On the Tupi-Guaranian prehistory of the Siriono verb

Sobre a pré-história Tupi-Guarani do verbo Siriono

Roland Hemmauer[1]

Abstract: This paper shows that the verbal morphosyntax of Siriono, which is synchronically highly divergent from that of other Tupi-Guaranian (TG) languages, can be derived from the reconstructed proto-TG (PTG) system. Arguments will be presented to show that the S_A=A series of person markers (e.g. PTG 1SG **a-*) has merged with the S_O=O series (e.g. PTG 1SG **če-*) in the 1st and 2nd plural persons in Siriono. In spite of this partial merger of two series of person markers, morphological elements that appeared in PTG between the personal prefix and the stem of transitive verbs have been retained in Siriono with an identical distribution. The partial merger of the S_A=A series with the S_O=O series is explained by a combination of phonological and syntactic motivations. Additional evidence is drawn from Siriono's closely related sister language Yuki. Apart from this, the prefix *k-* that occurs on third-person forms of 'comitative-causative' verbs in Siriono has retained a trace of the PTG third-person prefix **o-* in spite of the emergence of an innovated third-person prefix *e-*. These facts are taken as evidence of a PTG origin of the Siriono system.

Keywords: Siriono. Proto-Tupi-Guaranian. Verb inflection. Historical reconstruction.

Resumo: Este artigo demonstra que a morfossintaxe verbal do Siriono, que é extremamente divergente das outras línguas Tupi-Guarani (TG) do ponto de vista sincrônico, pode ser derivada do sistema da língua reconstruída proto-TG (PTG). Apresentam-se argumentos de que houve, em Siriono, uma fusão da série de marcadores pessoais S_A=A (por exemplo, PTG 1SG **a-*.) com a série S_O=O (por exemplo, PTG 1SG **če-*) na 1a e 2a pessoa do plural. Apesar dessa fusão parcial, alguns elementos morfológicos que apareciam entre o prefixo pessoal e a base de verbos transitivos em PTG têm sido retidos em Siriono, com uma distribuição inalterada. A fusão parcial da série S_A=A com a série S_O=O se explica por uma combinação de motivações fonológicas e sintáticas. Evidências adicionais em favor dessa análise se acrescentam da língua irmã Yuki mais próxima do Siriono. Além disso, o prefixo *k-* que acompanha formas de 3a pessoa dos verbos 'comitativos-causativos' em Siriono tem conservado um traço do prefixo de 3a pessoa **o-* do PTG, apesar da existência de um prefixo inovado de 3a pessoa *e-*. Estes fatos são considerados como evidência em favor de uma origem do sistema Siriono no sistema PTG.

Palavras-chave: Siriono. Proto-Tupi-Guarani. Flexão verbal. Reconstrução histórica.

[1] Leiden University Centre for Linguistics (LUCL). Faculty of Arts. Leiden University. The Netherlands (r.hemmauer@let.leidenuniv.nl).

INTRODUCTION

The Tupi-Guaranian (henceforth TG) family of South America forms a large homogeneous block of languages whose members are linked closely to each other by numerous lexical correspondences and a modest number of phonological changes. Apart from the fact that this facilitates lexical comparison and phonological reconstruction (Lemle, 1971; Rodrigues, 1984/85; Mello, 2000), most of the languages of the TG family also share largely identical basic grammatical structures. The combination of these factors has allowed for a relatively straightforward reconstruction of the grammatical structure of their common ancestor language, proto-Tupi-Guaranian (henceforth PTG) (Jensen, 1998; Schleicher, 1998), whose grammatical structure could also be called the 'Tupi-Guaranian prototype'. Most TG languages still follow this structural prototype.

There are, however, languages whose affiliation to the TG family is not entirely clear because of their strong structural divergences from that prototype. One such case is the Siriono language[1] spoken in Lowland Bolivia. Siriono morphosyntax is regarded as highly divergent from that of other TG languages, as pointed out by Dietrich (2002, p. 359)[2]: "O Siriono é uma língua bastante divergente das outras línguas Tupi-Guarani quanto à sua fonética e à morfossintaxe, fato que talvez tenha impedido no passado o acesso ao estudo dessa língua".

There are in principle two different opinions as regards the genetic affiliation of Siriono. On the one hand, the majority of scholars includes Siriono into the TG family, although their proposals differ significantly as to its position within the TG family tree, especially with respect to its relationship to the two major TG languages spoken in Bolivia, namely Guarayo and Chiriguano (Lemle, 1971; Rodrigues, 1984/85; Rodrigues and Cabral, 2002; Stearman, 1984, quoted by Crowhurst, 2000)[3]. On the other hand, Firestone (1965, p. 50-51)[4] and Mello (2000, p. 274) put up a separate Siriono branch within the TG family tree, and Schleicher (1998, p. 1-2) even excludes Siriono from the TG family and tentatively lists it as a separate language family within the larger Tupian stock[5].

In this paper, evidence will be provided for the fact that Siriono is indeed a member of the TG family, with the arguments coming not so much from regular lexical and grammatical correspondences, but precisely from morphological irregularities that have been preserved in Siriono and that cannot be easily understood otherwise than by deriving them from PTG. At the same time, as soon as it can be shown that the structures found in Siriono go back directly to PTG, this discards scenarios in which Siriono might have borrowed these structures from other TG languages.

Since the reconstruction of PTG is in turn based on the more prototypical languages of the TG family, the possibility of tracing parts of the synchronical grammatical structure of Siriono and its morphological irregularities back to PTG can be seen as strong support for the hypothesis that Siriono is indeed a descendant of PTG. In this paper, this will

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1 The language name is usually found with an acute accent on the last syllable (Sirionó). See Dietrich (2002, p. 358) for a critique of this notation. In this paper, a neutral name without diacritics will be used.

2 See also the conclusions drawn by Rodrigues (1984/85, p. 43).

3 For a more detailed review of proposals see Hemmauer (2006, p. 88-89).

4 Firestone (1965, p. 50-51; quoted by Key, 1979, p. 79), based on data from a limited number of languages, proposed three coequal branches 'Tupían', 'Guaranían' and 'Sirionóan'.

5 Schleicher (1998, p. 1-2) refers to his own chapter 2 for further arguments on why to exclude Siriono from the Tupi-Guaranian family. However, no further reference to Siriono could be found in that chapter.

be demonstrated by examining the person marking system on Siriono transitive verbs and by deriving Siriono person marking from the reconstructed PTG system.

PERSON MARKING IN PTG

Rodrigues and Cabral (2002)[6] give a catalogue of criteria that serve to determine the unity of the TG languages and, at the same time, to distinguish them sharply from the other languages of the Tupian stock, even from their closest sister languages Mawé and Awetí (Rodrigues, 1984/85, p. 35). Most of the languages assigned to the TG family fulfil these criteria and can therefore easily be identified as members of that family. Three of these criteria are morphological in nature, involving two series of agreement markers which are given together with the personal pronouns in Table 1 (adapted from Jensen, 1998, p. 498)[7]:

Table 1. Agreement prefixes and personal pronouns in PTG.

