our discussion of the inverse are shown below in their templatic positions.

ROOT	BEN	SOURCE	PASS 2AG REFL	NEG	TENSE	OBJ (dir)	INV	MOOD	PERS	NUM	OBJ (inv)

Table 1: The verbal template of selected morphemes in Mapudungun.

The root and MOOD, PERS, and NUM are obligatory for all main verbs, and the OBJ (inv) is obligatory for inverse constructions only. The person and number slots refer to person and number of the Subject. The following paradigm shows mood, person and number for each of the three moods: Indicative, Conditional, and Imperative.

Person	Number	Indicative	Conditional	Imperative
1	singular	-n	-l-i	-chi
1	dual	-i-i-u	-l-i-u	-i-u
1	plural	-i-i-ñ	-l-i-ñ	-i-ñ
2	singular	-i-m-i	-l-m-i	-nge
2	dual	-i-m-u	-l-m-u	-m-u
2	plural	-i-m-ün	-l-m-ün	-m-ün
3	all ⁵	-i	-l-e	-pe

Table 2: The person and number paradigms for the three moods in Mapudungun.

Although here the mood, person, and number have been separated where possible, the remaining examples will group these three morphemes together and refer to them as the Subject morphemes (SUBJ), for ease of exposition.

Both Subjects and Objects are optional in Mapudungun, which depends instead on verbal suffixes to index the person and number of the Subject and Object. A simple intransitive verb is seen in (3):⁶

- (3) kúdaw- ün
work - 1s,SUBJ
*I worked.*⁷

The following example displays a transitive verb in direct form, which is similar to a simple intransitive except for the object morpheme 'fi', which refers to a third person NP:

- (4) ngilla- fi- n
buy- OBJ- 1s,SUBJ
I bought it/him/her/them.

Although 'fi' can be coreferential with either an overt or nonovert NP, transitive predicates do not necessarily include the object morpheme 'fi', as evident in the following example:

- (5)   kife   tripanu   nie-   y   mari   epu   küyen.
          One   year   have-   3s   ten   two   months
          One year has 12 months.   (Catrileo 1988, p. 44, glosses mine)

2.2. The Person and Number Marking System in Mapudungun

My argument that Mapudungun has an inverse system is based primarily on the fact that it has two systems of morphological markers to indicate the logical structure of a sentence, and the choice between these two systems depends on a saliency hierarchy such as the ones described above. The saliency hierarchy for Mapudungun is $1 > 2 > 3[\text{prox}] > 3[\text{obv}]$. As I will show below, the Grammatical Relation-argument linking clearly depends on whether the verb is in direct or inverse form.

Just as in other inverse languages, when the Actor is higher on the saliency hierarchy, the verbal form must be direct, and if the Actor is lower on the saliency hierarchy, the verbal form must be inverse. In Mapudungun, the difference is represented by whether the Actor is the grammatical Subject (direct) or the grammatical Object (inverse). In other words, the higher argument is always the grammatical Subject of the sentence, whether or not it is the "logical Subject" (Actor). For example, if the Actor is 1st or 2nd person and the Undergoer is 3rd person, the predicate is in direct form (and the Actor is the Subject). Interactions between 1st and 2nd persons are a special case, as will be discussed in section 2.2.3.

As in many inverse languages, the only case in which both direct and inverse are possible is between two third person arguments. Although obviation is not overt in Mapudungun, I posit that there is an underlying concept of obviative-proximate which drives the choice between inverse and direct, such that if the proximate 3rd person is Actor, the form is direct, and if it is Undergoer, then the form is inverse. A similar distinction has been made by the linguist Adalberto Salas, although he calls the two 'definite' and 'indefinite'. I prefer to adopt the Algonquian terms 'proximate' and 'obviative', which reflect the importance of discourse status, and not definiteness per se.

The following passage demonstrates how the proximate/obviative distinction is expressed, and why I choose to make such a distinction at all.

