

# **Inverse markers in Andean languages: A comparative view**

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## **1. Introduction**

The purpose of the present contribution is to compare the use of inverse markers in the verbal morphology of three unrelated Andean languages: Quechua, Puquina and Mapuche. It will be argued that inverse markers tend to develop as a result of typological convergence among languages with a predominantly suffixing morphology. Inverse markers allow languages with a limited set of personal reference endings (e.g. with subject markers only, or with an incomplete set of endings encoding both an actor and a patient in a transitive relation) to expand their inventory without having recourse to object markers specified for grammatical person. Instead, the absence or insufficiency of fully specified object markers can be compensated by assigning the role of patient to what is normally a subject or agent marker. Inverse markers are used to indicate such a switch of roles.

## **2. Function of the inverse marker**

In the three languages under scrutiny, the inverse marker is used in transitional<sup>1</sup> endings encoding two different speech act participants, a subject or agent and an object or patient. At least in one of these languages (Quechua), the encoded object need not coincide with the direct object of a transitive verb and may function as a recipient or beneficiary, so that the use of inverse markers is not confined to transitive verbs in the strict sense. From a strictly morphological point of view, however, there are never more than two categories involved. Therefore, we will refer to the

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<sup>1</sup> We will conveniently use the term ‘transition(al)’ in relation to subject-object combinations that are encoded in the verb, rather than ‘transitive’, which may cause confusion in this context. Spanish colonial grammarians used to refer to these combinations as ‘transitions’.

two participants that can be encoded in a verb form as the 'subject' (S) and the 'object' (O).

The function of the inverse marker is to assign the role of object to a personal reference marker that normally specifies a subject. Characteristically, the use of inverse markers is subject to a hierarchy of grammatical persons, which means that they can only occur when a subject is lower in hierarchy than its object. Of the languages considered here, an explicit grammatical person hierarchy has only been proposed for Mapuche (Salas 1992, Arnold 1996), which will be presented below. It is likely that a similar hierarchy operates in the two other languages, although for Puquina the data are too limited to draw any final conclusions.

### 3. Inverse markers in Quechua

Quechua is a language family, rather than a language.<sup>2</sup> Personal reference marking may vary considerably throughout the present-day linguistic varieties (whether languages or dialects) that together make up the Quechua family. In many of these modern varieties, the original system of personal reference marking that must have existed in Proto-Quechua has suffered considerable alterations. In order to appreciate the function of inverse markers in Quechua as it originally was, we have to set out from that proto-language or from any conservative variety that has remained close to the proto-language in this respect.

An uncontroversial reconstruction of personal reference marking in Proto-Quechua verbs cannot be achieved because of the difficulty to reconstruct certain endings, namely, the first person subject ending and the combined ending for a first person subject acting upon a second person object. Both endings are highly variable throughout the dialects. However, the general structure and the distinctions that characterize the personal reference system of the Proto-Quechua verb are straightforward. The Central Peruvian Quechua dialects of the Quechua I branch (following the classification in Torero 1964) have retained the essence of the

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<sup>2</sup> Quechuan languages are found distributed over different South American countries, including Argentina, Bolivia, Ecuador and Peru. For a general overview of these languages see Cerrón-Palomino (1987), Adelaar with Muysken (2004).

original Quechua system of personal reference coding. For the present discussion, we will conveniently draw our examples from the very conservative dialect of Pacaraos (originally spoken on the upper Chancay river in the department of Lima, but now moribund), because it has not suffered many significant mutations in its system of personal reference coding.<sup>3</sup>

The original Quechua personal reference system is based on a four-fold distinction between first person ('me'), second person ('you'), third person ('neither me nor you') and inclusive person ('both me and you'). When personal reference markers encode the possessor of a noun, explicit number (plural) can only be expressed periphrastically. The plurality of a verbal participant can also be indicated periphrastically, or it can be expressed by means of specific suffixes, which operate independently from the personal reference markers.<sup>4</sup> Each grammatical person can refer to singular or plural entities, except for the inclusive, which always refers to a group of two or more persons. (The inclusive is often called the 'fourth person' in the literature on Quechua and Aymaran, but we will refrain from using this term here in order to avoid confusion.)

Verbs with transitional endings contain an indication of both a subject and an object. There are no transitional endings encoding a third person object. To put it differently, the personal reference marker for a third person object is null. Personal reference markers referring to an object are always first person, second person or inclusive person. As far as a hierarchy can be established, it appears to be first person > second person / inclusive > third person. No hierarchy can be established between second person and inclusive person (=1<sup>st</sup>+2<sup>nd</sup>).