	S_A=A	S_O=O	PRON
1SG	*a-	*če-	*ičé
1EXCL	*oro-	*ore-	*oré
1INCL	*ja-	*jane-	*jané
2SG	*ere-	*ne-	*ené[8]
2PL	*pe-	*pẽ-[9]	*pe...ẽ [10]
3	*o-	*i-	

Person agreement on PTG verbs is governed by so-called active-stative or *split-S* alignment (Dixon, 1990, p. 71). The S_A=A series serves to encode agents of transitive verbs (A) and subjects of dynamic intransitive verbs (S_A) whereas the S_O=O series encodes patients of transitive verbs (O) and subjects of stative intransitive verbs (S_O)[11]. From a diachronic point of view, the first and second persons of the S_O=O series derived from the free pronouns, but it is likely that there was a synchronic distinction in PTG between long free pronominal forms and shortened prefix forms at least in the first and second person singular, as reconstructed by Jensen (Table 1): 1SG **ičé* vs. **če-*, 2SG **ené* vs. **ne-*. For example, this distinction can still be found synchronically with the first person singular in Tupinambá (Jensen, 1998, p. 589) and with the second person singular in Kamayurá (Seki, 2000, p. 61)

[6] This is a revised version of the catalogue of criteria already given by Rodrigues (1984/85).

[7] Jensen (1998, p. 498) labels these series 'Set 1' and 'Set 2', respectively (see also Jensen, 1999, p. 147). A largely identical system has been reconstructed to PTG by Schleicher (1998, p. 201). For an alternative explanation of the first person inclusive prefix **ti-* on transitive verbs reconstructed by Rodrigues and Dietrich (1997, p. 284) see Jensen (1987, p. 50-51; 1998, p. 519) and Schleicher (1998, p. 182-185).

[8] Jensen (1998, p. 498) has **eré* which must be regarded as a typographical error given the reconstructed form **ené* listed elsewhere by the same author (see Jensen, 1998, p. 589; 1999, p. 147 and other works).

[9] Jensen (1998, p. 498) reconstructs this prefix as **pe-*. The notation **pẽ-* taken from Schleicher (1998, p. 201) indicates that this prefix nasalizes a following consonant although it "does not bear nasal stress itself" (Schleicher, 1998, p. 211).

[10] The reconstruction of this personal pronoun is not entirely clear.

[11] The S_O=O series also serves to mark the possessor on noun phrases and the absolutive participant on subordinated predicates and also appears as person marking on postpositions (for details see Jensen, 1990, 1998). A third reconstructed series of person prefixes ('Set 3'; Jensen, 1998, p. 498; 1999, p. 147), that serves to mark coreferentiality with the nominative subject of the clause (Jensen, 1998a), is not at issue here, since these prefixes never occur on verbs except in subordination.

and in Émérillon (Rose, 2003, p. 79, 180)[12]. Other TG languages, like Guarayo and all Guarani dialects including Chiriguano (Jensen, 1998, p. 589; Schleicher, 1998, p. 170-180), even extended the shortened forms **če-* and **ne-* to the free pronoun paradigm (cf. the Chiriguano free pronouns 1SG *ché*, 2SG *ndé*; Dietrich 1986, p. 155), so that no traces of full forms can be found in these languages any more. The co-existence of full and shortened forms in other TG languages, as stated above, suggests that the extension of the shortened forms is a secondary development in Guarayo and the Guarani dialects and might be a shared innovation. Based on these observations, the morphemes of the $S_{\circ}$=O series, reconstructed by Jensen (1998, p. 498) as free forms with an independent accent, are presented as unaccented bound forms in table 1 since their shortening suggests that these were rather prefixes (or at least clitics) in PTG. Apart from this adaption made here, Jensen's reconstruction of differences between long free pronominal forms and shortened prefix forms in PTG remains untouched. Also note that there is no reconstructible free pronoun for third person.

PERSON MARKING IN SIRIONO

At first sight, the structure of the paradigm of the Siriono agreement prefixes (Table 2), as it has been documented in the grammars by Schermair (1949) and Priest and Priest (1965; English version, 1967), appears to differ significantly from the PTG prototype (Table 1). Nevertheless, the prefixes found in Siriono can be derived phonologically from reconstructed PTG prefixes on the basis of regular phonological correspondences observed between Siriono and PTG by Lemle (1971) and in part by Mello (2000)[13]. As a result, all Siriono agreement prefixes can be formally traced back to PTG agreement prefixes, but their distribution is different from their distribution in PTG.

[12] Except for Tupinambá, differences in the first person singular between free pronouns and prefixes can only be found in northern (Amazonian) TG languages that reduced **č* to *h* or lost it completely (Jensen, 1998, p. 589; Schleicher, 1998, p. 171-177). Evidence from most of these languages that lost **č* suggests an immediate proto-form **ijé* or **jé*. Schleicher (1998, p. 201) even reconstructs **(i)jé* (= **(i)ye* in his notation) as an alternative form besides **(i)če*. In fact, **ijé* and **jé* can still be derived easily from **ičé* by assuming the insertion of a glide in order to avoid the vocalic hiatus caused by the loss of **č* in these languages: **ičé* > **ié* >> **ijé* (with a possible shortening to **jé*). Based on the evidence from these languages, it is not entirely clear whether a full form **iče-* (besides **če-*) has to be reconstructed for the prefix as well. Note that in the majority of these northern TG languages, the form of the prefix also points back to an immediate pre-stage **ije-* or **je-*. Since **ije-* and **je-* can only be derived phonologically from PTG **iče-*, but not from PTG **če-* (see above), it cannot be excluded that these northern TG languages might reflect an earlier stage of PTG at which shortening of the prefix was still optional. Note, however, that in a few northern TG languages that lost **č*, the free pronoun and the prefix do have different forms, as in Émérillon ***idʒe*** < **ijé* << **ičé* vs. *e-* < **če-* (Rose, 2003, p. 79, 180), which might suggest that the full form of the free pronoun was extended to the prefix in the other northern TG languages only secondarily. In the non-Amazonian TG languages Tupinambá, Guarayo and all the Guarani dialects, the free pronominal forms as well as the shortened prefix forms contain a palatal affricate *č* or a palatal fricative *š* (Jensen, 1998, p. 589; Schleicher, 1998, p. 170-180). Since there is a common palatalization rule in these languages that is only operative after /i/ (Jensen, 1989, p. 53), the occurrence of palatals in the prefixes seems to point back to a full prefix form **iče-* in these languages as well. However, it is still possible that this palatalization rule was already operative in PTG (ibid., p. 53) and that the shortening **iče-* > **če-* already took place in that period after application of the palatalization rule. Schleicher (1998, p. 175) also lists the Tupinambá prefix *iše-* besides a shortened form *še-*. Evidence is therefore not entirely conclusive as to whether the first person singular prefix was invariably **če-* in PTG or whether there was free variation **iče-* ~ **če-* in PTG.

[13] The relevant phonological changes are **p* > *h* and **č* > *s*, as well as **o* > u in non-final syllables (Lemle, 1971; Mello, 2000). The change **n* > *nd* can be linked to nasal harmony (see footnote 14). The word-initial change **j* > *ñ* can be attributed to a synchronical nasalisation rule that is operative in Siriono in phrase-initial position ('span-initial position' in Priest's terms; see Priest; Priest, 1967, p. 246). The expected reflex of PTG **j* before vowels is *č* in Siriono (Lemle, 1971; Mello, 2000), which is then nasalized to *ñ*.

