The reciprocal marker -*na* in Bolivian Quechua.

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0. Introduction.

Recently the analysis of the English reciprocal construction has been the subject of considerable debate (Heim, Lasnik and May 1991; Williams 1991).[1] Assuming that the semantic interpretation of reciprocals is language independent, it is interesting to contrast English, which depends on a antecedent-anaphor relation, with a language like Quechua which uses verbal morphology to express reciprocality. In a recent article (Van de Kerke 1991) I gave a unified account for the characteristics of the Quechua verbal affix -*ku* in terms of indexing in Predicate Argument Structure. In that way I was able to account for the fact that -*ku* is a reflexive marker, but that it has many other uses as well, e.g. with ergative verbs, middle and anti-causative constructions etc. There I did not touch on the closely related problem of reciprocal marking in Quechua, which is the subject of this article. While reciprocals are normally analyzed in the same way as reflexives, that is to say by means of a binding operation, it will be shown here that in Quechua reciprocal marking has to be characterized as a distributional process.

I follow the analysis proposed for the suffix -*na* in Muysken (1981, 1988) in which he demonstrates that -*na* is the reciprocal marker and not, as is stated in many grammars of Quechua, the suffix -*naku*. That -*ku* is almost always present when -*na* is there is due to grammatical reasons, not to the fact that they form one suffix.

In Muysken (1981, 1988) two arguments are given for an independent status of the suffix -*na*:

1. -*na* and -*ku* can be separated by another suffix, which would be impossible if the two formed one fixed combination, cf. (1):

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[1] This article is a result of a research project on the argument structure of the Quechua verb, that is funded by the Netherlands Foundation for the Advancement of Tropical Research (WOTRO), and based on fieldwork near Cochabamba, Bolivia. I thank Pieter Muysken, Ana Alvarez G., and an anonymous LIN-reviewer for their comments. The following glosses will be used in the text:

MIN	Minimizer	ACC	Accusative	PL	Plural	REC	Reciprocal
EUP	Euphonic	PST	Past	pl	Plural	SD	Sudden Discovery
LOC	Locative	DIR	Direction	COM	Comitative	OBJ	Object
CAUS	Causative	ASP	Aspectual	REF	Reflexive	ADV	Same Subject

1. *-na* and *-ku* can be separated by another suffix, which would be impossible if the two formed one fixed combination, cf. (1):

(1)   noqayku much'a -na   -ri   -ku   -rqa -yku
        we   kiss   REC MIN REF PST 1pl
        'We kissed each other a bit, for a short time'

2. When combined with the causative suffix *-chi*, *-na* can mark a reciprocal relation on its own; cf. (2):

(2)   wawa -s -ni   -y   -ta   maylla -na -chi   -ni
        child   PL EUP 1ps   ACC wash   REC CAUS 1sg
        'I made my children wash each other'

The question then is how to account for the distribution and interpretation of *-na* and *-ku* in (1) and (2). Since my analysis crucially depends on the characteristics of 'reflexive' *-ku* I will give a short summary of the analysis given in Van de Kerke (1991) in the following section. After that I will turn to the analysis of 'reciprocal' *-na* and show that we have to make some extra assumptions as well for a proper understanding of reciprocal marking in Bolivian Quechua, the variety my research focuses on.

1. Projecting Lexical Structure

In Van de Kerke (1991) I tried to give an account for the fact that we find obligatory *ku*-affixation in the following cases in Quechua:

(3) a   verbs with one or more internal arguments, but no external
        argument: 'ergatives'
    b   constructions in which the external argument of the base verb is
        suppressed: 'middles' and 'impersonals'
    c   reflexive constructions

I assume along the lines of Hale and Laughren (1983) and subsequent work that the meaning of a verb is represented in the lexicon in the format of a Lexical Conceptual Structure (LCS), where variables fill the positions of the arguments. These variables are mapped onto a Predicate Argument Structure (PAS), a level of representation in which there is a fundamental difference between the external position and the internal ones, via a level of Argument Structure (AS). I assume, along the lines of Williams (1981), that at the intermediate level of AS the specific LCS-definiton of a verb is reduced to an abstract and generalized form and that derivational morphology operates on

this level. The precise definition of the operations on argument structure differs considerably from those proposed by Williams, however.