Verbal subject markers (and nominal possessive markers) consist of a set of suffixes. However, the verbal set may differ depending on the tense and mood categories with which it is combined. For Pacaraos Quechua, the set of verbal subject markers used in the unmarked (present) and future tenses is shown in Table 1:<sup>5</sup>

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<sup>3</sup> For a detailed sketch of Pacaraos Quechua, see Adelaar (1987).

<sup>4</sup> In Southern Bolivian and Argentinean Quechua, person and number markers have become fused to such an extent that they can no longer be separated (cf. Adelaar 1995).

<sup>5</sup> In other Quechua dialects we find *-ni*, *-nki*, *-n*, *-nčik* (Ayacucho) or *-V'*, *-nki*, *-n*, *-nč'i* (northern Junín) in the unmarked tense.

	present	future
1 <sup>st</sup> person	- <i>Ŷy</i>	- <i>šaq</i>
2 <sup>nd</sup> person	- <i>nki</i>	- <i>nki</i>
3 <sup>rd</sup> person	- <i>n</i>	- <i>nqa</i>
inclusive person	- <i>nsi</i>	- <i>šun</i>

Table 1: Verbal subject markers in Pacaraos Quechua

In the past tense, which is indicated by a specific tense marker *-rqa-*, Pacaraos Quechua has a zero ending for 3<sup>rd</sup> person. For 2<sup>nd</sup> person it uses *-yki*, an ending that is also found on nouns and in nominalized verbs.

The transitional endings that encode both a subject and an object are heterogeneous in structure. The ending that encodes a first person subject acting upon a second person object varies considerably depending on the dialects. Most central Peruvian dialects (Quechua I) use a portmanteau suffix *-q* (or *-k*), the southern Peruvian and Bolivian dialects (Quechua IIC) use another portmanteau suffix *-yki*, and Pacaraos Quechua uses a combination of suffixes *-mu-Ŷy*.<sup>6</sup> There is a special portmanteau ending for the future tense, *-šqayki*, which has reflexes in most Quechua dialects. Note that the relation of a first person subject acting upon a second person object is not counter-hierarchical and hence does not involve inverse marking. What we do see, however, is a great amount of insecurity in the formation of this ending. In parts of the verbal paradigm of several Quechua dialects, no ending is available for the transitional relationship of a first person subject acting upon a second person object, and a plain first person subject marker is used instead.

A first person object in Pacaraos Quechua is indicated by means of the affix *-ma(:)-*,<sup>7</sup> whereas the accompanying subject markers are the expected ones: 2<sup>nd</sup> S > 1<sup>st</sup> O *-ma-nki*, 3<sup>rd</sup> S > 1<sup>st</sup> O *-ma-n*. Note that the subject marker may vary according to tense and mood, and that the two affixes of the transition can be separated by tense markers, adverbializing affixes or nominalizing affixes, as in (1):

<sup>6</sup> The original function of *-mu-* is to indicate a motion towards the speaker or an action performed in a designated location other than that of the speaker.

<sup>7</sup> In Quechua II dialects the first person object marker is *-wa-*, which may also have been the Proto-Quechua form (*-ma(:)-* < *\*-mu-wa-*).

- (1) *tapu-ma:-na-n-rayku*<sup>8</sup>  
 ask-1<sup>ST</sup> PERSON OBJECT-NOMINALIZER-3<sup>RD</sup> PERSON SUBJECT-MOTIVE  
 ‘for the sake of his questioning me.’

Although the two transitional relations in question are both counter-hierarchical, there is no sign of inverse marking.

In the transition of a third person subject acting upon an inclusive object, *-ma(:)-* occurs with the inclusive subject marker, but the latter encodes the object instead of the subject. (The ending is *-ma-nsi* in the unmarked tense of the indicative mood.) This combination is counter-hierarchical, so *-ma(:)-* acquires the status of an inverse marker, while losing its canonical function as a first person object marker.