Table 2. Agreement prefixes and personal pronouns in Siriono.[14]

	S_A=A	S_O=O	PRON
1SG	a-	se-	se
1EXCL	ure-		ure
1INCL	ñande-[15]		ñande
2SG	ere-	nde-	nde
2PL	hẽ-		hẽ
3	e-		ae

When comparing the paradigm in Table 2 to the TG prototype in Table 1, two things can be noted: first, a distinction between an S_A=A series and an S_O=O series is not always present. Where it is there, which is the case only in the first and second person singular, the morphemes correspond exactly to the respective prefixes in PTG. Where there is no distinction, a unitary prefix is found that derives phonologically from the PTG S_O=O series. At the same time it can be observed that all S_O=O or unitary prefixes, except for third person, are completely identical with the free pronouns, not only with no distinction between full and shortened forms as found in PTG, but also with no nasal alternations as caused by nasal harmony in other TG languages in the second person singular and in the first person inclusive, as in Guarani: ***nde****-recha* 's/he/it/they see(s) you', ***ñande****-recha* 's/he/it/they see(s) us (incl.)' vs. ***ne****-nupã* 's/he/it/they beat(s) you', ***ñane****-nupã* 's/he/it/they beat(s) us (incl.)'. Although Siriono does have nasal harmony otherwise[16], the invariant prefixes *nde-* and *ñande-* are found with nasal and non-nasal stems alike[17], thus being formally identical to the corresponding free pronouns *nde* and *ñande*. Also note that the second-person plural prefix ***hẽ-*** is consistently nasalized in Siriono in accordance with the nasality of the free pronoun ***hẽ*** (< PTG ****pe...ẽ***).

At the same time, it has to be noted that it is only the reflexes of the shortened PTG forms that show up in Siriono, as can be seen with the free pronouns 1SG *se* and 2SG *nde*[18]. This suggests that the development in Siriono is most probably a secondary innovation. The synchronic formal identity of the S_O=O prefixes with the free pronouns can easily be explained from the phonological similarity that these forms inherited from PTG. This similarity may eventually have led to a morphological reanalysis of the S_O=O prefixes as bound variants of the free pronouns, which also eliminated harmonic nasal allomorphs accordingly. It is therefore the most likely scenario that the reanalysis in

[14] The Siriono orthography used in this paper follows the phonological analysis done by Priest (1968), but with a consequent notation of prenasalized stops as allophones of nasals, as done by Schermair (1949). From the examples given in Priest's and Schermair's works, Siriono appears to have a Tupinambá-like type of nasal harmony (Jensen, 1989, p. 51-52), with an allophonic change of nasals to prenasalized stops in final syllables that do not contain a nasal vowel and with an optional application of this rule in non-final syllables. For reasons given in Hemmauer (2006, p. 90), I also consider Priest's [k^w] a separate phoneme /k^w/ and Priest's /k^y/ an allophone of /k/.

[15] Priest and Priest (1967, p. 252; see also 1965, p. 369) lists a slightly different first person inclusive prefix *nãne-* (phonologically [nãnde]; see Priest, 1968, p. 105) and a corresponding free pronoun *nãne* which cannot be derived from PTG by regular phonological changes. Unless this is a typographical error, these forms remain unexplained. Priest and Priest (1967, p. 252) treats the morphemes of the first two columns as prefixes whereas Schermair (1949) arbitrarily vacillates between prefixes and free forms (except for *a-* and *ere-*, which are always prefixes in his notation).

[16] See footnote 13.

[17] The only exception seems to be *ñaneã*, we (incl.) stand' documented besides a regular form *ñandeã* (Schermair, 1949, p. 284).

[18] The expected reflexes of the full pronouns forms **ičé* and **ené* in Siriono would be †***ise*** and †*ende*, respectively.

Siriono already departed from shortened PTG forms. This scenario clearly places Siriono inside the TG family. Note that the extension of the shortened forms to the free pronominal paradigm does in itself not necessarily have to be an innovation of Siriono alone, but might be a shared innovation with Guarayo and with all Guarani dialects including Chiriguano (see Person Marking in PTG).

Now that it has been argued that the formal identity of S_O=O prefixes with free pronouns in Siriono is an innovation, it remains to be investigated whether the indistinction of S_A=A prefixes from S_O=O prefixes found in Siriono outside the first and second person singular can also be explained on the basis of the PTG system with its distinction of separate S_A=A and S_O=O series. In fact, it can be shown that a partial merger of these two prefix sets has taken place in Siriono, corroborating the provisional conclusion that the Siriono paradigm represents an innovative system. Formal clues to confirm this hypothesis will be adduced from Siriono irregular transitive verb inflection, after introducing PTG transitive verb inflection and Siriono regular transitive verb inflection in the following sections.

Before turning to these sections, another deviation in the Siriono paradigm must be noted: for third person, there is a unitary prefix *e-* which cannot be derived phonologically from either of the PTG third-person prefixes **o-* and **i-*. This prefix *e-* is most probably a reduced form of the innovated third-person pronoun *ae*, which in turn reconstructs to the PTG demonstrative pronoun **a'é* (Jensen, 1998, p. 551; also present as *ae* in Guarayo and as *háe* in Chiriguano; Hoeller, 1932, p. 8; Dietrich, 1986, p. 155, 157). Nevertheless, there are again formal clues to confirm that this prefix is not original in Siriono, as shown in Evidence from third-person forms.

TRANSITIVE VERB INFLECTION IN PTG

Person agreement prefixes on verbs exhibited split-S alignment in PTG and continue to do so in most of the present-day TG languages. With transitive verbs, there is a person hierarchy that determines which participants are marked on the verb. When the object (O) is first or second-person, O is marked on the verb by means of the S_O=O series (as in **če-nupã* 's/he/it/they beat(s) me'), without any overt encoding of agent (A). When O is third person, A is overtly marked by means of the S_A=A series, followed by a prefix **j-* for third-person O (as in **a-j-nupã* 'I beat her/him/it/them'). This prefix **j-* is generally present with underived transitive verbs, but lacking on transitive verbs derived from intransitives by the factitive prefix **mo-* (as in **a-mo-nó* 'I send her/him/it/them' derived from **có* 'go') and by the comitative-causative prefix **(e)ro-*[19] (as in **a-ro-'ár* 'I fall with her/him/it/them' derived from **'ár* 'fall').

When A is first person and O is second person, special portmanteau prefixes **oro-* and **opo-* occur (as in **oro-nupã* 'I/we beat you (sg.)', **opo-nupã* 'I/we beat you (pl.)') [20]. These prefixes will be excluded from discussion in this paper since their development in Siriono requires separate detailed treatment.

There are several allomorphies linked to transitive verb inflection in PTG. The first one concerns all so-called 'Class II' stems (Jensen, 1998, p. 499), which take an allomorph **c-* instead of **j-* following S_A=A prefixes (as in **a-c-*

[19] Details of the allomorphy of this prefix will be discussed below.

[20] The portmanteau prefix **oro-* is homophonous with the S_A=A first person exclusive prefix **oro-*. However, both portmanteau prefixes **oro-* and **opo-* underwent various reanalyses in some TG languages (Jensen, 1987, p. 48-50), which justifies treating them as conceptually independent from the prefixes of the S_A=A series. Also note the morphological difference between **oro-j-nupã* 'I beat her/him/it/them' and **oro-nupã* 'I/we beat you (sg.)'.

epʲák 'I see her/him/it/them') and a linker morpheme **r-* following S_O=O prefixes (**če-r-epʲák* 's/he/it/they see(s) me'). Although all Class II stems have in common that they are vowel initial, Class II is actually an arbitrary lexical class both semantically (Jensen, 1998, p. 498) and phonologically since there are other vowel-initial stems, like *apó* 'make', that do not show any insertion of the linker **r-* (**a-j-apó* 'I make her/him/it/them', **če-apó* 's/he/it/they make(s) me').