- (6) From "An Old Man" (Smeets 1989:512)

- (a) *I shall continue my story [and tell you] as far as I know this old man. First of all, his name was Joan Soñan Kinchekekew. When he was a young man, he used to work around on all sorts of places as a day-labourer. He grew up in great misery;*

- (b) kim- ürke- la- y   ñi ñuke
know- REP- NEG- 3s.SUBJ   his mother
He did not know his mother;

- (c)   ñi   chaw   duam-   ürke-   la-   e-   y-   ew
          his   father   care-   REP-   NEG-   INV-   3s,SUBJ-   3,OBJ
          His father did not care for him;

- (d)   yall-   tuku-   rke-   e-   y-   ew   ka   domo-   mew
          son-   beget-   REP-   INV-   3s.SUBJ-   3.OBJ   and   woman-   with
He begot him as an illegitimate child with another woman.

Notice in (6) that in the beginning of the story (the translation of which is presented in (a)), it is made clear that the story is about 'the old man', who therefore will be more central than any other character. Notice that in (b), 'the old

marker that follows the Subject, where ‘-(m)ew’ indicates a third person object, and Ø indicates a second person. All inverse constructions contain the inverse marker ‘e’.⁸ In (10) we see two examples of inverse constructions:

- (10) a. pe- e- n- Ø
           see- INV- 1s,SUBJ-2,OBJ
           You saw me.
- b. pe- e- y- ew
           see- INV- 3,SUBJ- 3,OBJ
           He/ she/ it/ them [obv] saw
           him/ her/ it/ them [prox].

2.2.3 The Middle Case: 1st person Actor and 2nd person Undergoer (1->2)

In the case where the Actor is 1st person and the Undergoer is 2nd person, we find a middle-ground between inverse and direct forms, which has been called ‘number incorporated’ by Salas (1979). To understand the place of this form in the inverse/direct paradigm, we must look at it in a historical context.

2.2.3.1 The Historical 1->2 Form

The following form for 1->2 person interaction existed historically (see Salas 1978:282), and is found today in a dialect spoken by the Huilliche (‘people of the south’) (Salas 1978:308-309, Augusta 1903:84-85):

- (11) pe- e- ymi- Ø
       see- INV- 2s,SUBJ- 1,OBJ
       I see you.

This form follows the same pattern as the inverse forms shown above, in that the Undergoer is the Subject, while the Actor is the Object. However, it adds the stipulation that neither 1st nor 2nd person may be the Object in direct construction. This difference could be captured by modified the hierarchy from 1 > 2 > 3 prox > 3 obv to 1,2 > 3 prox > 3 obv, with both 1st and 2nd persons occupying the highest position, such when either one is the Undergoer, the form must be the inverse.

2.2.3.2 The 1->2 Form Today

In contrast, the common forms in modern-day Mapudungun are those shown in (12):

- (12) a. pe- e- yu
           see- INV- 1d,SUBJ
           I see you(s).
- b. pe- w- iin
           see- REFL- 1p,SUBJ
           I(s/d/p) see you(s/d/p).
           (where the total number is
           greater than 2)

While the form in (12a) obviously includes the inverse morpheme ‘e’, it does not mark the Undergoer with the Subject morphemes. Rather, the Subject morphemes indicate 1st person dual. Since the meaning of (12a) is ‘I see you’ (in contrast with ‘pe-iyu’: ‘We (2) see’), the number of the Subject morpheme appears to indicate the total number of the participants in the action of the predicate (ie, number of Subject + number of Object), leading to Salas’s term ‘number incorporated’.

Similarly, in (12b) a 1st person plural Subject indicates an interaction between first and second person where the total number is 3 or more. While ‘-e-yu’ uses the Inverse morpheme, however, ‘-w-iin’ includes the Reflexive morpheme, creating an ambiguity between the readings ‘I saw you(p)’ and ‘We(p) saw ourselves / each other’ (see footnote #8).

I place these forms at a level in between Inverse and Direct. It seems that while the historical placement of 2nd person in Subject position is preserved, placing 1st person in a lower position than 2nd person is avoided, following the

inherent force of the saliency hierarchy. The result is the extension of the 1st person dual and plural forms to include the total number of Actor and Undergoer.