For the counter-hierarchical transition of a third person subject acting upon a second person object, a special inverse marker is used: *-šu-*.<sup>9</sup> It is combined with the second person subject marker, which then refers to the object and not to the subject. (The ending is *-šu-nki* in the unmarked and future tenses of the indicative mood, as well as in the potential mood; it is *-šu-...-yki* with the past tense of the indicative mood and with most nominalizers.) As in the previous cases, the elements of this combination can be separated by other suffixes, as in (2), or be distributed over different phonological word forms, as in (3):

- (2) *mika-na:-šu-nqa-yki*  
 eat-CAUSE.DESIRE-INVERSE-NOMINALIZER-2<sup>ND</sup> PERSON SUBJECT  
 ‘that you get hungry’
- (3) *n<sup>y</sup>i-šu-q ka-nki*  
 say-INVERSE-NOMINALIZER be-2<sup>ND</sup> PERSON SUBJECT  
 ‘He used to say to you.’

To sum up these facts in a different perspective:

- (a) Quechua has a first person object marker *-ma(:)-* or *-wa-* (depending on the dialect).  
 (b) When a first person object interpretation is excluded (because the subject marker overlaps semantically with first person), *-ma(:)-/-wa-* is

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<sup>8</sup> The affix *-ma(:)-* has a long vowel in open syllables.

<sup>9</sup> In many Quechua II dialects the inverse marker is *-su-*.

interpreted as an inverse marker, the person of the subject marker is reassigned to the object, and the true subject is third person.

(c) When *-ma(:)-/-wa-* is not available as an inverse marker (because the combination is already in use for a case of straightforward first person object marking), the special inverse marker *-šu-/-su-* is selected, the person of the subject marker is again reassigned to the object, and the true subject is third person.

Traditionally, the Quechua personal reference system has never been treated in terms of a hierarchy and inverse markers. There seem to be good reasons why *-šu-* has not been recognized as an inverse marker. As a matter of fact, it has developed into a true second person object marker in a number of dialects, viz. in the northern Peruvian dialect of Incahuasi and Cañaris (department of Lambayeque), in the province of Santiago del Estero (Argentina) and, to a lesser extent, in Cochabamba (Bolivia) and in Cajamarca (northern Peru) (cf. Adelaar 1995). Also, the combination *\*-šun-*, which would be the expected ending for a third person subject acting upon a second person object if *-šu-* were indeed the object marker for second person, is blocked, because the ending *-šun* already has another function. It refers to an inclusive future or imperative.

However, the inverse marker interpretation has the advantage of showing that the early Quechua speakers apparently constructed their personal reference marking system by using fewer suffixes than the number of categories they intended to express. We will see that similar developments can be assumed for Puquina and Mapuche. Consequently, the inverse marker mechanism appears to play a frequent, if not universal role in the development of complex pronominal reference systems in suffixing languages.

#### 4. The inverse marker in Puquina

The extinct Puquina language has only been known through a mostly translated religious text from the early seventeenth century (Oré 1607). Therefore, in the present state of our knowledge, it is not possible to give a full account of the personal reference marking system of Puquina. Only some basic facts can be recovered.<sup>10</sup>

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<sup>10</sup> For more information on Puquina, see Torero (2002), Adelaar (2004), and

The Puquina language shares a number of lexical elements and structural features with the Arawak language family, which is widely distributed throughout the tropical lowlands of South America. The most conspicuous points of resemblance with the Arawak languages can be found in the inventory of personal pronouns and in a set of pre-clitic personal reference markers that indicate nominal possession. On the other hand, personal reference marking on verbs is achieved by means of suffixes and suffix combinations, as in Quechua. This hybrid character of the personal reference system suggests that the Puquina language may have had non-Andean origins but that it adopted some of the features of neighboring languages, such as Aymara and Quechua, by indirect diffusion (cf. Aikhenvald 2002). There are indications that Puquina was syntactically ergative, but this fact does not seem to have had any particular relevance for the morphological make-up of the verb.

Oré's Puquina data, here presented in their original orthography, demonstrate the existence of an inverse marker *-s-*, which could be combined with the subject markers *-k(i)* <qu(i), c, gu(i), gue> for first person and *-p(i)* <p(i), u(i)> for second person. Second person with inverse is illustrated in (4), as opposed to (5), where there is no inverse marker:

- (4) pampa-cha-gue-**s-p**-anch  
 level-MAKE-FUTURE-INVERSE-2<sup>ND</sup> PERSON-DECLARATIVE  
 'He will forgive you.'
- (5) quichu-gue-**p**-anch  
 grieve-FUTURE-2<sup>ND</sup> PERSON-DECLARATIVE  
 'You will grieve.'

The following examples illustrate the use of first person with inverse (6) and without inverse (7, 8).

- (6) ore-gue-**s-c**-anch  
 tell-FUTURE-INVERSE-1<sup>ST</sup> PERSON-DECLARATIVE  
 'He will tell me.'