The obligatoriness of an argument in the subject position in syntax led me to the claim that Quechua requires an argument in the external position at PAS, which is the input for the syntactic component, since Quechua does not allow for A-movement in syntax. It does not have any pleonastic elements either, an alternative way to start with an empty argument in subject position in syntax.

I assume that the affixation of -*ku* has as result that an inter-nal position is coindexed with the external position at the level of PAS. In that way not only the internal argument of 'ergative' verbs can be mapped onto the external position and projected into syntax, but also the internal argument of verbs of which the external argu-ment is not mapped onto PAS, the 'middles' and 'impersonals'. When the external argument of a transitive or ditransitive verb bears the same referential index as an internal argument they must be co-indexed to prevent a violation of the Binding conditions, in which case -*ku* gives the right structure for the reflexive interpretation.

## 2. The analysis of the reciprocal construction.

In both Heim, Lasnik and May (1991) and Williams (1991) the central idea is that reciprocity is a function of distributivity. Since the proposal of Heim, Lasnik and May is highly specific for English, I follow the more general analysis that has been proposed in Williams (1991:160): "Suppose that the reciprocal pronoun gets its interpretation in real semantics as a special instruction on how to substitute values for variables to derive truth condi-tions." He formalizes this general statement into the following rule:

(4) a   The antecedent must be plural and must receive at least a (weakly) distributed interpretation.
    b   For any x substituted for the antecedent position, substitute only y's not equal to x but from the same distributed set for the position occupied by the reciprocal (Williams 1991:161).

This statement applies to English, which has a reciprocal pronoun, but it can easily be applied to Quechua as well, assuming that the verbal affix -*na* marks an argument as a reciprocal anaphor. This is in fact the analysis which has been proposed in Muysken (1981), in which he argues for a cyclical interpre-tation of affixes. He assumed that -*na* is the first step in the formation of a binding relation, as it marks one of the internal arguments of the verb as a reciprocal anaphor. In the second step the anaphoric argument is bound by the antecedent in subject position by means of affixation of -*ku*. The coindex-

ation of the reciprocally marked argument with the exter-nal position is the only way of arriving at a grammatical structure, otherwise a structure would result with a reciprocal anaphor that is not bound. This is illustrated with the analysis of (5a) in (5b-d):

(5) a   maylla -na   -ku   -yku
        wash   REC REF 1pl
        'We wash each other'

(5) b
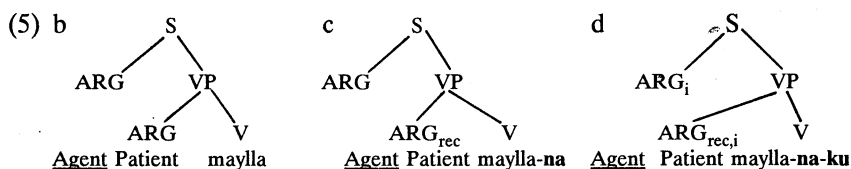
In this case this analysis is not contradictory with the analysis I proposed for -*ku*, since I claimed that affixation of -*ku* leads to a coindexation chain between one of the internal arguments with the external position, in the mapping from LCS onto PAS. When the reciprocally marked argument is coindexed with the external position by the affixation of -*ku*, the only way of creating a well formed structure is when the external argument that has to be mapped onto the external position has the same referential features as the internal argument. In this way a structure is created that is completely isomorphic with that of normal reflexives. As a matter of fact reflexive constructions in many cases can also have a reciprocal interpretation. Reciprocals never can have a reflexive interpretation, which is to be expected on the basis of William's proposal in (4).

There are, however, two strong reasons not to adopt this analysis. First it is necessary in a binding analysis of -*na* to assume that in the case of the causative reciprocal constructions such as (2), -*ku* has been deleted by a late morpho-phonological rule when it is realized in front of -*chi*, otherwise we would be left with a reciprocally marked anaphor which is not bound (Muysken 1988). This is an unnecessary and even impossible rule, as I have tried to argue in Van de Kerke (1991), since -*ku* always coindexes an internal argument with the external position in the mapping from LCS to PAS. Although the Causee might be treated as the external argument of the base verb at LCS, it cannot be treated as an external argument at the level of PAS after it has been demoted to a 'chômeur' position after causative formation. Therefore I am forced to assume that -*ku* is not realized in underlying structure. But then the whole argument of -*ku* binding the argument that has been marked as a reciprocal anaphor by -*na* collapses, since we would be left with

a reciprocally marked anaphor that is not bound subsequently, as has been noted above.