2.2.3.3 The middle form cross-linguistically

This unusual status of 1st and 2nd person interactions is not unique to Mapudungun. McConvell mentions that in some Algonquian languages, the inverse marker *ekw is present only in 3rd person Subject constructions, and other forms are used for interactions between 1st and 2nd person (Linguist List: Vol-4-1092), and Rhodes also observes that when a system does not pattern perfectly, it is in the interactions between first and second person where it varies (personal communication). The verbal marking in Nootkan displays a similar split, in that the inverse marker ‘-at’ is only used when the 3rd person is the Actor (Yang 1992:265).

An inventory of all possible constructions in Mapudungun is presented in Table 4.

Undergoer				Actor				
	1s	1d	1p	2s	2d	2p	3 prox	3 obv
1s	-w-ün			-e-n-ø	-mu-n		-e-n-ew	
1d		-w-iyu		-mu-iyu			-e-iyu-mew	
1p			-w-iifñ	-mu-iifñ			-e-ymu-mew	
2s	-e-yu			-w-imi			-e-ym-ew	
2d		-w-iifñ			-w-imu		-e-ymü-mew	
2p						-w-imün	-e-ymün-mew	
3 prox	-fi-n	-fi-iyu	-fi-iifñ	-fi-imi	-fi-imu	-fi-imün	-w-i	-e-y-ew
3 obv							-fi-y	-w-i

Table 4: The possible verbal forms for each combination of Actor and Undergoer. Data compiled from Salas (1979), Smeets (1989), and Fontanella (1967). The reflexive morpheme is ‘w’.

2.4. Grammatical Relation-Argument Mapping

Mapudungun appears to change the GR-argument relations, unlike some other inverse languages described above, since the Subject is the Actor in direct constructions, and the Undergoer in inverse constructions. Example (13) illustrates that the first person, which is indexed by the Subject suffix, is the Actor in (13a), and the Undergoer in (13b). The subject suffix is in boldface.

- (13) a. ngilla- fi- n.
 buy- OBJ- 1s, SUBJ
I bought it/him/her/them.
 Subject = I = agent
 Object = it = theme

- b. ngilla- e- n- ø
 buy- INV- 1, SUBJ- 2
You bought me (as a slave).
 Subject = I = theme
 Object = you = agent

At this point it becomes useful to introduce a mechanism for dealing with the changes in the GR-argument linking. Lexical Mapping Theory, introduced by Bresnan and Kanerva (1989) and revised in work in progress, takes the argument structure of the verb as basic, and assigns values of +objective and +restricted to certain arguments, leaving some unmarked. Each argument is then linked to the Grammatical Relation with the same value. The values of Grammatical Relations are listed in (14).

- (14) Subject = [ ]
 Object = [+o]
 Object-theta = [+o, +r]

Unclassified arguments are Obliques. A classified argument can either be unmarked, have one mark [+o], or two marks [+o and +r]. The Actor (A) and Undergoer (U)⁹ start out completely unmarked, and one of them is chosen as the Subject (the unmarked element) by the following principles:

- (15) i. a. If there is an unmarked A, leave it unmarked.
 b. If there isn't an unmarked A, leave the U unmarked.
 ii. Mark every other argument once.

Every argument which is not the A or U is intrinsically marked once, so with (ii) it is marked twice, which means it is an Object-theta.

Cross-linguistically, it is unusual for the Actor to be an Object-theta. Languages such as English allow the Actor to be either the Subject, in which case it is unmarked, or an Oblique, in which case it is absent from the characterization of GRs. Mapudungun, I argue, allows the Actor to be either a Subject or an Object. To prohibit the Actor from becoming an Object-theta, I assume there is an additional constraint against marking the A more than once. (16) demonstrates how applying Lexical Mapping Theory to (13a) would work.

- (16) ngilla- fi- n SUBJ = 1s = agent
 buy- OBJ- 1s,SUBJ OBJ = 3 = theme
I bought it/him/her/them.
- A U
 buy < ag, th >
 [ ] [+]
 SUBJ OBJ

1. The predicate argument structure is projected by the verb. The Actor and Undergoer are intrinsically unmarked (other arguments, if present, are marked once);
2. By (15.i.a), the A is left unmarked, and by (15.ii) the other argument is marked once. This results in the mapping of Subject to the agent, and Object to the theme.