Another allomorphy is found with all monosyllabic transitive verb stems, that take **jo-* instead of **j-* as their third-person O marker (**a-jo-tým* 'I plant her/him/it/them'). It is not clear whether this prefix **jo-* was also present when A was likewise third-person. Rodrigues and Dietrich (1997, p. 285) reconstruct simple **o-tým* 's/he/it/they plant(s) her/him/it/them', whereas Jensen (1998, p. 518) reconstructs full forms with **o-jo-*.

A special type of allomorphy can be found with comitative-causative verbs derived by means of the prefix **(e)ro-*. These verbs express actions in which A makes O accompany himself in that action. The derivational prefix **(e)ro-* appears in its reduced form **ro-* after all S_A=A prefixes (**a-ro-'ár* 'I fall with her/him/it/them') except for those ending in */o/ (i.e. first-person exclusive **oro-* and third-person **o-*) in which case the full form **ero-* shows up again (**oro-ero-'ár* 'we (excl.) fall with her/him/it/them', **o-ero-'ár* 's/he/it/they fall(s) with her/him/it/them').

Different TG languages employ different strategies to resolve the vocalic hiatus */oe/ that arises in these forms: either the */o/ itself gets desyllabified to */w/, as in Kayabí (*w-eru-'a* < **o-ero-'ár* 's/he/it/they fell with her/here/it/them'; Jensen, 1998, p. 534), or a glide */w/ gets inserted after the */o/, as in Mbyá Guarani (*o-gu-era-a* < **o-w-era-có* 's/he/it/they took her/him/it/them'[21]; Jensen, 1998, p. 534)[22]. It remains unclear whether either of these strategies can already be reconstructed for PTG.

The full form of the comitative-causative prefix **ero-* also occurs after all S_O=O prefixes, the difference being that a linker morpheme **r-* gets inserted between the S_O=O prefix and the stem, just like with Class II stems (see above) (**če-r-ero-'ár* 's/he/it/they fall(s) with me'). It is important to note that these verbs behave as Class II stems only when prefixed by S_O=O prefixes.

REGULAR TRANSITIVE VERB INFLECTION IN SIRIONO

In spite of the deviations that can be observed in the Siriono person-marking paradigm, the person hierarchy reconstructed for PTG is perfectly operative also in Siriono. This can be seen clearly in those cases in which the distinction between the two series of person prefixes has been preserved in Siriono, that is, in the first and second person singular. As in PTG, O is marked on the verb by means of S_O=O prefixes when it is first or second person: *se-noã* 's/he/it/they beat(s) me', *nde-noã* 's/he/it/they beat(s) you (sg.)'[23]. When O is third person, A is encoded by means of S_A=A prefixes: *a-noã* 'I beat her/him/it/them', *ere-noã* 'you (sg.) beat her/him/it/them'. The only difference from the PTG system is the absence of a third-person O marker after the S_A=A prefixes, as can be seen from the comparison between Siriono *a-noã* and PTG **a-j-nupã* 'I beat her/him/it/them'. The absence of the third-person marker might be due to analogy with transitives derived

[21] The literal meaning of this comitative-causative stem is 'make someone/something go with oneself' derived from the intransitive verb **có* 'go'.

[22] Jensen (1998, p. 534) assumes a regular stem *ero-có* 'take'. However, as will be shown in Diachronic analysis of transitive verb morphology, the deviant vowel of the prefix in **era-có* can be reconstructed back to PTG.

[23] For Siriono transitive verb inflection paradigms see Schermair (1949) and Priest *et al*. (1961). Again, forms encoding first person A acting upon second person O will not be considered here.

from intransitives by the factitive prefix **mo-* which already lacked that prefix in PTG (as in Siriono *a-mo-ndo* < PTG **a-mo-nó* 'I send her/him/it/them'). This absence of a third-person O marker in Siriono is, however, limited to transitive verbs whose stem begins with a consonant, whereas vowel-initial transitive stems retained a reflex of the PTG third-person O marker **j-*, as will be shown in Diachronic analysis of transitive verb morphology. Therefore it cannot be excluded that the loss of **j* in pre-consonantal position is a phonologically regular process in Siriono, but this cannot be tested due to the lack of lexical examples with comparable phonological contexts in Lemle (1971) and Mello (2000).

Outside the first and second person singular, where no distinction of two different prefix series is found in Siriono, person markers are semantically ambiguous (Priest *et. al.*, 1961, p. 342): in a word form like Siriono *ñande-noã*, the prefix can have both an A and an O reading: 'we (incl.) beat her/him/it/them' and 's/he/it/they beat(s) us (incl.)'. Therefore, Siriono *ñande-noã* corresponds functionally to two distinct PTG forms: **ja-j-nupã* 'we (incl.) beat her/him/it/them' and *jane-nupã* 'he/she/it/they beat(s) us (incl.)', and the Siriono first-person inclusive prefix *ñande-* covers the functions both of the PTG A-marking prefix **ja-* and of the PTG O-marking prefix **jane-*. The same is true for the Siriono first-person exclusive marker *ure-* and the second-person plural marker ***hẽ-***, which correspond functionally to both the PTG A-marking prefixes **oro-* and **pe-* and to the PTG O-marking prefixes **ore-* and *****pe-̃***, respectively[24].

It can therefore be stated, as a first result, that the Siriono person markers cover the same range of functions on transitive verbs as do the PTG person markers. In those cases where a distinction between S_A=A prefixes and S_O=O prefixes is also present in Siriono, that is, in the first and second person singular, the functional distribution of the respective prefixes on transitive verbs is identical to the distribution of the corresponding prefixes in PTG. In those cases where there is only one unitary prefix in Siriono, that prefix serves as the functional equivalent of the respective PTG S_A=A prefix as well as of the corresponding PTG S_O=O prefix, from which it diachronically derives. The full functional range of PTG person marking on transitive verbs is therefore represented in Siriono, even in those person categories where there is no synchronic distinction of two different prefix series. This is a stable situation in Siriono in spite of the fact that part of the transitive verb forms gets an ambiguous reading.

However, this is not the case with all transitive verbs in Siriono. In some transitive verbs, that can be termed synchronically 'irregular', additional morphological elements intervene between the person marker and the stem which serve to indicate whether the person prefix receives an A or an O reading. These elements will be illustrated in the following section and will be correlated and reconstructed to morphemes that were already present in the PTG period in Diachronic analysis of transitive verb morphology. This will serve as a basis for showing in sections Summary of the diachronic analysis and Towards a diachronical explanation that the transitive verb inflection of Siriono is in fact derivable from the TG prototype.

IRREGULAR TRANSITIVE VERB INFLECTION IN SIRIONO

There are several verb classes in Siriono that exhibit additional morphological elements intervening between the person marker and the stem. These concomitant elements, that are absent in regular transitive verb inflection, occur in pairs of alternating prefixes whose distribution depends on whether the person marker encodes A or O. For transitive verbs,

[24] Cf. *ure-noã* 'we (excl.) beat her/him/it/them' and 's/he/it/they beat(s) us (excl.)'; ***hẽ-noã*** 'you (pl.) beat her/him/it/them' and 's/he/it/they beat(s) you (pl.)'

four such verb classes can be distinguished in Siriono, as described in a similar fashion by Priest *et al*. (1961):

1) transitive verbs with an alternation *č-* : *Ø-*

2) transitive verbs with an alternation *čV-* : *Ø-*

3) transitive verbs with an alternation *s-* : *r-* (with a subclass *t-* : *r-*)

4) transitive verbs with an alternation *Ø-* : *rV-* and a distinct third-person form *kV-*

The morphological alternations found in these four verb classes are illustrated for first person singular by the examples in Table 3:

Table 3. Intervening morphological elements of several irregular transitive verb classes in Siriono.