Secondly *-na* occurs in two distributive non-reciprocal constructions, to be presented in section 4, that cannot be dealt with in a binding analysis. This forces me to propose a completely different analysis for *-na*, which will be the object of the following section. The alternative analysis that I propose will give an account for these data, at the same time giving an explanation for the distribution of *-ku*.

3. An alternative proposal

Symmetric verbs, that is to say those verbs that are inherently reciprocal like *t'inku* 'meet', and *tanta* 'be together' can put us on the right track. Consider the contrast, present in different Quechua varieties, between (6) and (7):

(6)   Juan Carlos -wan   t'inku -ku -rqa
                     COM   meet   REF 3PST
        'Juan met Carlos'

(7)   Juan Carlos -wan   t'inku -rqa
                     COM   meet   3PST
        'Juan met Carlos'

If it is predicated of Juan that he met Carlos, it is a logical consequence that Carlos met Juan, but there is an interesting inter- and even intra-dialect variation in the way these verbs are syntactically used. In some Quechua dialects this construction is expressed in a 'reflexive' construction, as in (6), but in other dialects the verb has to be used without reflexive marking, cf. (7). This difference can be accounted for if we assume that in the dialects that use (6) the verb is associated with two internal arguments in LCS, hence the obligatory use of *-ku* to 'externalize' an argument at PAS, while the verb in (7) already has one external and one internal argument in LCS.

This difference in LCS representation also has consequences for the way reciprocality is expressed. The reciprocal marker *-na* can be used in the dialects that have (7), but not in those that have (6). These only can use the reflexive form, cf. the contrast between (8) and (9):

(8)   noqayku t'inku -ku -rqa -yku
        we   meet   REF PST 1pl   (6)-type dialects
        'We met each other'

(9)   noqayku   t'inku   -na   -ku   -rqa   -yku
        we   meet   REC   REF   PST   1pl   (7)-type dialects
        'We met each other'

This contrast can be accounted for by the assumption that the effect of -na affixation is the internalization of the external argument, the analysis that I will adopt here. It is straigtforward that if the verb in (8) is associated with two internal arguments they cannot be internalized again, while the verb in (9) with one internal and an external argument follows the normal pattern for reciprocal formation, i.e. internalization of the external argument in LCS.

Of course the question then is: why internalization? In my opinion this is due to the distributional character of the process. As Williams (1991:160) states: "distributivity is not a property of an NP in and on itself, but the relation an NP bears to something else", that is to say: another NP. This is also what is said in his rule (4b), which however has to stipulate that an element $\{x\}$ from the antecedent set only can enter into a relation with an element from the same set in the position occupied by the reciprocal that is disjoint in reference: $\{non\text{-}x\}$. The consequence is that no reflexive relations are produced, which is semantically correct but quite sti-pulative in his analysis. I assume that there has to be a symmetric c-command relation between two NPs that enter in a distributive reciprocal relation. This also gives the required $[\{x\}, \{non\text{-}x\}]$ restriction since an $[\{x\},\{x\}]$ relation would result in a Binding violation.

It is thus central to the analysis proposed here that the reci-procal relation holds between different sets of elements in argument positions, rather than there simply being a well formedness condition holding between two NP-positions. A corollary of this analysis is the expectation that both sets need not to be obligatorily iden-tical and that reciprocality does not enforce a strict distributive interpretation. One thus expects reciprocal constructions in which a symmetric reciprocal relation holds between all elements in both sets, but also cases with a weak distributive interpretation, in which the reciprocal relation does not hold between all elements in both sets (cf. the discussion of strict and weak distribution in Williams 1991:162).