Mapudungun also contains a number of lexical processes, triggered by verbal morphemes, which I propose affect the linking process in the following way:

Process	Morpheme	Effect
Inverse	e	Marks the A once.
2 Actor	mu	Marks the A once, and identifies it as 2nd person.
Benefactive	lel	Adds a benefactive/goal argument to the predicate argument structure.
Source	fima	Adds a source/possessor argument to the predicate argument structure.
Reflexive	w	Binds the Actor and Undergoer.
Passive	nge	Suppresses the agent.

Table 5: Lexical processes affecting the GR-argument mapping in Mapudungun.

An example of a simple inverse predicate in Mapudungun is presented in (17):

(17)	mütrüm- call-	e- INV-	y- 3,SUBJ-	ew 3,OBJ
	<i>He/she/it/them[obv] called him/her/it/them [prox].</i>			
	A	U	SUBJ = 3 = goal	
call	< ag,	th >	OBJ = 3 = agent	
	[ ]	[ ]		
e	[+]			
	OBJ	SUBJ		

In this case the inverse function marked the Actor once, leaving it unavailable to be the Subject. Thus, the Undergoer became the Subject. Rule (ii) was unable to apply to the Actor because of the general constraint against it being marked twice, leaving the Actor as the Object.

The GR-argument relations become more complicated when there are more than two arguments in the predicate, by virtue of argument changing morphemes such as 'lel' or 'ñma'. For example, in (18) the presence of the benefactive morpheme makes the Undergoer the benefactive, which is mapped onto the Object:

(18)	ngilla- buy-	lel- BEN-	fi- 3,OBJ-	n 1s,SUBJ	ti ñarki the cat	iyael food
	<i>I bought the cat food.</i>					
	A	U				
buy	< ag		th >	SUBJ = I = agent		
lel		ben		OBJ = cat = benefactive		
	[ ]	[ ]	[+]	OBJ-th = food = theme		
(ii)		[+]	[+]			
	SUBJ	OBJ	OBJ-th			

In contrast, when the verb is in the inverse form, as in (19), the A is marked once by the inverse function, preventing it from being the Subject. Thus, the benefactive argument becomes the Subject.

(19)	kintu- look.for-	lel- BEN-	e- INV-	yu 2d,SUBJ	mamüll wood
	<i>I looked for wood for you.</i>				
	A	U			
look.for	< ag		th >	SUBJ = you = benefactive	
lel		ben		OBJ = I = agent	
	[ ]	[ ]	[+]	OBJ-th = wood = theme	
e	[+]				
(ii)			[+]		
	OBJ	SUBJ	OBJ-th		

The passive in Mapudungun is similar to the passive in English in that the Actor is demoted, with the difference that the Actor argument can appear in English as an oblique, but in Mapudungun its absence is obligatory. Example (20) shows how the 'nge' suppresses the Actor, making it unavailable to be the Subject:

(20)	Inche I	ulel- hit-	nge- PASS-	n 1s,SUBJ	(Arnold 1992:46)
	<i>I was hit.</i>				
	hit	< ag	th >		
	nge	Ø			
			[ ]		

Thus, the Undergoer is the structural Subject in both inverse and passive constructions, but in the inverse the Actor is demoted to an Object, whereas the passive removes it from the set of classified arguments altogether.

2.5 Switching the Subject and Object

The analysis outlined above, where the Grammatical Relations and the arguments link differently in the direct and inverse verbal forms contains the crucial assumption that the Subject morphemes indicate the Subject in both direct and inverse forms, and that the inverse and direct Object morphemes are both Objects. It is the inverse Object morpheme that indicates the person of the Actor in inverse constructions, and by assuming that it is an Object I am claiming that Mapudungun's inverse system involves the direct reversal of Subject and Object, as reflected in the reversal of the marking of the Actor and Undergoer in Lexical Mapping Theory.

My argument for treating the Subject as constant across direct and inverse forms stems from evidence from word order and Subject-marking in subordinate clauses.