- (7) ni-ch baptiza-**gue**-nch  
 I-AGENT baptize-1<sup>ST</sup> PERSON-DECLARATIVE  
 ‘I baptize (you)’
- (8) yti-n-**qui**-nch  
 receive-PLURAL-1<sup>ST</sup> PERSON-DECLARATIVE  
 ‘We receive (it).’

There is no indication of a second person object in *baptiza-gue-nch* in example (7). Possibly, the presence of a full pronoun with the agent-marking suffix *-ch*<sup>11</sup> leads to such an interpretation. If we assume that the third person in Puquina is lower in hierarchy than first person and second person, all combinations using the inverse marker *-s-* are counter-hierarchical. The combination of a second person subject acting upon a first person object is attested in the imperative form *ore-suma* ‘tell me!’. Whether or not the ending *-suma* contains the inverse marker as well, cannot be told for sure, considering the incompleteness of the material on which this analysis is based. Unlike in Quechua and Mapuche, there are no attested examples in which an inverse marker and a personal reference marker are separated from each other by other affixes.

## 5. Inverse markers in Mapuche<sup>12</sup>

The rather elaborate personal reference system of the Mapuche language encodes the parameters of person and number. The number system is based on a three-fold distinction of singular, dual and plural. The personal reference system of the verbs comprises four categories: first person (speaker), second person (addressee), and two third persons (a non-speech act participant previously in focus, and a non-speech act participant that is not previously in focus). The difference between the two third persons only comes to light in transitional endings involving both a

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<sup>11</sup> In other contexts *-ch* is an ablative case marker.

<sup>12</sup> The Mapuche language, also known as Mapudungun or Araucanian, was the ancient language of Chile. It is nowadays spoken in parts of southern Chile and southern Argentina. For an overview of Mapuche language facts, see Salas (1992) or Adelaar with Muysken (2004); for a detailed grammatical study, see Smeets (2008).

third person subject and a third person object. The amount of contextual salience of the entities referred to as third person determines the choice between two competing endings. Following a practice borrowed from the Algonquian language studies, Arnold (1996) assigns the denominations ‘proximate’ and ‘obviative’ to the two third person categories of the Mapuche verb. She characterizes Mapuche as a language with an opposition between inverse and direct voice, taking into account the morphological make-up of the Mapuche verb in terms of person and number marking, as well as the syntactic behavior of its arguments.

As in other languages with an alleged inverse system, Mapuche features a grammatical person hierarchy, which has been defined as 1<sup>st</sup> person > 2<sup>nd</sup> person > 3<sup>rd</sup> person [proximate] > 3<sup>th</sup> person [obviative] (Salas 1992, Arnold 1996). A drawback of the Mapuche hierarchy is that at least one transitional ending (first person singular subject acting upon second person singular object) contains an inverse marker without being counter-hierarchical, and that such unexpected use of the inverse marker was even more extensive at an earlier stage of the language, as it is today in a particular dialect of the language (*Huilliche*, see below).

The Mapuche verb has two affixes that can be interpreted as inverse markers: *-e-* and *-mu-*.<sup>13</sup> The personal reference markers in the unmarked (indicative) mood are shown in Table 2:

	1 <sup>st</sup> person	2 <sup>nd</sup> person	3 <sup>rd</sup> person
singular	<i>-(i)n</i>	<i>-(i)y<sup>m</sup>i</i>	<i>-(i)y</i>
dual	<i>-y<sup>u</sup></i>	<i>-(i)y<sup>m</sup>u</i>	<i>-(i)y ((e)<sup>η</sup>u)</i>
plural	<i>-y<sup>i</sup>n<sup>y</sup></i>	<i>-(i)y<sup>m</sup>i<sup>n</sup></i>	<i>-(i)y ((e)<sup>η</sup>i<sup>n</sup>)</i>

Table 2: Indicative personal reference markers in Mapuche

With a third person subject marker, the indication of dual and plural by means of the elements *(e)<sup>η</sup>u* and *(e)<sup>η</sup>i<sup>n</sup>*, respectively, is optional.<sup>14</sup> In addition, there is one exclusive object marker *-fi-*, which indicates an (obviative) third person object, as in (9) and (10):

<sup>13</sup>Smeets (2008: 163-5) discusses a number of disadvantages of the inverse approach in relation to these affixes.