Alongside the reciprocals with a strict distribution, that are treated in Weber's (1989) study of Huánuco Quechua as cases of a 'simple reference-restricting reciprocal', he also mentions cases with a weak distribution: a 'reciprocal of distributed mutual activity'. In the example he gives, cf. (10), it is clear that "the action is distributed among members of the group, and not necessarily performed by each member on all others" (Weber 1989:169):

(10)   ... kachi -ta   chay -man tinku -ri   -yku -chi   -r
        salt   OBJ there GO   meet ASP ASP CAU   ADV
        '... having mixed some salt into it, they pass the food

        qara -naku -n
        feed REC   3
        around' (lit. 'they feed one another')

These data support the idea that there are sets of elements in the argument
positions of a predicate that participate in the reciprocal relation in Quechua.

From the discussion above it can be deduced that the causative reciprocal
in (2), repeated here for convenience, behaves as one would expect:

(2)   wawa -s -ni -y   -ta   maylla -na -chi   -ni
        child   PL EUP 1ps   ACC wash   REC CAUS 1sg
        'I made my children wash each other'

Assuming affix interpretation to be a cyclic process as argued for in Muysken
(1981) the application of -na forms a predicate with two reciprocally distribut-
ed internal arguments. Subsequently a *Causer* is added through the affixation
of -chi with a lexical rule of Causative formation, as proposed in Williams
(1981), cf. (11):

(11)   Agent [Patient   maylla]

                $[Agent_{i,j}$ Patient$_{i,j}$ maylla **-na**]

        Causer $[Agent_{i,j}$ Patient$_{i,j}$ maylla **-na -chi**]

PAS: Causer$_{sub}$ $[Agent_{i,j}$ Patient$_{i,j}$ maylla -na -chi] -AGR$_{sub}$

The complex predicate having an external argument, realized in the external
position at PAS, it is impossible to add 'reflexive' -ku, which would lead to
the coindexation of an internal argument with the external position, onto
which the Causer has to be mapped.[2]

Now we will turn to the other cases that clearly show that there is more
to the affix -na than its reciprocal interpretation and which demonstrate that

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[2] This is not impossible per se, but would lead to a completely different interpretation, i.c. a
reflexive causative reciprocal, cf. (i):
(i)   maylla -na   -chi -ku   -nku
      wash   REC   CAUS REF   3pl
      'They make themselves wash each other'

a binding analysis is not called for. They are a logical consequence of the distributional analysis proposed above but are special in that they are only distributional with respect to one of the arguments, while the other argument remains constant. In 4.1 cases are treated in which the constant argument is the Patient, while in 4.2 it is the Agent.

4. Special reciprocal constructions

Above we have seen examples in which the sets that participate in a reciprocal relation were referentially identical, but I already mentioned that this is not a strict requirement for -na to be interpreted distributionally. In the following sections I will present cases in which one of the sets contains only one member, while the other one contains a plural set, that obligatorily has to be disjoint in reference from the unique element in the other set, but where still distributivity plays a role. They are hard to account for in a Binding analysis but follow naturally from the analysis presented here. Although such cases do not abound in the language and a lot of speakers do not accept them, the examples presented are all recorded from natural speech of different mother tongue speakers, and thus constitute a pattern in the language to be accounted for. To give the reader a chance to evaluate the examples they will be given with a full context.

4.1. Action performed in turn. This usage of the affix -na marks that an action is performed by different Agents on one and the same object and it is distributional in time. The Agents perform the action in turn, cf. (12):

(12)   ... garotesniyoq lloqsiqsanku uqtan nin **maqanakuqsanku** nin uqtan
         with whips   they left   one   say   they hit   say one

         garote a garote limpio nin wanchiqsanku nin uj runata nin
         whip   with whip clean say killed   say a man   say

         wanchiqsanku
         killed
         '.. with whips they came out (of the house) and they say that they
         beat a man, one after the other, with their whips they say they have
         killed a man' (Mateo I, Iban)

Although the form *maqanakuqsanku* can be interpreted as 'they hit each other', it is very clear from the context that this is not the intended meaning. Of course the speaker could have used the form *maqaqsanku* 'they hit'

without 'reciprocal marking', but he clearly wants to mark the distributional interpretation that there has been a beating of a man by two others, who are doing that the one after the other. A paraphrase of the relevant part of (12) is (13):

(13)   paykuna runa -ta   maqa -na -ku -nku
         they   man ACC hit   REC REF 3pl
         'they hit the man in turn.'