2.5.1 Word Order

When NPs are overt, there are three basic word orders possible in Mapudungun: SVO, SOV, and VOS, according to data from Rivano 1988. The example sentences in Rivano's article include the six direct sentences and six inverse sentences, listed here:

(21) Direct

a. SVO:	domo langüm- fi- i wentro	
	woman kill- OBJ- 3,SUBJ man	
	the woman killed the man	
	wentro langüm-fi-i domo	the man killed the woman
b. SOV:	domo wentro langüm-fi-i	the woman killed the man
	wentro domo langüm-fi-i	the man killed the woman
c. VOS:	langüm-fi-i domo wentro	the man killed the woman
	langüm-fi-i wentro domo	the woman killed the man

(22) Inverse

a. SVO:	domo langüm- e- y- ew wentro	
	woman kill- INV- 3s,SUBJ- 3,OBJ man	
	the man killed the woman	
	wentro langüme-y-ew domo	the woman killed the man
b. SOV:	domo wentro langüm-e-y-ew	the man killed the woman
	wentro domo langüm-e-y-ew	the woman killed the man
c. VOS:	langüm-e-y-ew domo wentro	the woman killed the man
	langüm-e-y-ew wentro domo	the man killed the woman
- (Rivano 1988:80, glosses mine)

Although Rivano describes the word order of these data in terms of the thematic roles of the arguments (yielding two sets of word orders: one for direct, and one for inverse), I argue that the exact mirror placement of the Actor and Undergoer in the direct and inverse sentences indicates that the Subject and Object switch in the Inverse, thus producing a unified account of the word order. If, on the other hand, we were to maintain a semantically based analysis of the Subject as the Actor and the Object as the Undergoer, we would find two separate sets of possible word orders, one for the inverse, and one for the direct. In addition, the analysis of the

Subject as Undergoer in inverse allows for consistent morphological marking of the Subject.

The fact that the verb and object always occur next to each other indicates that the verb and object form a constituent in Mapudungun. Furthermore, when Rivano asked native speakers to read these sentences, pausing where it sounds natural, they paused between the Subject and the verb-object pair: S(VO), S(OV), (VO)S, strengthening the hypothesis that there is a verb phrase in Mapudungun.

Questions in Mapudungun exhibit a slightly different word order than matrix clauses: (SOV, OSV, and OVS), but just as in statements, the same word order holds for both inverse and direct verbal forms, as long as we assume that the Subject and Object switch between the two forms.

One characteristic feature of *wh*-questions is that it is always the Object that is being questioned. This follows from the requirement that the higher argument in saliency must be the Subject; if the speaker does not know the identity of one NP, that NP cannot be higher in saliency, and therefore must be the Object.

2.5.2 Subordinate Clauses

Subordinate clauses in Mapudungun bring further support to the analysis of a constant Subject in that the possessive pronoun that accompanies many subordinate clauses marks the structural Subject. Subordinate clauses are marked in a number of ways, two of which are with the morpheme clusters 'fi-el' and 'e-t-ew' (direct and inverse, respectively), the distribution for which is similar to the direct/ inverse distribution described above. Subordinate clauses differ from matrix clauses in that the Subject of these forms is marked not by the Subject morpheme, but rather by a possessive marker preceding the predicate. In (23), which is in direct form, note that the Actor is marked by the 2nd person plural possessive pronoun 'mün'. In contrast, it is the Undergoer in (24) which is marked by the 2nd person singular possessive pronoun 'mi'.

- (23) müle-y   mün   allkü-   tu-   ñima-   ya-   fi-   el   ñi   dungu
have-3s,SUBJ   you(p) listen-   REG-   SRC-   FUT-   OBJ-   VN his word
You must listen to his word. (Smeets 1989:278)

- (24) fey muna   kutran-ka-   w-   üy   mi   trem-   üm-   a-   t-   ew¹⁰
she very   illness-FAC-   REF-3,SUBJ   your grow-   CAUSE   FUT-INV-   VN-   3,OBJ
She made a lot of sacrifices in order to raise you. (Smeets 1989:278)

The only difference in distribution of direct and inverse between matrix clauses and subordinate clauses lies in that which has already been noted as a special case: the interaction between first and second persons. In subordinate clauses, 'fiel' can be used for both 1->2 and 2->1 interactions, leaving the form 'e-t-ew' to be used only when a 3rd person is the Actor. This case is furthermore unusual in that both 1->2 and 2->1 interactions take the 2nd person possessive pronoun (Smeets p. 272).