1	*a-**č**-ao* 'I make her/him/it/them'	*se-**Ø**-ao* 's/he/it/they make(s) me'
2	*a-**ču**-k^{w}a* 'I bind her/him/it/them'	*se-**Ø**-k^{w}a* 's/he/it/they bind(s) me'
3	*a-**s**-eča* 'I leave her/him/it/them'	*se-**r**-eča* 's/he/it/they leave(s) me'
4	*a-**Ø**-r-u* 'I bring her/him/it/them'	*se-**re**-r-u* 's/he/it/they bring(s) me'

Only in class 4, there is a distinct prefix that occurs when both participants are third person, as in *e-**ke**-ru* 's/he/it/they bring(s) her/him/it/them'[25].

The crucial observation that has to be made about these intervening elements is that their distribution is functionally dependent on whether the person marker encodes A or O, but at the same time completely independent of formal aspects of person marking. These elements follow the same distribution independent of whether there are two distinct person prefixes marking A and O, as with the first and second person singular (Table 3), or whether there is a unitary prefix covering both functions, as illustrated in Table 4 with the unitary first-person inclusive prefix *ñande-*.

Table 4. Intervening morphological elements with unitary prefixes in Siriono.

*ñande-**č**-ao*	'we (incl.) make her/him/it/them'	*ñande-**Ø**-ao*	's/he/it/they make(s) us (incl.)'
*ñande-**ču**-k^{w}a*	'we (incl.) bind her/him/it/them'	*ñande-**Ø**-k^{w}a*	's/he/it/they bind(s) us (incl.)'
*ñande-**s**-eča*	'we (incl.) leave her/him/it/them'	*ñande-**r**-eča*	's/he/it/they leave(s) us (incl.)'
*ñande-**Ø**-r-u*	'we (incl.) bring her/him/it/them'	*ñande-**re**-r-u*	's/he/it/they bring(s) us (incl.)'

From Table 4 it can be seen that, in those cases in which a unitary agreement prefix is found, the elements that intervene between the person marker and the stem are the only morphological elements that serve to distinguish A marking from O marking. The marking of participant roles in Siriono is therefore morphologically separate from the marking of person itself. Synchronically, this reminds of so-called inversion systems as found in Algonquian languages (Comrie, 1989, p. 129), but it will be shown in the following section that diachronically all this concomitant morphology points back to a situation like in PTG with two different sets of person markers for

[25] The prefix *e-* is not always obligatory on Siriono transitive verbs. This will be dealt with in Evidence from third-person forms.

A and O. Also note that, when both participants are third person, transitive verb forms are always treated as A-marked in Siriono and take the respective intervening elements, as in *e-**č**-ao* 's/he/it/they make(s) her/him/it/them' (never †*e-ao*)[26], except for class 4 verbs that exhibit a distinct third-person prefix *kV-*, as in *e-**ke**-ru* 's/he/it/they bring(s) her/him/it/them'[27].

DIACHRONIC ANALYSIS OF TRANSITIVE VERB MORPHOLOGY

The morphological elements that intervene between the person marker and the stem in the four irregular transitive verb classes in Siriono can all be traced back to various morphological elements in PTG whose distribution was dependent on the presence of either A-marking S_A=A prefixes or O-marking S_O=O prefixes. These elements will be discussed one by one in this section.

The stems of verb class 1 share the common feature of being vowel-initial in Siriono and also reconstruct to vowel-initial stems in PTG, like *ao* < PTG **apó* 'make'. The element *č-* that shows up on these verbs when A-marked can be easily derived phonologically from the PTG third-person O marker **j-*, since the expected Siriono reflex of PTG **j* is *č* in pre-vocalic position (Lemle, 1971; Mello, 2000). It has been stated in Regular transitive verb inflection in Siriono that consonant-initial transitive verb stems do not show any trace of the PTG prefix **j-* in Siriono either due to analogy or to a different, pre-consonantal treatment of **j*. With vowel-initial stems, however, this marker has been perfectly preserved, which supports the hypothesis that it might also have been there with consonant-initial stems at an earlier stage of Siriono[28]. The occurrence of the element *č-* in A-marked verb forms in Siriono exactly corresponds to the distribution of the PTG prefix **j-* that occurred only after S_A=A prefixes encoding A. When O-marked, the element *č-* is absent in Siriono, as is PTG **j-* after S_O=O prefixes encoding O.

A similar case is present in irregular verb class 2 that consists of monosyllabic transitive verb stems that also reconstruct to monosyllabic transitive verbs stems in PTG, like *k^wa* < PTG **p^wár* 'bind'. In PTG, monosyllabic stems had an allomorph **jo-* instead of **j-* following S_A=A prefixes (see Transitive verb inflection in PTG). This prefix corresponds phonologically to the Siriono element *ču-*, which is accordingly found on A-marked forms of this verb class (Tables 3 and 4), with the expected development **jo-* > *ču-*[29]. A phonologically conditioned variant *čo-* occurs when the vowel of the verb stem is likewise /o/, as in *a-čo-ko* < PTG **a-jo-kók* 'I support her/him/it/them'. This type of back vowel harmony has already been observed by Lemle (1971)[30]. Again, the element *ču-* is absent when the verb is O-marked, as is PTG **jo-* after S_O=O prefixes encoding O.

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[26] As already stated in footnote 25, the third person marker *e-* is not always obligatory on Siriono transitive verbs, but this does not affect the presence of the intervening elements (*č-ao* 's/he/it/they make(s) her/him/it/them').

[27] Deviant forms which are treated as O-marked, as given by Priest *et al*. (1961, p. 342), probably belong to focusing constructions that call for a separate explanation.

[28] In fact, the synchronic verb stem ***ik^{w}a*** 'know' might represent such a case in which the prefix **j-* became lexicalized into the verb stem. This verb has variously been reconstructed as PTG **kuwaáß* (Lemle, 1971, p. 126; Mello, 2000, p. 174), **kuáß* (Rodrigues; Dietrich, 1997, p. 274), or **kwaáß* (Schleicher, 1998, p. 339).

[29] For the relevant phonological changes, see also footnote 13 and the preceding paragraph.

[30] There is one disyllabic verb in this class: the verb *sia* 'cut' takes a prefix *či-* when A-marked (Priest *et al*., 1961, p. 342-343; Priest and Priest, 1967, p. 249). This verb compares etymologically to the Guarayo vowel-initial verb *azìa* 'cut (off), saw' (Hoeller, 1932, p. 38). In this particular case, a reanalysis **č-isia* >> *či-sia* had taken place after the stem-initial vowel /a/ had been weakened to /i/ (for similar cases of vowel weakening in antepenultimate syllables see Lemle, 1971; Mello, 2000).