<sup>14</sup>The forms *-<sup>η</sup>u*, *-<sup>η</sup>i<sup>n</sup>* are clitics. The initial *e-* appears in non-clitical use.

- (9) *laŋim-fi-n*  
 kill-3<sup>RD</sup> PERSON OBJECT-1<sup>ST</sup> PERSON SINGULAR INDICATIVE  
 ‘I killed him.’
- (10) *laŋim-fi-y*<sup>15</sup>  
 kill-3<sup>RD</sup> PERSON OBJECT-3<sup>RD</sup> PERSON INDICATIVE  
 ‘He (proximate) killed him (obviative).’

There are special singular subject markers for the hortative-imperative mood (1<sup>st</sup> person *-či*, 2<sup>nd</sup> person *-ŋe*, 3<sup>rd</sup> person *-pe*). The non-singular subject markers of this mood are identical to those of the unmarked in the first person, but slightly different in the second person. The conditional mood, which is used for syntactically subordinate verbs, is characterized by the presence of a marker *-l-* and has special endings for first person singular (*-i*) and third person (*-e*). When co-occurring with inverse or object markers, the mood marker *-l-* stands between them and the subject markers. The indication of tense is cumulative and can be combined almost freely with person, mood (except imperative) and nominalization.

Counter-hierarchical transitional endings involving a third person subject are formed by inserting the inverse marker *-e-* before a (subject) person marker, to which is then reassigned the role of object. The person markers themselves are followed by an element *-mew* or *-mu*. In other contexts *mew* is a postposition denoting oblique case. This element is reduced to *-ew* after the singular person markers of the unmarked tense (with elimination of *-i* of the second person marker), as in (11-13):

- (11) *ramtu-e-n-ew*  
 ask-INVERSE-1<sup>ST</sup> PERSON SINGULAR INDICATIVE-POSTPOSITION  
 ‘He asked me.’
- (12) *leli-e-ym-ew*  
 watch-INVERSE-2<sup>ND</sup> PERSON SINGULAR INDICATIVE-POSTPOSITION  
 ‘He watched you.’

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<sup>15</sup> In this combination, the 3<sup>rd</sup> person marker *-y* is usually not pronounced; *ɫ* is an interdental lateral.

- (13) *laŋim-e-y-ew*  
 kill-INVERSE-3<sup>RD</sup> PERSON INDICATIVE-POSTPOSITION  
 ‘He (obviative) killed him (proximate).’

Inverse transitions can also be expressed in complement clauses and relative clauses, where a nominalized verb in *-e-t-ew* encodes transitions with a third person subject (obviative when the object is also third person). All the other transitions, including the inverse relation of a second person acting upon a first, are reflected in nominalized verbs ending in *-fi-el*. (Note that *-fi-* need not refer to a third person object in this case.) The person identity of the object with nominalizations in *-e-t-ew*, as well as subject and object with nominalizations in *-fi-el*, is indicated non-morphologically by an interplay of pronouns and word-order.

In order to denote the counter-hierarchical transition of a second person singular subject acting upon a first person singular object, the inverse marker *-e-* is inserted before the first person singular subject marker, as in (14):

- (14) *leli-e-n*  
 watch-INVERSE-1<sup>ST</sup> PERSON SINGULAR INDICATIVE  
 ‘You watched me.’

The same form is used for the hortative-imperative mood (‘watch me!’), even though the first person singular subject marker of the hortative-imperative paradigm is not *-n* but *-č̣i*, as in (15):

- (15) *leli-č̣i*  
 watch-1<sup>ST</sup> PERSON SINGULAR HORTATIVE  
 ‘Let me watch!’

When a second person subject acts upon a first person object and either one of them, or both, are non-singular, the inverse marker *-mu-* is used, instead of *-e-*. In that case, it is possible to distinguish between a singular, a dual or a plural first person object (*-mu-n*, *-mu-yu*, *-mu-yin*<sup>3</sup>), but the number of the second person subject remains unspecified.

As in Quechua, the combination of a first person subject acting upon a second person object reflects a certain amount of insecurity and inconsistency. When both the subject and the object are singular, the first

person dual ending *-yu* is used in combination with the inverse marker *-e-*, even though the transition is not counter-hierarchical, for instance, in (16):

- (16) **leli-e-yu**  
 watch-INVERSE-1<sup>ST</sup> PERSON DUAL  
 ‘I watched you (singular).’