I analyse such cases in the following way:

(14)   Agent   [Patient   maqa]

               [Agent$_{i,j}$ Patient$_k$ maqa -na]

PAS: Ext$_{i,j}$ [Agent$_{i,j}$ Patient$_k$ maqa -na -ku] -AGR$_{i,j}$

While the standard output of -na affixation is a predicate with two internal arguments which contain both a set of elements that bear the same indices as in (11), we see here a case in which the set of the Patient argument only contains one element. Distributivity forbidding Agent-Patient identity (cf. Williams' rule 4b and the discussion above), the only possible interpretation is the one in which all the elements in the set that is contained in the Agent argument act on one and the same Patient. The predicate being without an external argument -ku has to be added to license the mapping onto PAS.

4.2. Action performed on different objects. This case forms the logical counterpart of the above mentioned distributional interpretation in that it marks that an Agent is acting on different objects. The following example is from a book with stories told by native Quechua speakers (Aguilo 1980, story 13):

(15)   purin purintaj laqha puro yaku t'impusqa turrilisman
         walks walks   dark pure water boiling vessels

         taqhanakusqa ruphachikusqa
         he bumps   he burns
         'He walks and walks, and since it was completely dark, he bumped into the vessels with boiling hot water and has burned himself'

A form like *taqhanakusqa* can be interpreted as 'they collide', but this is not the intendend meaning. The story speaks about a young man that is entering the house of his girlfriend at night and the verb clearly has a third person

singular subject. Again we see that *-na* is not a reciprocal marker per se, since one of the essential characterictics of a reciprocal is that it is has a plural subject, cf. Williams' rule in (4a). Again a paraphrase of the relevant part of (15) is (16):

(16)   pay   turril -is -man taqha   -na -ku -sqa
       he   vessel PL   DIR   bump   REC REF 3SD
       'He bumped into the vessels one after the other.'

I analyse it in the following way:

(17)   Agent   [Direction taqha]

               [Agent$_k$ Direction$_{i,j}$ thaqa   **-na**]

PAS: Ext$_k$ [Agent$_k$ Direction$_{i,j}$ thaqa   **-na -ku**] -AGR$_k$

The same that was said for the example in 4.1 holds, mutatis mutandis, for this case. Here we have only one element in the set that is contained in the Agent argument which is in interaction with different elements from the set contained in the Direction argument.

5. A residual problem: reciprocals with a singular subject

During my fieldwork in Bolivia it was one construction that made me aware of the fact that there was something special with reciprocal marking, at least in the Southern Quechua dialects. It is not merely a regional Bolivian variant, however, since I also found it descri-bed in Guardia Mayor (1973:297) for the Cuzco dialect, cf. (18):

(18)   ñoqa qam -wan   yanapa -na   -ku   -ni
       I   you   COM   help   REC REF 1sg
       'I with you we help each other' (translation and glosses mine)

How do we account for the first person singular marking on the verb? In the distributional process proposed here we have to assume that it is possible to externalize only one of the elements from the set that is in the position marked as Agent, the other being mapped onto an adjunct PP marked with -*wan*, as is normally the case for Agents that are not mapped onto the external position/do not assume a grammatical function, e.g. the Causee in transitive causative constructions. An example like (18) is then analyzed as in (19):

(19)   Agent   [Patient   yanapa]

                       [Agent$_{i,j}$ Patient$_{i,j}$ yanapa -na]

PAS: Ext$_i$ [Agent$_{i,j}$ Patient$_{i,j}$ yanapa -na -ku]   AGR$_i$

It should be pointed out that my informants said that there was also a semantic difference between reciprocal sentences with a plural and a singular subject, in that the latter mark that the subject is presented as the source of what is expressed, i.c. 'I am in a way responsible for the fact that my friend and I are helping one another'.

6. Conclusion.

I have tried to argue in this paper that we cannot understand reciprocal marking in Quechua as a simple binding operation. I have shown that the suffix -na is a distributive marker, the use of which in reciprocal constructions, although its most frequent use, is only one of its possible interpretations. I argued that after affixation of -na the external argument has become internal, since a distributional interpretation requires mutual c-command, and needs the marking of -ku to be capable of occurring in the external position at PAS, an analysis that I had already proposed to account for a range of other constructions in Quechua in Van de Kerke (1991).

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