Class 3 verbs show a different type of alternation in Siriono since there are intervening elements present both in A-marked and O-marked forms. Etymologically, all verb stems of this class reconstruct to Class II stems in PTG. These stems had an allomorph **c-* instead of **j-* following S_A=A prefixes and a linker morpheme **r-* following S_O=O prefixes in PTG (see Transitive verb inflection in PTG), as in **ja-c-ejár* 'we (incl.) leave her/him/it/them' vs. **jane-r-ejár* 's/he/it/they leave(s) us (incl.)'. Since PTG **c* regularly corresponds to Siriono *s* and since PTG **r* is reflected unchanged as *r* in Siriono, the same distribution can be observed in Siriono in spite of the fact that there is only one unitary prefix outside the first and second person singular, cf. A-marked *ñande-**s**-eča* 'we (incl.) leave her/him/it/them' vs. O-marked *ñande-**r**-eča* 's/he/it/they leave(s) us (incl.)'. There is also a subclass of verbs that have *t-* instead of *s-* in A-marked forms in Siriono, as in *ñande-**t**-ea* 'we (incl.) see her/him/it/them'. The corresponding PTG forms have **c-* as expected with all Class II verbs, as in corresponding **ja-c-epʼák* 'we (incl.) see her/him/it/them'. Although a prefix **t-* does occur in PTG with Class II nouns (Jensen, 1998, p. 500) and with nominalized and subordinated forms of the two Class II intransitive verbs **úr ~ *júr* 'come' and **úß ~ *júß* 'lie'[31], it is never found on transitive verbs in PTG. No explanation has been found yet for the origin of *t-* on this subclass of Siriono transitive verbs.

Finally, class 4 verbs in Siriono form a special subclass both semantically and morphologically. All the verbs of this class reconstruct to comitative-causative verbs derived by means of the prefix **(e)ro-*. These verbs had a shortened prefix allomorph **ro-* following S_A=A prefixes and a full allomorph **ero-* following S_O=O prefixes in combination with the linker morpheme **r-* (see Transitive verb inflection in PTG), as in **a-ro-ʼár* 'I fall with her/him/it/them' vs. **če-r-ero-ʼár* 's/he/it/they fall(s) with me' (the full form **ero-* following S_A=A prefixes ending in PTG */o/ are treated separately in the following section).

In Siriono, most class 4 verb stems begin with *ru-*, which is the regular reflex of PTG **ro-* in non-final syllables (Lemle, 1971). This shortened form is present in A-marked forms in Siriono, like ***a-ru-k^{w}asẽ*** 'I arrive with her/him/it/them' (derived from ***k^{w}asẽ*** 'arrive'), which corresponds exactly to the situation found after A-marking S_A=A prefixes in PTG. In O-marked forms, an additional prefix *rV-* occurs in Siriono, as in ***se-ru-ru-k^{w}asẽ*** 's/her/it/they arrive(s) with me'. Normally, the vowel of this prefix is /u/ (Schermair, 1949, p. 281-282.). However, there are three irregular comitative-causative verbs that take *re-* instead, as in *se-**re**-r-u* 's/he/it/they bring(s) me'. These three verbs are: *r-u* 'bring', *ra-so*[32] 'take' and *r-eko* 'have, possess', that reconstruct to the respective PTG irregular comitative-causative verb stems **(e)r-úr* 'bring', **(e)ra-có* 'take', and **(e)r-ekó* 'have, possess'. Note that in all these verbs, the final vowel */o/ in the comitative-causative prefix is changed or lost in PTG[33]. The Siriono prefix allomorph *re-* found on O-marked forms of these verbs can be directly derived from the PTG linker morpheme **r-* followed by the vowel /e/ from the full form of the comitative-causative prefix. This is exactly the situation that is expected after S_O=O prefixes in PTG and that is accordingly reflected in Siriono, as in *se-**re**-r-u* < PTG **če-**r-e**r-úr* 's/he/it/they bring(s) me'. The prefix allomorph *ru-* found

[31] Cf. Lemos Barbosa (1956, p. 305) for the paradigm of these verbs in Tupinambá.

[32] This verb stem has a variant form *r-ao* in Siriono that may be explained from phonological attrition; see also footnote 36.

[33] These verbs are derived from the intransitive bases **úr ~ *júr* 'come', **có* 'go', and **ikó ~ *ekó* 'be in motion', respectively. Jensen (1998, p. 534) reconstructs more regular stems **ero-úr* and **ero-có*. However, as she notes herself, the vowel change **o > a* in the verb 'take' is a consistent change in TG languages, which allows for a reconstruction **(e)ra-có* already in PTG. The same is true for the verb 'bring' where only reflexes of an irregular stem **r-úr* can be found in TG languages.

with the remaining comitative-causative verbs in Siriono may be explained as an assimilation to the labial vowel of the regular comitative-causative prefix *ru-*, as in ***se-ru-ru-k^{w}asẽ*** assimilated from ****se-re-ru-k^{w}asẽ*** < PTG **če-**r-e**ro-wačém* 's/her/it/they arrive(s) with me'. As the irregular stems *ra-so* and *r-eko* start with different vowels, no such assimilation could have taken place there, which left the prefix vowel */e/* unchanged. Similarly, the quality of the vowel */e/* has been retained before the only monosyllabic comitative-causative verb stem *r-u* 'bring'. This verb has penultimate stress on the *re-* prefix, which may have preserved the prefix from assimilating to *ru-*, contrary to what occurred in unstressed position in all regular comitative-causative verbs. Based on these irregularities, the original form of this prefix can be reconstructed as *re-* rather than *ru-*.

Reviewing all these four irregular transitive verb classes in Siriono, it has been shown that all intervening elements that are found between the person marker and the stem in these verb classes reconstruct to various PTG prefixes whose distribution crucially depended on the presence of either S_A=A prefixes or S_O=O prefixes on the verb form.

SUMMARY OF THE DIACHRONIC ANALYSIS

The findings from the previous section are summarized in the following tables. Table 5 gives examples of A-marked forms of all four irregular transitive verb classes of Siriono and their reconstruction to PTG forms:

Table 5. A-marked irregular transitive verb forms in Siriono and their PTG reconstruction.

*a-**č**-ao*	< PTG **a-**j**-apó*	'I make her/him/it/them'
*a-**ču**-k^{w}a*	< PTG **a-**jo**-p^{w}ár*	'I bind her/him/it/them'
*a-**s**-eča*	< PTG **a-**c**-ejár*	'I leave her/him/it/them'
*a-**Ø**-r-u*	< PTG **a-r-úr*	'I bring her/him/it/them'

Examples of O-marked forms of these verb classes and their reconstruction to PTG are given in Table 6:

Table 6. O-marked irregular transitive verb forms in Siriono and their PTG reconstruction.

*se-**Ø**-ao*	< PTG **če-apó*	's/he/it/they make(s) me'
*se-**Ø**-k^{w}a*	< PTG **če-p^{w}ár*	's/he/it/they bind(s) me'
*se-**r**-eča*	< PTG **če-**r**-ejár*	's/he/it/they leave(s) me'
*se-**re**-r-u*	< PTG **če-**r-e**r-úr*	's/he/it/they bring(s) me'

As can be seen from both Tables 5 and 6, the intervening elements found in each verb class co-occur with either A marking or O marking in Siriono, but never with both. As shown in Diachronic analysis of transitive verb morphology, all these intervening elements eventually reconstruct to PTG prefixes that co-occurred with either S_A=A prefixes encoding A or S_O=O prefixes encoding O. In those cases where the distinction S_A=A prefixes and S_O=O prefixes remained intact in Siriono, the morphology of the Siriono verb forms exactly reflects the morphology of the respective verb forms in PTG and can easily be reconstructed accordingly, as exemplified for first person singular in Tables 5 and 6.