It appears that the function of the inverse marker here is to separate a pair of individuals expressed by the subject marker and to assign the role of object to one of the two (the addressee). Thus, even though *-e-* is no longer an inverse marker, its manipulative function is still obvious. When either the subject or the object in this transition is non-singular, the subject marker for first person plural *-yin<sup>y</sup>* is used in combination with the reflexive-reciprocal marker *-(i)w-*. More precise number distinctions can not be expressed, for instance, in (17):

- (17) **leli-w-yin<sup>y</sup>**  
 watch-RECIPROCAL-1<sup>ST</sup> PERSON PLURAL  
 ‘We watched you.’  
 ‘I watched you (two or more).’  
 ‘We (two or more) watched each other.’

It appears that the ending *-(i)w-yin<sup>y</sup>* originated by semantic extension from a combination that originally had the more restricted function of a first person plural reciprocal form.<sup>16</sup>

The main source for early 17<sup>th</sup> century Araucanian (Valdivia 1606), as well as modern dialect data from the Huilliche variety of southern Chile<sup>17</sup> (Augusta 1990, Salas 1992), indicate an even less restricted use of the inverse marker *-e-* in the transition of a first person subject acting upon a second person object. These sources report the use of *-e-* in combination with a second person subject marker, as in (18):

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<sup>16</sup> It can be argued on distributional grounds that the suffix *-(i)w-* is no longer an instance of the reflexive-reciprocal marker when it is used in a transitional combination (Smeets 2008: 293).

<sup>17</sup> The status of Huilliche as a separate language cannot entirely be determined due to lack of data.

- (18) **elu-e-y<sub>mi</sub>**  
 give.to-INVERSE-2<sup>ND</sup> PERSON SINGULAR INDICATIVE  
 ‘I/we give it to you (singular).’

We may conclude that in such cases, *-e-* is no longer an inverse marker functioning under the dominance of a person hierarchy, but rather a kind of universal role reverser.

## 6. Concluding remarks

The discussed data from Quechua, Puquina and Mapuche show a remarkable amount of shared tendencies in the development of their personal reference marking systems. In all three systems, inverse markers appear to play a role. As the case of *-ma(:)/-wa-* in Quechua shows, the function of an inverse marker can be a derived function assigned to affixes that originally had a different meaning. The main reason for inverse markers to emerge seems to be a shortage of suitable object markers (no second person object marker in Quechua, neither a first nor a second person object marker in Mapuche). Inverse markers have the advantage of reducing the number of affixes needed for the composition of complex personal reference systems in verbal morphology.

The examples also show that the existence of a person hierarchy is not an indispensable prerequisite for the use of inverse markers. Inverse markers tend to function counter-hierarchically, but they can also follow the hierarchy, as occurs in the first person subject to second person object transition in Mapuche. In the latter case, the function of the inverse marker may become that of a universal role reverser. On the other hand, the relevancy of a hierarchy in direct-inverse systems can be deduced precisely from the difficulties surrounding the genesis of markers denoting a first person subject acting upon a second person object in all three languages. As long as there is no explicit second person object marker, a hierarchically restricted inverse marker is of no help for distinguishing between second and third person objects (or null objects), forcing the language user to develop ad hoc strategies. As for the person hierarchy itself, given its predictable character (1<sup>st</sup> > 2<sup>nd</sup> > 3<sup>rd</sup>, etc.), one may wonder if it should not be defined in terms of distance from ego, rather than as a culturally or linguistically determined choice.

A final question to answer is: Why did three unrelated languages develop such similar strategies in order to set up a complex personal reference system, which they probably did not have at an earlier stage of their development? It seems that interaction with the geographically proximate Aymaran languages may have played a role. The Aymaran languages (Aymara and Jaqaru) have closely-knit, complex systems of verbal personal reference marking, which encode both a subject and an object without having recourse to inverse markers or other affixes used in a derived function. The Aymaran personal reference systems are probably the oldest and the most opaque systems to be found in the Andean region, and they may have served as a model for the neighboring languages. It is significant that these neighboring languages (especially Puquina) were on their way to develop a complex suffix morphology, which was already present in the Aymaran languages.

Diffusion from the Aymaran languages to Quechua and Puquina comes as no surprise, but in the case of Mapuche it is problematic, considering the geographical distance between central Chile and southern Peru. Mapuche has assimilated a number of lexical loans from Aymara, but there are no historical records pointing at a particularly close relationship between the two languages in the past. As we have shown, linguistic evidence suggests that some sort of interaction between Mapuche and the other three languages may have existed at a certain point of time, even though the resemblances are structural rather than formal.

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