- (25) fey-mu   inche   küpa-   n   mün   fey-   pi-   pa-   ya-   fi-   el:
therefore   I   come-   1s   you(p)   this-   tell-   here-   FUT-   OBJ-   VN:¹⁰
Therefore I have come to tell you this. (Smeets 1989:278)

This unusual behavior further characterizes interactions between 1st and 2nd persons as a case where the language wants both participants to be the Subject, and therefore resorts to using markers from both the inverse and direct forms. In the case of the subordinate clauses, it appears as if 2nd person may be the Subject in 1->2 interactions (as if it were an inverse), even though the verbal form is direct.

3. Conclusion

I have shown that Mapudungun bears an inverse system, based on the fact that it depends on a saliency hierarchy to determine its verbal form, just as the inverse languages I surveyed do. I have also argued that the inverse and direct verbal forms in Mapudungun link the Grammatical Relations to the arguments differently. The evidence for this re-linking is found in word order of statements and questions and the morphological marking of Subject in both matrix and subordinate clauses.

The analysis of Mapudungun that I have presented here results in two implications for morpho-syntactic theory. In the first place, it adds to the number of languages which have been described as 'inverse languages'. In doing so, it further defines the possible characteristics of inverse languages, such as the dependency on a saliency hierarchy, a switch in GR-argument mapping between inverse and direct, and a split in marking between predicates with a 3rd person Actor and predicates with 1st and 2nd person Actors. In the second place, analyzing the Actor as the Object in the Inverse argues for a theory of syntax which allows the Actor to be the Object. Specifically, it calls for a theory of syntax that allows the GRs to be re-mapped in this way, and thus strengthens the need for an underspecified version of LMT.

Notes

- 1 I am extremely grateful to Peter Sells for his guidance, advising, and patience throughout the development of this paper. I would also like to thank Joan Bresnan, Bill Poser, Shirley Brice-Heath, Donna Jo Napoli and Virginia Brennan for their comments, and María Angélica Reilmuan Alvarez, Armando Marileo, Elizabeth Parmalee, José Mariman, Rubén Sanchez and the people at the LIWEN office of Mapuche studies for introducing me to Mapudungun in the first place.
- 2 Kutenai (Dryer 1991, to appear), Tanoan languages (Klaiman 1989, 1991), Algonquian languages (Dahlstrom 1986, Piggott 1989, Rhodes 1990), Korean (Klaiman 1991), Cherokee (Scancarelli 1987), and Chukotko-Kamchatkan languages (Comrie 1980).
- 3 The name 'Mapudungun' is composed of the morpheme 'mapu', which means 'earth', and the morpheme 'dungun', which means 'speak, talk'. The people who speak Mapudungun are called the Mapuche, composed also of 'mapu', plus 'che', which means 'people'. Another term often used to refer to the Mapuche is the Spanish word for them, 'Araucanian'.
- 4 As we will see later, the 1->2 interaction works in a slightly different way from the rest of the interactions, but for now it will be included with the other inverse forms.
- 5 Note that while number for third person is not marked on the verb, the optional quantifiers 'engu' or 'engün' may be added to indicate a dual or plural Subject.
- 6 The transcription of Mapudungun is in the Unified Alphabet, one of the standard alphabets used in Chile for Mapudungun. Most of the characters are the same as the IPA, except for the following: ü = ø, ll = λ, ng = N = d = Q, q = X.
- 7 Note that in Mapudungun a verb with no tense morpheme is the past for non-stative verbs.
- 8 In cases where 2nd person is the Actor and 1st person is the Undergoer and the total number is greater than 2, the morpheme *-mu* is used instead of the inverse *e*, as in the following example.

pe-	mu-	n
see-	2A-	1s,SUBJ

You see me/us. (total # > 2)

Otherwise, however, this form functions as the inverse, in that the Subject is indicated by the Subject morphemes, while *-mu* indicates that the Object is 2nd person.

- 9 The terms 'Actor' and 'Undergoer' replace the terms 'proto-agent' and 'proto-patient' used by Bresnan and Kanerva, following Dowty 1991.
- 10 Note that the inverse marker 'e' is missing. I hypothesize that this is the result of a phonological process which assimilates the 'e' to the 'a'.

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