Now the crucial point is that the distribution of these intervening elements remains the same in those cases where there is a unitary person prefix in Siriono, as stated in Irregular transitive verb inflection in Siriono. These prefixes encode A and O alike, as in *ñande-**s**-eča* 'we (incl.) leave her/him/it/them' and *ñande-**r**-eča* 's/he/it/they leave(s) us (incl.)', the only

difference being in the intervening elements. As has been stated in Person marking in Siriono, all unitary person prefixes derive from the S_O=O prefixes found in PTG. Therefore, the occurrence of these prefixes on O-marked forms in Siriono is expected from the PTG prototype and can be reconstructed accordingly, whereas their occurrence on A-marked forms cannot be explained on this basis. Table 7 shows the PTG reconstruction of O-marked forms with unitary prefixes:

Table 7. O-marked verb forms with unitary prefixes in Siriono and their PTG reconstruction.

*ñande-**Ø**-ao*	< PTG **jane-apó*	's/he/it/they make(s) us (incl.)'
*ñande-**Ø**-kʷa*	< PTG **jane-pʷár*	's/he/it/they bind(s) us (incl.)'
*ñande-**r**-eča*	< PTG **jane-**r**-ejár*	's/he/it/they leave(s) us (incl.)'
*ñande-**re**-r-u*	< PTG **jane-**r-e**r-úr*	's/he/it/they bring(s) us (incl.)'

With A-marked forms, there is a mismatch of person prefixes between Siriono and PTG whereas all the concomitant morphology remains the same. The striking fact is that the reflexes of S_O=O prefixes are combined in Siriono with morphological elements that could only co-occur with S_A=A prefixes in PTG. Table 8 contrasts examples of A-marked verb forms with a unitary prefix in each irregular transitive verb class of Siriono with their functional correspondences in PTG:

Table 8. A-marked verb forms with unitary prefixes in Siriono and their functional correspondences in PTG.

*ñande-**č**-ao*	PTG **ja-**j**-apó*	'we (incl.) make her/him/it/them'
*ñande-**ču**-kʷa*	PTG **ja-**jo**-pʷár*	'we (incl.) bind her/him/it/them'
*ñande-**s**-eča*	PTG **ja-**c**-ejár*	'we (incl.) leave her/him/it/them'
*ñande-**Ø**-r-u*	PTG **ja-r-úr*	'we (incl.) bring her/him/it/them'

All these observations taken together show that almost all the morphology associated with Siriono irregular transitive verb inflection is easily derivable from the morphology of PTG transitive verb inflection. Even in those A-marked forms where there is a formal mismatch between PTG and Siriono person marking (Table 8), the respective morphological elements intervening between the person marker and the stem in PTG A-marked verb forms have been retained unchanged in Siriono. As the distribution of these elements in PTG was conditioned by the presence of S_A=A prefixes encoding A, it is the most likely scenario that the retention of these elements in Siriono points back to a situation in which these forms still bore S_A=A prefixes inherited from PTG. Consequently, there would still have been two fully distinct series of person markers at a stage prior to present-day Siriono.

The scenario that can be built from this comparison is that there has been a partial merger of the S_A=A series with the S_O=O series in Siriono and that original S_A=A prefixes were replaced by S_O=O prefixes outside the first and second person singular, with all the concomitant morphology remaining intact. Additional evidence to confirm this hypothesis comes from Siriono's sister language Yuki (Villafañe, 2004). Siriono and Yuki share some important isoglosses that set them off from the remaining TG languages[34]. Among these isoglosses is the indistinction of prefix series in the first person

[34] Yuki is being classified by Campbell (1997, p. 200) and Jensen (1999, p. 130) as a dialect of Siriono. However, Villafañe's (2004) grammatical description of Yuki shows that Yuki is indeed a separate language. For phonological differences see Priest (1987), for isoglosses shared by Siriono and Yuki see Crowhurst (2000).

exclusive and in the second person plural (see paradigms in Villafañe, 2004, p. 86, 97, 100, 107)[35]. At the same time, Yuki does distinguish a first-person inclusive S_A=A prefix *ya-* (with allomorphs) derived from PTG **ja-* and a corresponding S_O=O prefix *ñande-* (with allomorphs) derived from PTG **jane-* (Villafañe, 2004, p. 86, 97, 100, 107, 207-208), where Siriono has a unitary prefix *ñande-* derived from PTG **jane-*. This minor difference between Siriono and Yuki confirms that we are indeed dealing with a gradual process merging two originally distinct prefix series and that the substitution of S_A=A prefixes with S_O=O prefixes in Siriono and Yuki started in the first person exclusive and second person plural and was extended to the first person inclusive in Siriono only [36]. This conforms to the initial hypothesis that Siriono is indeed a daughter language of PTG and that its agreement marking is derivable from the PTG prototype. A possible explanation of this paradigmatic merger will be brought forward in the following section.

TOWARDS A DIACHRONICAL EXPLANATION

As stated in the previous section, the merger of the S_A=A and S_O=O series in the first person exclusive and second person plural is a shared innovation of Siriono and Yuki. What is striking about this development is that it affected precisely those person markers that were already considerably similar phonologically in PTG, that is 1EXCL S_A=A **oro-* vs. S_O=O **ore-*, 2PL S_A=A **pe-* vs. S_O=O ***pẽ-***, whereas in the first and second person singular, with phonologically clearly distinct forms 1SG S_A=A **a-* vs. S_O=O **če-*, 2SG S_A=A **ere-* vs. S_O=O **ne-*, no such merger took place. The first person inclusive represents an intermediate case, since the phonological similarity of the PTG prefixes 1INCL S_A=A **ja-* and S_O=O **jane-* is limited to the first syllable, the S_O=O prefix **jane-* having one syllable more, whereas in the first person exclusive and in the second person plural the only difference is in vowel quality and nasality, respectively [37]. Accordingly, the merger of the first-person inclusive prefixes only took place in Siriono, whereas the two prefixes were kept separate in Yuki.

It is therefore unlikely that there is a purely functional explanation of this merger, since the only prefixes affected were those that already shared a strong phonological similarity. So the merger of the two prefix series has to be considered at least in part phonologically motivated. What still remains to be explained is that only the S_A=A prefixes have been substituted by S_O=O prefixes in these cases in Siriono and Yuki and that no indications of developments that worked in the opposite direction, leading to the substitution of S_O=O prefixes by S_A=A prefixes, can be detected in these two languages. It has already been suggested in Person marking in Siriono that a morphological reanalysis had taken place in Siriono that led to a secondary identification of S_O=O prefixes as bound variants of the free pronouns. The same development can be assumed for Yuki, except for the fact that Yuki did not entirely give up harmonic nasal alternations in the bound forms (Villafañe, 2004, p. 86). As a consequence of this reanalysis, S_O=O prefixes would not be treated as agreement markers any more, but as equivalents to (pro-)noun phrases.

It can be observed in Siriono that in clauses without first- or second-person participants, noun phrases can precede transitive verb forms that do not bear any person marking. These noun phrases can express either A or O,

[35] Note that the Yuki second-person plural prefix is phonologically non-nasal, as opposed to Siriono ***hẽ-***.

[36] In fact, Siriono still preserves a trace of the PTG S_A=A prefix **ja-* in the isolated hortative particle *ñaso* 'let's go!' < PTG **ja-có* 'we (incl.) go' (with a variant form *ñao* that may be explained from phonological attrition; see also footnote 32) (Priest; Priest, 1967, p. 232, 243). The synchronically regular form in Siriono is *ñande-so* 'we (incl.) go' (Priest; Priest, 1967, p. 232).

[37] Note that the merger 2PL **pe-*/***pẽ-*** >> ***pẽ-*** also occurred in Kayabí (see Jensen, 1998, p. 598-599; Schleicher, 1998, p. 205).

with no formal distinction of participant roles (Priest *et al*., 1961, p. 344). As still remains to be shown in Evidence from third-person forms, the third-person prefix *e-* can likewise encode A and O in Siriono. Furthermore, it is not an obligatory element, but in complementary distribution with noun phrases (Priest *et al*., 1961, p. 343-344), therefore not being treated as an agreement marker, but as an equivalent to noun phrases. The same appears to hold for the third-person prefix *e-* in Yuki (Villafañe, 2004, p. 107, 141).

It is suggested here that this ambiguity found with noun phrases and the third-person marker *e-* was eventually extended to the first and second persons in Siriono and Yuki. After the S_O=O prefixes had been reanalyzed as equivalents to (pro-)noun phrases, these acquired the potential of referring to A and O likewise. In those cases in which the inherited S_A=A and S_O=O prefixes were phonologically similar to each other, this led to the subsequent substitution of the S_A=A prefixes with the corresponding S_O=O prefixes that had already become identical to the free pronouns. This happened in the first person exclusive and second person plural, and later also in the Siriono first person inclusive. In the first and second person singular, this reanalysis was blocked due to the phonological dissimilarity of the person markers. This combination of phonological and syntactic motivations explains at the same time why it was always S_O=O prefixes that replaced S_A=A prefixes and why this process took place in some person categories but not in others. As a result, some of the person markers lost their assignment to participant roles and only came to mark the person category itself. This conforms to the synchronical grammatical structures observed in Siriono and Yuki.

EVIDENCE FROM THIRD-PERSON FORMS

Transitive verb forms involving both third-person A and third-person O normally behave like A-marked forms in Siriono, that is, if they belong to one of the four irregular transitive verb classes, they co-occur with that intervening element that is also found with A-marked forms elsewhere in the paradigm. This corresponds to the situation in PTG in which such forms of transitive verbs were always marked by the third-person S_A=A prefix **o-*, as in **o-j-nupã* 's/he/it/they beat(s) her/him/it/them'. However, at first sight, there appears to be no trace of a third-person prefix **o-* in Siriono. Instead, a unitary third-person prefix *e-* is found. As described by Priest *et al*. (1961, p. 342-343), this prefix *e-* encodes third-person A and third-person O alike. The appropriate reading always has to be inferred from the context. Furthermore, this prefix is in complementary distribution with noun phrases (Priest *et al*., 1961, p. 343-344). Given the probable origin of this prefix and of the synchronic third-person pronoun *ae* in the PTG demonstrative pronoun **a'é*, as proposed in Person marking in Siriono, this behaviour can be accounted for: the Siriono prefix *e-* still exhibits a behaviour parallel to that of noun phrases in such a way that it does not encode participant roles on the verb that are already expressed by noun phrases in the same clause. Consequently, the prefix *e-* never became grammaticalized as a third-person agreement marker, but continues to behave like a demonstrative pronoun phrase that is in complementary distribution with noun phrases. It can therefore be concluded that the third-person prefix *e-* is a comparatively recent development in Siriono and Yuki (see Towards a diachronical explanation).

There is, however, an indirect trace of the PTG third-person S_A=A prefix **o-* in comitative-causative verbs in Siriono. As stated in Irregular transitive verb inflection in Siriono, this class of irregular verbs is the only one which has a distinct third-person prefix *kV-* that occurs when both participants are third person, as in *e-**ke**-r-u* 's/he/it/they bring(s) her/him/it/them'. The vowel of the prefix *kV-* is always identical to the one found in the prefix *rV-* that co-occurs

with O-marked forms of comitative-causative verb (see Diachronic analysis of transitive verb morphology). As with other third-person forms, the prefix *e-* is not obligatory before the *kV-* prefix of these verbs, but in complementary distribution with noun phrases. This means that shorter forms like ***ke**-r-u* with the same meaning 's/he/it/they bring(s) her/him/it/them' can also be found. As pointed out in Transitive verb inflection in PTG, comitative-causative verbs usually took the shortened form of the derivational prefix **ro-* in PTG when preceded by S_A=A prefixes except when that S_A=A prefix ended in */o/, in which case the full form **ero-* appeared. This is to be expected after the first-person exclusive prefix **oro-* and after the third-person prefix **o-*. As pointed out further, the vocalic hiatus */oe/ that arose in these forms is resolved in various TG languages either by the desyllabification of */o/ to a glide */w/ or by the insertion of a glide */w/ between the two vowels. It is this glide that has been preserved in the Siriono third-person prefix *kV-* on comitative-causative verbs, in accordance with an unusual, but regular phonological development **w* > *k* in Siriono (Lemle, 1971; Mello, 2000). From a diachronic point of view, it cannot be decided whether the *kV-* prefix directly reflects the desyllabified third-person prefix **o-* itself, or whether it developed from a glide inserted after that prefix **o-* in order to avoid a vocalic hiatus. In both cases, however, the presence of *kV-* in Siriono presupposes the presence of the PTG third-person marker **o-* on these verb forms at an earlier stage when the unitary third-person marker *e-* had not yet replaced the third-person markers inherited from PTG. This special third-person prefix found only with comitative-causative verbs in Siriono is therefore cogent proof of the fact that third-person marking in Siriono by the prefix *e-* is an innovation and that the Siriono system has developed from a system that was much closer to the PTG prototype than it is synchronically.

SUMMARY AND CONCLUSIONS

In this paper it has been demonstrated that the deviant synchronic person-marking paradigm found on transitive verbs in Siriono can be traced back to a system that was identical to the PTG system. In particular, irregular transitives in Siriono have preserved a number of additional morphological elements between the person marker and the stem. These elements reconstruct to morphemes that co-occurred with either S_A=A prefixes or S_O=O prefixes in PTG. In the first and second person singular, where the distinction of two different prefix series has remained intact in Siriono, the person marking system directly corresponds to the PTG prototype. In the remaining person categories, however, where no distinction of two different prefix series is found in Siriono, those morphological elements that co-occurred with S_A=A prefixes in PTG are combined in Siriono with prefixes that derive from the PTG S_O=O series. Since this pattern of co-occurrence of morphological elements cannot be explained on the basis of the reconstructed PTG system, the hypothesis has been brought forward that original S_A=A prefixes had been replaced with S_O=O prefixes in Siriono in these cases, but that the concomitant morphology has remained intact and points back to a system with a fully developed contrast of two distinct series of person markers, as it is found in PTG. The proposed development of a partial substitution of S_A=A prefixes by S_O=O prefixes is backed by comparative data from Siriono's sister language Yuki that clearly show that this was a gradual process. At the same time, it could also be demonstrated that Siriono comitative-causative verbs even preserve traces of the PTG third-person S_A=A prefix **o-* in spite of the emergence of a different third-person marker *e-* that could be shown to be an innovation. These findings lead to the conclusion that the Siriono person marking system of transitive verbs departed from a person marking system that was identical to the PTG prototype and that Siriono can therefore be regarded as a member of the TG family.

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